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Original Articles.

THE THERAPEUTIC VALUE OF ARTERIAL RELAXANTS.

By Andrew H. Smith, M. D.
Professor Clinical Medicine N. Y. Post-Graduate Medical School, Physician to The Presbyterian Hospital, etc.

There is scarcely any other function of the body so much under the control of therapeutic agents as that of the vaso-motor system. We have the choice among a large number of efficient remedies for either increasing or diminishing vascular tension, and it is very rarely that we need fail entirely to attain the object in view by the use of single medicines or judicious combinations.

While I do not wish to imply that these agents have been undervalued, it seems to me that sufficient account has not been taken of the mechanical conditions which so often determine their usefulness.

When we consider what a wonderful system of checks and balances is presented by the vaso-motor function we are prepared to appreciate on the one hand what may be the effect of a local derangement of this function, and on the other the possibilities opened to us by our therapeutic resources.

In congestive or inflammatory conditions, for example, there is a local parysis of the vessels, which permits an unnatural increase of their lumen. So long as the blood-pressure in other parts of the body remains at the normal there will be a constant influx of blood into the part where the vascular resistance is less. Unless the mechanical equilibrium is in some way restored, this unequal distribution of the blood must not only continue, but increase; since the more a vessel is distended the less is the resistance of its walls.

Now if it were possible to limit the action of a vaso-contracting medicine to the area of vascular distension, this would be the ideal treatment for the mechanical conditions present. But, unfortunately, such limitation is not possible, and the use of drugs of that class can only make matters worse by increasing the disparity of pressure in the healthy as compared with the diseased vessels. However, if we cannot restore the equilibrium by increasing the pressure where it is deficient, we can do so in a measure by diminishing it where it is relatively in excess. This is the province of the vaso-relaxants, and their capacity for good when judiciously employed can scarcely be overestimated.

Take for example a case of acute renal congestion. We have here the kidney gorged with blood, and the vessels in a great measure deprived of their power to control their caliber, and helpless to resist the influx of blood forced into them by the unimpaired contractility of the general arterial system. As a consequence there is almost complete suspension of function, and the capillaries giving way under the strain, the little urine which is excreted is mingled with blood.

Recognizing this condition various means are called into requisition to divert the blood from the kidneys. The patient is put into a warm bath to dilate the cutaneous capillaries; dry or wet cups are applied over the loins, counter irritation is resorted to, etc., etc. These means have
a certain amount of efficacy, but a much greater degree of relief to the renal circulation will be assured by lowering the general vascular tension, as we can so readily do by means of appropriate drugs. Half-hourly doses of nitroglycerin will limit the power of the healthy arteries to force an undue amount of blood into the toneless vessels of the diseased kidneys, and an opportunity will be given the latter to recover their contractility.

The same principle applies to the lungs, with this difference, that here we have the circulation dependent entirely upon the right heart, a muscular structure exposed to the danger of over-fatigue and consequent exhaustion. To this exhaustion is due a large proportion of the deaths from acute pulmonary affections. The remedy is to be found not altogether in prodding the tired organ with cardiac stimulants, but in lessening its labor by curbing the vicious energy with which the left heart and the aortic system are unloading themselves into the over-distended veins.

For the arrest of non-surgical hemorrhage much reliance is placed upon vasoconstrictors. Their use, however, is indicated only when the hemorrhage is strictly capillary, as only then will the constriction be applied between the blood supply and the bleeding point. If a vessel larger than a capillary be open, the principal constriction will be as likely as not to fail to the distal side of the opening, thus favoring the bleeding instead of restraining it.

Hence, while simple epistaxis or bronchorrhagia may be successfully treated with ergot, drugs of this character are worse than useless when blood is escaping from an ulcer in the intestine, or from a ruptured artery within the cranium. Here the indication is to lessen arterial tension, slow the blood current, and give opportunity for the formation of a clot at the bleeding point.

Obscure as is the pathology of angina pectoris, a factor in many cases seems to be a disproportion between the resistance in the circulation and the muscular power of the heart. And in practice, we do not find that relief comes from the use of agents that spur the heart to greater effort, but from nitrite of amyl, which widens the blood-path, and makes the heart's work easier.

In uremic convulsions accompanied by high arterial tension nitroglycerin and its congeners are second only to the lancet in the relief they may afford.

These are but a few illustrations from many that might be adduced to show that in the use of these remedies we are not left as is so often the case, merely to the teachings of experience, but that a priori reasoning upon definite principles lead us to anticipate what practice abundantly confirms.

A word in conclusion as to choice of arterial relaxants. The most prompt and most powerful, as well as most evacuating in its effect, is amyl nitrite. Its action is expended in not more than five or ten minutes. Next comes nitroglycerin which acts for half or three-quarters of an hour. Sodium nitrite acts more slowly, but its effect in a full dose is maintained for two or three hours. Aconite should be repeated every half-hour or hour, according to the dose. Veratrum viride acts very differently upon different persons; its effect in a given case should be carefully watched, and if nausea is induced, the dose should be lessened or the intervals increased. Sweet spirit of nitre acts like the nitrates and is especially useful when the kidneys are irritated. Calomel will sometimes reduce arterial tension in a most satisfactory manner, especially when the condition is dependent upon malassimilation or defective elimination.

Finally, alcohol combines with its stimulating action a decidedly lowering effect upon arterial tension, and thus becomes an agent of the greatest value when the heart is overtaxed.

It is perhaps unnecessary to remark
that often the effect of these remedies may be modified with advantage by combination with cardiac stimulants and tonics. The combination with digitalis for example, gives increased tone and energy to the heart-muscle without adding to its labor, and is especially to be recommended when the rhythm of the pulse is disturbed.

22 E. 42d Street, New York.

TREATMENT OF TUBERCULOSIS BY IODOFORM INUNCTIONS.

By Lawrence F. Flick, M. D.

It is now about two years since I first began the treatment of tuberculosis by iodoform inunctions. Considerable experience with the treatment during that time warrants me in saying that it is worthy of a permanent place in our armamentarium against this disease. It is so easy to be deceived about therapeutical results that it is unwise to be over-sanguine in making statements about them, and yet I am bound to say that my results in some cases have been phenomenal. A man, for example, at the Rush Hospital for consumption, who gave a history of having lost forty pounds in six weeks, and who upon admission had consolidation of the apex of one lung and all the symptoms and physical signs of tuberculosis gained 18 pounds in two weeks under the treatment. This is not a selected case, but one of a number in which the improvement was astonishingly rapid.

My experience shows that this rapid improvement is invariably confined to cases in which the disease has not proceeded to the breaking-down stage. Unfortunately we do not often get cases in this early stage, but on the other hand, I do believe that physicians sometimes overlook them. The busy practitioner is very apt to mistake a case of incipient tuberculosis for dyspepsia or chronic malaria. Careful physical examination and taking the temperature will clear up the diagnosis for him. We should all make it an absolute rule to take the temperature and carefully examine all cases in which there has been a loss of weight, where there is a serious interference with digestion, or where the patient complains of those symptoms which are usually called malarial. We must not expect to always find the tubercular deposit in the lungs, as the primary seat of the disease is frequently in other parts of the body, such as the peritoneum, the sexual organs, the lymphatic glands, in short, any organ or structure.

While my results with this treatment have only been invariably good in those cases which had not advanced to the breaking-down stage, I have had some good results from it in cases that had gone to the second and third stages. In these latter cases, however, I always use large doses of cresote along with the inunctions. Cases in which there is a very large amount of broken-down tissue do not seem to be influenced by the treatment at all.

The formulas which I use in the inunctions are:

\[
\begin{align*}
R & \text{ Iodoformi} & \frac{5}{i} \\
& \text{Ol. Rosae} & \frac{gtt}{i} \\
& \text{Ol. Anisae} & \frac{f}{3} \\
& \text{Ol. Morrhuae} & \frac{f}{2} \\
& \text{vel. Ol. Oliveae} & \frac{f}{3} \\
& \text{M.}
\end{align*}
\]

Iodoform is much more soluble in cod-liver oil than it is in any other oil. There is some objection, however, to the smell of cod-liver oil, and for that reason I sometimes use the olive oil. Another objection to cod-liver oil is its instability, and the instability of the solution of iodoform in it. If the cod-liver oil is rancid, the solution will at once turn black, and even when it is fresh the solution will turn black in a week or two.

When I use the combined treatment of iodoform inunctions and cresote internally, I begin the cresote in one drop doses three times a day and gradually run it up to fifteen drops three times a day.
The best vehicle which I have found for the creasote is hot water. It is comparatively easily taken in this way and is well borne by the stomach.

I am pretty well convinced that the benefit derived from the iodoform is due to the iodine. The reason why this preparation of iodine is better than some others is probably because it gives off its iodine slowly. I have recently tried some of the preparations of iodine which resemble iodoform in their construction and I am inclined to think that they will give equally good results. Among the preparations that I am using are iodide of thymol, and europhen. Inasmuch as they have very little odor they will prove a very desirable substitute for iodoform, if they are found to be equally effective.

736 Pine Street, Philadelphia.

THERAPEUTIC NOTES.

By R. B. McCall, M.D.

Retention of Urine.

To show the danger of over-distension of the bladder, and to illustrate the value of catheterization, writer offers the following history: May 27th, at midnight, I was called to see Mrs. M., the mother of a three-day-old baby. Dr. B., had attended confinement and reported that labor had been normal in all respects.

Thirty-six hours after delivery he was recalled, and found patient with high fever that had been ushered in by a prolonged chill and depression, accompanied by complete retention of urine.

Dr. B. informed me that he was unable to draw the water because of the violent rigors excited whenever he attempted it. The following facts were ascertained, viz.: that the lochia were very offensive, temperature 103°, pulse greatly accelerated, tongue invested by a yellowish-white fur, bowels constipated, urine retained and bladder greatly distended.

Quinine was ordered, twenty-five grains to be taken every twenty-four hours.

Catheter was introduced without trouble, and five pints of dark strong-smelling urine drawn.

It was soon found that the viscus was paralyzed, and some effort to stimulate the organ into a degree of activity by the use of strychnine was made, but in vain.

Withdrawal of urine by the catheter was practiced twice a day for nine days, when water was voided without aid. For several days five pints were taken daily, when the quantity gradually diminished.

The occurrence of temporary paralysis of the bladder after confinement is not rare, but need take place even less frequently than it does if physicians, in every case, would make it a duty to see if there is distension before leaving bedside. When it is practicable the organ should be evacuated three times in the twenty-four hours. Unless there be some serious objection to its use, the silver catheter should be preferred to one of soft rubber, for the sake of cleanliness and because septic matter is less likely to be carried into the urethra.

HOT WATER FOR BRUISES AND SPRAINS.

I once had my left middle finger crushed; I at once thrust it into a basin of warm water, hot as could be borne,—relief followed in a little while, and the cure was perfect. From this single instance I formulated the syllogism: Whatever has relieved a sprain, bruise or laceration for me, will or may relieve all sprains and bruises.

Hot water did relieve my lacerated finger; therefore hot water is a good remedy for bruises, etc.

I pinned my faith to this conclusion, and have for many years practiced this simple method; therefore every crushed finger, hand, toe or foot is immediately immersed in hot water, or if a sprain, the soothing fluid is gently poured on for an hour or more at a time.
Only recently an old lady presented a greatly swollen and painful hand, into which a rusty nail had been pushed for a considerable distance. The pain was great, and wrist and forearm were involved as shown by swelling and livid distension of the veins. She was told to keep the member in hot water for an hour,—relief came and in a short time soreness and swelling were gone. Therefore, I employ hot water in bruises and sprains, freely and persistently, and it will be found to yield as large a percentage of satisfaction as can be reasonably expected.

One of the Uses of Turpentine.

Some recent experience with this drug may be new to many as it was to the writer. In December, Wm. F., was attacked with what seemed to be icterus; excruciating pain in belly, focussed at umbilicus and intermittent, bowels obstinately confined, urine of normal appearance and sufficient in quantity, temperature and pulse-rate normal. Palpation failed to discover tumefaction or local accumulation of any description.

For relief of the suffering, hypodermatic injections (morphine sulphate gr. ⅙, atropine sulphate gr. 1/6) were repeated once or twice in the twenty-four hours, for a few days. As adjuvants, anodyne drops (spirit, aether, comp., etc.) with counter-irritants to abdomen were employed in vain. At last four-drop doses of spirits of turpentine were ordered to be taken every three hours. In twenty-four hours almost complete relief had taken place; six months have elapsed and there has been no recurrence of the attack. Previous history shows that similar attacks occurred at infrequent intervals.

John J., a tobacco appraiser, began to have pain in left loin extending forward toward umbilicus, fixed and intermittent, becoming aggravated in evening, necessitating the semi-recumbent posture during night. Three years before, his side had been injured, and it was thought present attack was due in a measure to that fact. Purgatives, diuretics and anodynes given, afforded only temporary amelioration. Finally four-drop doses of turpentine were taken at short intervals for several days, resulting in the removal of his disorder. Recovery was perfect and permanent. The spirit is a fine stimulant, a vaso-motor stimulant, an antiseptic and diuretic, and to these properties, no doubt, are due its curative effects in the above cases.

More recently I have had my third case of the above description who was put on the turpentine treatment, with a like gratifying result.

A fourth patient, now under observation says the turpentine nauseates him and therefore he can not take it. It may be taken in emulsion or dropped on a lump of sugar. The latter plan should be preferred.

Homersville, Ohio.

Observations on Drugs.

By Samuel Wolfe, M.D.,
Professor of Physiology and Clinical Professor of Nervous Diseases, Medico-Chirurgical College, Philadelphia.

Resorcin.

The merits of this drug in the treatment of malarial toxemic conditions are hardly fully recognized. I have found it to succeed in removing the symptoms where they had persisted more or less obstinately for many months under the use of quinine, arsenic and iron. The drug is pleasant in solutions and easily administered to children. A good combination is,

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M. Sig. Teaspoonful three times a day.

or, R Resorcin | 3 iss |
| Sprudel Salt | |
| Aquæ | . q. s. ad f Ⅵ viij |

Solve. Sig. Tablespoonful three times a day.

Hyoscyamine.

In a case of meningitis, with active delirium, 1-100 gr. hyoscyamine, sulph.
hypodermically, quieted the delirium promptly, but with this result came signs of failing respiration (purplish skin, irregular and shallow chest movements). Twenty-four hours later, the delirium again being active, the same dose produced similar results, although precautions had been taken to avoid this by combining with the hyoscyamine 1-100 gr. strychnine sulphate.

Strontium Lactate.
Given in 5 gr. doses, three times daily the albumin was much diminished, but did not wholly disappear, in the case of a male, aet. 40, in whom the symptom had been present for several years. About three months before the patient had a violent attack, in which vomiting, obstruction of the bowels, and later, bloody stools co-existed with scanty urine, albuminous to the extent of 50%. After ten days' confinement to bed, the patient rapidly recovered, and the albumin was reduced to a heavy cloud. The drugs used at different times were tr. ferri chlor., strych. sulph., tr. digitalis, ext. pilocarp., fl., and trinitrin. Though the patient had resumed attention to his business (manufacturer) his digestion was not as good as it soon became with the use of the strontium salt. After the initial decrease in the proportion of albumin there was again an increase, which disappeared and the minimum was reached the second time when the dose was increased to 7½ grs. The patient now follows all his business and social duties without any hindrance beyond what regimens restrictions impose.

Hydrastis Canadensis and Cimicifuga Racemosa.
Ext. Cimicifuga ffd.
Syr. Tolutani........... a a f ⅔ i
M. Sig. Half to one teaspoonful every four hours.

This is a useful formula in subacute bronchitis where the symptoms have existed for some weeks, and where loss of appetite and deficient nerve tone are present. Cimicifuga has a large range of use in catarrhal inflammations, subacute and chronic, where some form of tonic medication to the nervous system is generally advisable.

As a routine drug in the treatment of chorea, it has been largely used in the author's Nervous Clinic at the Medico-Chirurgical Hospital, with results that will compare favorably with a similar use of Fowler's solution. It may, however, be said that recent trials of antipyrin have tended to the conviction, that in this drug for the class of cases in which there is much arterial excitement (and this practically includes all the cases) we have found the most efficient remedy.

Ol. Cajeput.
R Ol. Cajeput............ f 5 i
Ol. Olivae opt........... f 5 ii j
M. Sig. Two drops in the ear twice a day.

We see every now and then a case where a patient has the one single obtrusive symptom of hardness of hearing; we find no wax (hardened) in the ear, and reach very indefinite conclusions as to the condition at the bottom of the symptom. I have frequently found the above formula to give the required relief.

Cannabis Indica.
It is doubtful whether there has yet been found a drug more efficient for the relief of migraine. Twenty drops of the tincture, three times a day, should be given. I have just discharged a case where the attacks came three or four times a week. During and after the use of a two-ounce bottle she has remained well for some months. Patient is a saleswoman, aged 23.

Pepsin.
A girl of 17 came to my office recently with a large patch of warty excrescence on her neck. The patch was two inches long and one inch wide, and in the central part was so highly vascular that it seemed to me to be connected with a naevus. The patient did not know how long it had existed, only knew of its
duration for many years. I handed her a liquid preparation of pepsin, of which a sample had been left on my table, with a camel’s hair brush, and told her to paint it faithfully, and after two weeks to return and have it removed by knife or cauterizing agent, if not improving satisfactorily. I was surprised to find on her return that the growth was shriveled and almost gone. She is continuing the application, and I believe it will entirely disappear.

1624 Diamond Street, Philadelphia.

A NOTE ON ARSENITE OF COPPER IN SUMMER COMPLAINT.

By Robert Carothers, M.D.,
Assistant Clinician, Children’s Clinic, Medical College of Ohio, Cincinnati.

This is the season of the year when the dispensary doctor of the larger cities, interested in the diseases of children, is called upon to combat the much dreaded disease of summer complaint. Early in the disease when it is acute and the infant or young child is prostrated, has fever, vomiting, and the stools are very frequent, large, and watery, with a very putrid or sour odor, the happiest results in my experience have been from a very active purge, preferably calomel, followed by intestinal antiseptics. But, above all, should we exclude for twelve, twenty-four, or thirty-six hours that which if continued would be adding fuel to the fire, namely, the food the child has been taking; in its place can be substituted a diet of whisky toddy, and beef tea, or barley water, which are non-fermentable, and upon which the child can be sustained until the trouble has considerably abated, and then can be fed again with caution.

It is the chronic stage of which I wish particularly to speak, when the disease has traveled down into the lower bowel, the stools small, containing mucus, tinged with blood, producing pain and tenesmus, the prostration, vomiting and fever having subsided.

It is in this stage that such excellent results are obtained from the use of arsenite of copper, given by the mouth and thrown into the bowel as an enema.

I have seen cases of chronic or subacute dysentery, which have been running weeks, relieved in a few days by the use of arsenite of copper, prescribed as above. In the chronic as well as the acute stage the importance of diet must not be lost sight of, but it will not be necessary to enforce so rigid a course. It has been my custom, if the case be an infant at the breast, to lengthen the intervals between nursing from three to five hours, and in young children to confine them for a few days to an exclusive milk diet, with intervals between the feeding of from four to six hours.

I have frequently used the arsenite of copper as an intestinal antiseptic in acute summer complaint with good results, but my experience tells me that it is especially indicated in chronic or subacute trouble located in the lower bowel.

Newport, Kentucky.

Clinical Record.

CIMICIFUGA IN UTERINE DISORDERS.

Ten to thirty drops of the fluid extract after meals are used to cure seminal emissions. This has rarely failed in my experience. Half a grain to a grain of the resinoid, cimicifugn, twice a day, has occasionally been found useful in conditions of nervous depression, hysteria and incipient melancholia.

Five to twenty drops of the tincture, several times a day, have proved very helpful in scanty menses, especially in maiden ladies; but if repeated as often as every three hours, even, are likely to cause severe headache. This untoward effect I have never seen from the largest doses, such as half a drachm or drachm of the fluid extract three times a day. Such
doses are said, however, to produce headache sometimes. Very small doses, as one-quarter of a drop up to one drop of the ordinary tincture, repeated every one or two hours, will often promptly relieve a frontal headache due to mental fatigue, or any kind of a headache resulting from pelvic congestion at the menstrual period in women. The same doses are often efficient in preventing abortion when threatened from weakness or passive congestion of the uterus, or from habit at a certain stage of pregnancy.

Two or three drops of the tinctures of cimicifuga and gelsemium—sometimes one drop of each—every hour or two, are among the most certain means of bringing on the menstrual flow when delayed by passive congestion, cold, grief, or other similar cause, and acts similarly with the lochial discharge after parturition. Dragging pelvic pains arising from the same causes may be relieved by the same combination.

Boardman Reed, M. D.

Atlantic City, New Jersey.

ENEMATA OF HOT WATER IN HYSTERO-EPILEPSY.

I report the application of a remedy for the relief of the spasms of hystero-epilepsy that is new to me, but so thoroughly efficacious in the one case that I consider it worthy to go upon record. About twelve months ago, at the end of a fatiguing day's labor, I was called at 10 o'clock P. M. to visit an estimable young lady of good family, who was suffering the horrors of what promised to be an all-night siege of an attack brought about by too many hours in the fatiguing pursuit of pleasure with an "outing" party of young people. Two hours of musk, asafoetida, valerian, ice to spine, pressure upon ovaries, etc., failed utterly to bring relief. I now decided to irrigate the colon with hot water; 3 pints were given with pronounced benefit. I followed this in a few minutes with six pints, hot as could be borne, which in due time was deposited in a vessel with a very little fecal matter, but was at once followed by a return to a rational mental condition, and in a few minutes by sleep, which continued during the night. Following this, I next day put her upon general systemic treatment, but there was a recurrent attack in about one month. Desiring to test the hot irrigations, I used them without any other treatment, and one six-pint application was sufficient. The patient has been very anxious for a cure, and has earnestly co-operated with me with that end in view, and has had no other attack since (now about eleven months). I will not take up space to discuss the action of this remedy. The reader can readily see that my object was diversion, and depletion of the cord and brain, and the result was satisfactory.

Edward Smith, M. D.

Oxford, Kansas.

SANTONIN AS AN EMMENAGOGUE.

On April 10th, 1892, I was called to see Mrs. A. B., aged 36 years, and found her in great agony from uterine colic. The pains had continued for several days, and gradually assumed a graver form, notwithstanding the various domestic remedies which she had employed. Hot water bags were applied and frequently changed. Hot drinks were freely administered and frequently repeated, but without affording any relief. The pain was so severe that it was necessary to resort to large doses of morphine to get it under control. In the meantime a ten-grain dose of santonin was administered. The menstrual flow became fully established by the second day after administering the santonin, and the patient rapidly recovered.

To avoid such serious crises at future periods, I prescribed several ten-grain powders of santonin, one to be taken at night, at the first approach of the menstrual molimen. In this manner the suffering has been warded off at each subsequent period, and menstruation established
each time without any disturbance, to the profound gratification of the patient.

Mrs. A. B. is the mother of seven children, of highly neurotic temperament, and subject to these attacks on exposure to cold and dampness, or on becoming greatly fatigued. The attack described was brought on by exposure to draughts while overheated. These attacks are, therefore, of the nature of suppressio-mensium, and the santonin relaxes the engorged uterus.

I have used santonine in a number of other cases of similar nature, and in every instance with most happy results.

D. H. Bergey, M. D.
North Wales, Pa.

**OBSTRUCTION OF THE GALL-BLADDER.(?)**

On May 1st I was called to a neighboring town, some miles distant, to see a patient, of whom I have the following to record. She was about 50 years old, married and the mother of four children, all living. Had ceased menstruating at 44. For several years previously had been occasionally troubled with "pain in stomach," sometimes of such severity as to cause her to go to bed. These had gradually grown more frequent, lasted longer and proved to be more severe, until last Christmas when an attack caused her to keep her bed four weeks and from which she had never recovered, having medical attention almost continuously from then with but little or no abatement in the symptoms. When I first saw her there was yellowness of skin and conjunctivæ, anorexia, nausea with severe attacks of vomiting, tender and pain on pressure over stomach, and a perceptible tumor in the right hypochondriac region. There was irritability of the stomach to such an extent that nothing but soup or water could be borne, and that only at times. There was profuse sweating, great prostration with extreme nervousness. Pulse 58, temp. 99. Constipation had previously existed, but now bowels were moving with dysenteric discharge from eight to ten times in 24 hours.

The severity of the ailment now lay in the paroxysms or attacks which came on twice and sometimes three times in twenty-four hours. At such times the pain in region of stomach was intense, lasting perhaps an hour or two, and from which the patient would hardly recover before another attack came on. Her disease had been diagnosed as "catarrh of stomach," "gall-stone," "cancer of liver," "cancer of stomach," etc.

I administered anodynes until the pain was relieved. Then put her on trit. tablets hydrarg. chlor. mite 1/6 gr. every hour for two days. Then gave her tablets every hour, for twelve hours, consisting of pulv. opii, pulv. ipecac., 3a gr. 1/6, mass. hydrarg. gr. ss.

This occupied some three days. The fourth day I began the administration of tr. chionanthus virginica in doses of 15 drops 3 times a day. She slept well the fourth night and the fifth day reported herself free from pain, something that she had not experienced since Christmas.

The tumor had now disappeared. She ate light diet the 5th and 6th days, and I dismissed the case in eight days.

I saw her two weeks since and she had resumed her household duties with comparative ease, and at this writing, July 1st, is apparently well.

Milton, Illinois.

C. E. Thurmon, M. D.

**METHOD OF USING APIOLINE.**

Apioline may be looked upon as the most efficient emmenagogue at our disposal, but in order to secure the best results it is essential that it be administered in the proper manner. Its use is especially indicated in those cases of amenorrhea consequent upon a general anemia; either that form associated with exhausting discharges, incipient phthisis, chlorosis, or other depraved conditions of the system, or that due to the constitutional
disturbances arising from a change in the climatic influences, such as is frequently encountered in young girls recently landed in this country. Particularly is its use in the last-named class of cases attended with very satisfactory results. In all of these cases it is well to combine the drug with some preparation of iron. Either Blaud's pill or the compound iron pill of the U. S. Pharmacopoeia should be given uninterruptedly until a few days before the expected appearance of the menses. Then, continuing the iron, apioline in five-minim capsules should be exhibited three times daily, and continued until the appearance of the flow. This procedure may be repeated at the next menstrual epoch, the iron being continued during the interval. At the same time by the use of proper laxatives the bowels should be kept pervious and the entire digestive tract maintained in a good condition. If administered in any other way the full benefit of the apioline cannot be secured, while by the method suggested its employment must give satisfaction.

W. A. Newman Dorland, M. D.,
Instructor in Gynecology, Philadelphia Polyclinic,
120 So. 17th Street, Philadelphia.

BALSAM PERU IN SURGICAL PRACTICE AND DIPHTHERIA.

The Balsam Peru is used in my treatment of wounds. A compound fracture is treated by pouring the balsam freely into the wounds. Compound fractures of the hand and fingers, so common among railroad injuries, have given the best results when they have been treated freely with the balsam, covered with gauze and wrapped in cotton. I advise its use in all open wounds.

In diphtheria I have found it the best agent to apply to the exudate for the purpose of disinfecting and sterilizing it. Children tolerate it, owing to its pleasant taste. It is powerful as a destroyer of diphtheritic membrane, which appears on tonsils and fauces, and can be applied by means of a swab of soft cotton soaked in the solution.

Hal C. Wyman, M. D.,
Professor of Surgery,
Michigan College of Medicine and Surgery,
Detroit, Michigan.

Recent Medicaments.

Strontium Salts.

The physiological actions of the strontium salts were first brought to the attention of the profession through the investigations of Prof. Laborde, of Paris, who demonstrated that they were non-poisonous, even when taken in large (comparatively) doses. For the therapeutic indications we are indebted to such eminent authorities as Dujardin-Beaumetz, Germain See, Constantin Paul, Bucquoi, Ferè and Egasse, who have studied carefully the actions of the bromide and lactate. Later reports are expected to cover indications for the use of strontium iodide, which promises to prove especially valuable, owing, doubtless, to the very favorable action which these salts have upon the digestive tract.

The bromide is especially adapted to a large class of nervous patients suffering from disordered digestion, who cannot take the potassium and sodium salts. The dose ranges from ten to thirty grains—the crystalline salt (anhydrous strontium bromide is about twice the strength of the crystalline), taken with meals, three times a day—although in epilepsy double the maximum dose may be given with benefit. It can be administered in simple solution, as an elixir, or where sugar is contra-indicated saccharin can be substituted.

The lactate has produced temporary benefit in albuminuria, the elimination of sugar being lessened while the patient takes the medicine. It is readily soluble in water, and is given in doses ranging from twenty grains to one drachm, three or four times daily. Nutrition improves, and a favorable effect is noticeable upon the kidneys, while the urine is increased without any appreciable irritant action.

Europhen.

The name Europhen is applied to a recent synthetic product (iso-butyl-ortho-
cresol-iodide), introduced as a substitute for iodoform (tri-iodo-methane). It is said to be non-toxic, and its odor not at all unpleasant, although it is distinctly that of an iodine derivative, but differing materially from iodoform by having a less penetrating and persistent odor. The average percentage of iodine contained in the powder is 27.6, the remainder being iso-butyl-cresol. It is soluble in alcohol, ether, chloroform, and oils and fats, but a slight precipitate—an organic iodine compound, soluble in water, which can be removed by filtration, but is not soluble in water or glycerin. To all appearances it closely resembles aristol (di-thymol-di-iodide), which has already attained such widespread popularity. Elimination takes place principally through the intestinal tract, but traces of iodine may be found in the urine after the ingestion of three grains daily for several days.

Evidently the therapeutic powers of this substance are due to the antiseptic action of iodine, which is liberated only when brought into contact with moist surfaces. Decidedly favorable reports are published by a number of authorities, notably, Goldmann, Eichoff, Seifert, Nolda, Zoldriski, Lowenstein and others, covering its employment in many diseases where iodoform has previously held sway. It is said to be efficient in all venereal diseases except gonorrhoea, and is also useful in the skin diseases due to specific infection. It may be used in the form of a dusting powder, applied as an ointment (2 to 10 per cent.), or in the form of a spray or vapor with oil in the treatment of diseases of the nose and throat characterized by relaxation and increased secretion.

**Gallacetophenone.**

Gallacetophenone (CH₃COCH₃H₂(OH)), is described in Helbing's Modern Materia Medica (3d edition), as a derivative of pyrogallol containing an acetyl group as well as three hydroxyl groups. Introduced primarily under the less intelligible name “Gallacetophenone.”

**Physical and Chemical Properties.**—A pale yellow powder, crystallizing from hot water, in which, as also in alcohol and ether, it is readily soluble. Cold water takes up only 1.8 per mille, but by the addition of 30 per cent. of sodium acetate a 4 per cent. aqueous solution can be made; glycerin dissolves it in every proportion.

**Medicinal Uses.**—Recommended instead of pyrogallol, which often gives rise to poisoning symptoms, in the treatment of psoriasis; gallacetophenone has less powerful reducing properties than pyrogallol, and the further advantage that it does not soil the linen with which it comes in contact. Gallacetophenone having been proved harmless to animals was tried in a few cases of psoriasis in human beings with encouraging results. A good effect is observable within 12 hours after the application (Rekowski).

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**Thiol.**

**Thiol vs. Ichthyol.**—Among the new remedies introduced to the profession for the treatment of abnormal conditions of the skin, says editor Stowell in the National Medical Review, ichthyol has won a first place. But it has the disadvantage of having a strong and disagreeable odor. Ichthyol is prepared by the destructive distillation of a mineral rich in sulphur and the fossilized remains of marine animals. It contains a certain proportion of indefinite, evil-smelling organic bodies, which cannot be removed without decomposing the product. By what may be designated synthetical methods, a product is obtained, free from the disadvantages of ichthyol; this is called thiol. Thiol forms a clear solution with water, especially in the presence of glycerin. Several chemical authorities have examined the two products side by side, and the conclusion is reached that thiol is even superior as re-
gards its chemical purity; while a large number of medical authorities have testified that therapeutically it was superior to ichthyl, with the additional advantage of comparative freedom from odor. The current number of *New Remedies* gives a detailed list of affections in which thiol has proved of great value. Among these diseases we note the following: Eczematous affections, erysipelas, herpes, dermatitis, lupus, contusions and subcutaneous hemorrhages. Thiol is "a purified form of ichthyl." It is a substitute for ichthyl. Considering its advantages, the writer predicts for it a wide use, when its true merits are fully understood by the profession.

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**EXTRACTS FROM PAPERS READ AT THE DETROIT MEETING OF THE A. M. A.**

**Phenacetin in the Nervous Sequelae of the Grippe.**—It is easy to make a list of remedies such as total rest, foreign travel, highly nourishing, digestible diet and competent nursing; but a large part of the average doctor's list of patients is made up of poor people to whom such luxuries are as unattainable as a steam yacht, and they must be replaced with what is within reach. Rest comes to such men and women only when their bed imprisons them, and careful nursing from a wife who has half a dozen little ones to look out for in a small tenement is out of the question. We must look for substitutes, find some artificial rest which will make the tired mother's task lighter by reason of a more quiet patient.

In such a search opium and its derivatives must be barred from the first. When, in the cases under consideration, any of them are administered in sufficient doses to procure sleep or relief from pain, disturbance of general function and subsequent reaction are too pronounced to permit of continuance, and depression too profound to allow them to be continued or even repeated. Something was needed that could be given for a length of time without increase of dose or loss of effect, for neuroses following grippe are usually of long duration.

Sufonal produces sleep but does not relieve pain. Antipyrine and antifebrin disturb heart action to a degree occasionally alarming, and, in a few cases, have caused temporary delirium. Chloralalam is better, but loses effect after lengthy administration. The various preparations of ether are too stimulating to circulatory centres, and choice seems to lie between such vegetable narcotics as hyoscynamine, hyoscin and the like, and phenacetin.

In a few instances I did well with a combination of hyoscin and monobromide of camphor, but in a majority, the phenol derivative has proven the best. Indeed, were it not for a peculiar quality which phenacetin possesses, and sometimes brings into action, that of producing violent perspiration, it would be the ideal hypnotic and pain-killer, and with this defect, which I have usually been able to correct by using it with quinine sulphate, in my opinion phenacetin stands first in the list of remedies for relief of insomnia and pain in the permanent neuroses following grippe. * * * Phenacetin may be combined with iron for long administrations, and in that form presents the best tonic with which I am acquainted for the adynamic conditions of long continued nervous prostration, from whatever cause.—**William F. Hutchinson, M. D.**

(From a paper read before the American Medical Association, Detroit, June, 1892.)

**Pepsin in Catarrhal Gastritis.**—The American people are said to be a nation of dyspeptics, and by all odds the most frequent form of stomach trouble presented by them is the simple chronic catarrhal gastritis. By this term is meant a slight degree of inflammation of the mucous lining of the organ, which in the mildest cases, does not present any appreciable structural change. It is invariably accompanied by an over production of mucus and an impairment of the digestive power, though fairly good digestion is compatible with the lighter forms of the disease. * * * The most constant signs are the pain in the epigastrium, and the nausea and vomiting, the coated tongue, constipation and loss of appetite being by no means so regularly present. * * * * * * * * * * * * * * * * *

I do not think that pepsin is of any value in the treatment of chronic catarrhal gastritis. I do not wish to be understood as decrying the value of pepsin in certain stomach disorders, notably those attended by atrophy of the gastric tubules, or other structural alterations. Pepsin is also useful in the cases of catarrhal gastritis dependent upon anemia, nephritis and other disorders in which the primary trouble is due to failure of gastric secretion from a deficient or poor blood-supply. In these cases the agent may prove invaluable, but in my judgment, the dose usually employed is much too small. It is in the uncomplicated inflammations that I regard pepsin as valueless; the indigestion is dependent upon an entirely different set of conditions.—**Harold N. Moyer, M. D.**

(From a paper read before the American Medical Association, Detroit, June, 1892.)
THE AMERICAN THERAPIST.
A Monthly Record of Modern Therapeutics,
With Practical Suggestions Relating to the Clinical Applications of Drugs.

JOHN AULDE, M.D., Editor.

Contributions are solicited from all parts of the world. Translations will be made without expense to the author, and when necessary to elucidate the text, appropriate illustrations supplied free of charge. Articles contributed exclusively to this Journal will be liberally paid for, or reprints furnished, provided a request for the same accompanies the manuscript.

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Editorial.

SALUTATORY.

In offering to the medical profession a new Journal, no reflection is cast upon those already in the field. The selection and systematic arrangement of instructive literature upon therapeutics for a large class of appreciative readers involves labor, great care and mature deliberation, grave responsibilities of which the writer is fully cognizant, but beyond this and above all the mere physical and mental turmoil incident to a work of this character, there stands out in bold relief the glorious promise of a recompense for the faithful performance of duties self-imposed. This branch of our noble art, through recent investigations, is now brought more nearly within the confines of scientific requirements than ever before in the history of mankind, and to be an active participant in fostering and developing the principles upon which this therapeutic renaissance is based, must ever be considered a laudable ambition.

Truly, may it be said, "The harvest is plenty, but the laborers are few," and the success or failure of the effort will depend upon the cordial support and co-operation of professional men who have at heart the best interests of medical science. Special invitations have been extended to competent writers, asking them to contribute papers bearing upon the pressing needs of the hour, to which favorable replies were returned, but to each one who reads here this invitation is repeated. The project has met with the hearty approval of unprejudiced and impartial judges of the demands of the times, and the Editor has an abiding faith that the AMERICAN THERAPIST will command the attention and secure the active support of the better class of practitioners throughout the country.

MODERN THERAPEUTIC.

The trend in modern therapeutics is towards specialization, by which is meant the careful study of medications from a physiological and clinical standpoint, with a view to determine with some degree of accuracy the true position which a single remedy or combination is entitled to occupy in arresting or modifying the course of disease. While the absurdity of polypharmacy has been sufficiently demonstrated, as usually practiced, the simultaneous administration of different remedies separately, combined or in alternation, does not conflict with the demands of science. On the contrary, it shows a commendable disposition to discover and prove or verify the claims advanced for the medications exhibited, and by familiarizing ourselves with their remedial properties at the bedside, certain, definite, curative results may, aside from idiosyncrasies and pathological complications, be estimated. Moreover, under the plan outlined, which considers first the patient and next the disease, we are frequently enabled to note effects not anticipated from our knowledge of the therapeutic powers of the drug administered, hence, reflection and observation, together with a modicum of intelligence, may lead ultimately to important results.
Still, reasoning from analogy is not, strictly speaking, scientific, but it serves as a working hypothesis until science enables us to demonstrate the principles or laws upon which a recognized fact is based. Starting with facts which will stand the test required in mathematical demonstration, it seems that the last decade of the nineteenth century, with its scientific equipment, is destined to become the most marvellous era in the history of medicine. The experiments of Dr. Sternberg relating to the possibility of producing artificial immunity from disease, and the observations of Prof. Welch, concerning the influence of soluble poisons in the blood, are facts pregnant with far-reaching possibilities to the present and all future generations, but it remains for the clinician to interpret aright these facts. Modern therapeutics, running in lines parallel with scientific research, seeks results, not from the study of coincidences and analogies, but from the study of both scientific and clinical facts.

RECTAL INJECTIONS.

The employment of enemata as a means of relieving diseased conditions, while not a new therapeutic measure, is a valuable one, and its merits demand more attention at the hands of practitioners than they have heretofore received. In presenting the subject for consideration at this time, however, it is not deemed advisable to discuss the advantages of medication by means of rectal injections, as the benefits to be derived from the use of water are so numerous and apparent that medicated enemata may be left to the good judgment and intelligence of the physician.

Originally employed for the removal of retained faeces, the practice doubtless fell into disuse owing to the fact that relief might often be obtained by the exhibition of irritant purgatives, an alternation which the laity were quick to ap-Preciate, while they were quite willing to believe that causes which produced like effects must be interchangeable. This is far from being the case, clinical evidence showing beyond question that most purgatives, both directly and indirectly, produce more or less derangement of function, hence the means used to overcome one disease but precipitates another, and chronic maladies, many of them brought about by this cause alone, furnish ample opportunities for the industrious and promising quack.

Philosophy aside, the value of flushing the colon with properly sterilized water, hot, tepid or cold, according to the special indications present, will be readily admitted in a long list of formidable diseases, some of which may be mentioned, as follows: Habitual constipation, with or without mental depression or active cerebral manifestations due to auto-infection, being so common, might be permitted to head the list; all occult nervous affections, associated or not with the uric acid diathesis, would naturally attract our notice, as it is well known that disordered innervation is generally conducive to the absorption of poisonous products from the alimentary tract. They are also serviceable in disease dependent upon pelvic congestions, such as uterine displacements, ovarian pains and hemorrhoids, for they contribute materially, though indirectly, to relieve the original cause, viz.: hepatic insufficiency. In appendicitis, perityphlitis and abscess, for which the ameba coli communi is now held responsible, they are invaluable. Mild, and even severe cases of dysentery and diarrhoea are often brought to a favorable termination without enemata, but it is safe to say that, with appropriate diet, all cases would be decidedly benefited and many fatalities avoided by the adoption of this simple means. Enemata should find a place in the treatment of other disorders of this character, notably in the collapse of cholera morbus, yellow fever and cholera, as well as in the conduct of cases of pleurisy or typhoid fever.
CORRESPONDENCE.

The New York State Law Controlling the Practice of Medicine.

To the Editor:

In the report for 1890 of the Board of Health of the State of Illinois on Medical Education in the United States and Canada, it is shown that in the decade from 1879 to 1889 there were 128,005 matriculants in the various medical colleges, both regular and sectarian, with 40,495 graduates; the medical profession of this country being augmented by an annual addition of more than 4,000 physicians.

During the period mentioned there has been a slight increase in the number of colleges; while those that exact educational requirements for matriculation, and attendance on three or more courses of lectures have increased almost 300 per cent. And a better indication of the determination of the colleges to send out well-equipped graduates, is shown by more than twenty per cent. of the colleges now requiring four years of medical study as a requisite for graduation.

This action by the colleges is in conformity with the increasing number of States that have passed laws regulating the practice of medicine; the advantages of such legislation being so apparent, argument in its favor is supererogatory.

After many efforts, and at a rather late date, the State of New York has enacted laws controlling the practice of medicine that seem to promise much for the future. These laws may be divided into three sections: the first providing for the preliminary education of medical students; the second regulating the licensing and registration of physicians and surgeons; and the third providing for the establishment of boards of medical examiners.

The first section requires that a matriculate must be a graduate in arts, science, or philosophy, from some college in good standing; or in lieu thereof he must have passed an examination in arithmetic, grammar, geography, orthography, American history, English composition, and natural philosophy, or in some substantial equivalent of one or more of the foregoing, the examination being conducted under the authority of the Regents of the University of the State of New York.

The second section requires the applicant for registration to be over 21 years of age; to have certificates of moral character from two legally licensed physicians; a diploma conferring the degree of M. D. from some legally incorporated medical college in the United States, or a diploma or license conferring the right to practice medicine and surgery in the country in which it was granted; evidence that the applicant has studied medicine three years including three courses of lectures in different years, in some legally incorporated medical college or colleges, no two of the above courses of lectures beginning or ending in the same calendar year; the candidate must pass examinations in anatomy, physiology, hygiene, chemistry, surgery, obstetrics, pathology and diagnosis, therapeutics, practice and materia medica. In the last three departments the questions must be in harmony with the tenets of the school selected by the candidate. A fee of $25 must be paid in advance.

The third section provides that boards of examiners shall represent the medical society of the State and the homeopathic and eclectic medical societies. Each board consists of seven members, each of whom serves for three years, appointed by the Regents of the University from a list of at least fourteen nominees submitted by each society.

One of the most important features of the State law is that the Regents may accept licenses from other State Boards of medical examiners maintaining an equal standard, without further examination. The general adoption of this comity would make the reformation of medical practice much more national in character; and it would seem to be the feasible extension of an existing principle, for in all States having such laws medical officers of the army, navy and marine hospital service are exempted from such examinations, those of the government being accepted as evidence of their professional competency.

I am indebted to the courtesy of Ralph W. Thomas, the law and medical examiner for the University, for the information that since the law has gone into effect there have been 87 applicants for admission to the examination, of whom 18 were rejected because they failed to meet the requirements of preliminary education, and of three courses of medical lectures in three different years. He states that in New York it is preferable "to require a high standard of education before admission to the medical examinations, and then a fair test of the candidate's ability to practice medicine by the examination, rather than a low and imperfect preliminary and medical standard of education and an unduly severe medical examination."

The public, as well as the medical profession, has been confronted for years by an increasing number of medical colleges, offering nearly every inducement excepting more extended and thorough teaching to the matriculates. The consequence has been that the value of the degree of Doctor of Medicine has been lessened, and, most important, the public has been subjected to not
inconsiderable risks from the exercise of their vocation by poorly qualified practitioners. To recognize the existence of an evil suggests a remedy, and the State has as much right to prescribe the requirements necessary to practice medicine, as it has those to practice law, or those to pursue a vocation that may endanger the health or welfare of its citizens.

Examinations do not necessarily furnish evidence that the successful candidate can practically apply his knowledge. But the chances are greater that one possessing knowledge will successfully meet an emergency than that a partially informed person will do so.

It does not seem that the law of New York exercises any invidious distinction; nor could any of its provisions be omitted without weakening its force.

The application is satisfactory to the public and the profession, and there is every indication that it is accepted, as is sunshine or any other salutary feature of daily life.

S. T. Armstrong, M. D., Ph. D., Visiting Physician Harlem Hospital; Secretary Section of Public Health, N. Y.; Academy of Medicine, etc.

155 W. 54th Street, New York.

**Book Notices.**

**The Principles and Practice of Medicine.**—Designed for the use of practitioners and students of medicine. By William Osler, M. D., Professor of Medicine in the Johns Hopkins University, etc., etc. Cloth, 8 vo., pp. 1079, New York: D. Appleton & Co., 1892. (Price, $5.50.)

Dr. Osler's encyclopedic work has now been before the profession less than six months, but time serves only to add to its desired popularity. Expressing the views and conclusions of an eminent clinician, who has been guided in his inquiries by strictly scientific methods, the book is well calculated to serve as a reliable guide to the specialist as well as the general practitioner, although the latter class will gain from its perusal and study the greater benefits. If one were asked to mention the most prominent and valuable features of the work, the natural response to the inquiry would run about as follows: It is especially full in pathology, not merely as a means of studying the true characteristics associated with any special disease, but as an aid to diagnosis. The general practitioner will find here just the particular information wanted when he meets with those complicated morbid conditions that tax his skill and ability to their utmost. Even its faults may be deemed commendable, as our author is by no means optimistic in respect to therapeutics. But, having a true scientific exposition of the malady before him, the intelligent physician is placed at an advantage over his less progressive associates who depend on empiricism and the pathology of by-gone days, and can readily make requisition upon his therapeutic armamentarium in the combat with disease.

**The Pocket Pharmacy, with Therapeutic Index.** (A Resumé of the Clinical Applications of Remedies adapted to the Pocket-case, for the Treatment of Emergencies and Acute Diseases.) By John Aulde, M. D., Member of the American Medical Association. 12mo, pp. 204. New York: D. Appleton & Co., 1892. Price, $2.00.

The author of this little book has already acquired a reputation as a writer on Therapeutics; so that, this, his latest presentation to the profession, is likely to be opened with anticipations of pleasure and profit from its perusal. Nor will these expectations be disappointed.

The "Pocket Pharmacy" may be looked upon as the outcome of a transition period, in which the tendency is to substitute for the nauseous combinations and poly-pharmacy of old style drug medication, a simpler and pleasanter mode of administering medicine. The author distinctly recognizes the fact that disease is primarily a derangement of all functions; and he finds, as was to be expected, that, if restorative medicines are to be adapted to this stage of disease, "small doses are to be preferred,—in fact, they are necessary."

Fortunately, the effect of medicines on abnormal conditions is within the range of
clinical observation; and it is but simple justice to say, that the author of the Pocket Pharmacy has rendered an important service to the profession by the precision with which he has pointed out the chemical sphere of the several drugs discussed in this little volume.

The physician who adopts the practical suggestions herein offered, will find them very helpful; while his patients will be gratified to find that to the distress of illness it is not always necessary to add the distaste of drug combinations, which are dreaded by sensitive palates almost as much as the disease they are intended to cure.

Nor need the smallness of the dose here indicated, deter from the utilization of the directions of the Pocket Pharmacy, for it is now well established that small doses, frequently repeated, have a much greater, though a less disturbing, effect than large ones. It was John Hunter who taught that "medicines have visible and invisible effects—their invisible effects are often their specific effects, and indeed their specific effects are often greater when they are invisible effects." What will now be desired will be an extension of the list of medicines so far presented, so as to include the more precise clinical uses of other leading drugs in the materia medica.

P.


The Annual, during its ten years of existence, has made wonderful progress, and in the form of a single compact volume, presents briefly but intelligently, an epitome of medical progress from year to year. Equipped with a large staff of eminent contributors, specially qualified for the different departments, it will prove of great practical utility for those who desire to have at hand in condensed form an account of the most recent advances in the treatment of all diseased conditions. The present volume contains sections upon the following topics: New Remedies, New Treatment, Recent Advances in Bacteriology, Medical Photography, Sanitary Science, Suppositories in the treatment of Disease, Improvements in Pharmacy, New Medical and Surgical Appliances, and closes with a list of publications of the year. To this should be added the observation that a good index is furnished, which makes consultation of its pages a source of satisfaction.


Since the advent of electricity in gynaecology, according to Apostoli’s method, a considerable number of physicians have given it more attention than they had previously, because they knew practically nothing of its possibilities in this special field. An elementary work, therefore, that dealt with the subject in a practical manner from the very beginning, was a desideratum, and this is substantially the scope of the work undertaken by Dr. Goelet. That the book is creditable to the author goes without saying, as he is well known as a conservative and faithful exponent of the facts as he observes them. The first volume is devoted to a consideration of the physiological action of galvanic and faradic currents, static electricity and its currents, closing with a description of the apparatus required. Volume II, deals with electro-therapeutics exclusively, a chapter being devoted to disorders of menstruation, one to diseases of the uterus, one to diseases of the appendages and broad ligaments, and another to pelvic tumors, thus practically covering the entire field of gynaecology.
THE YEAR-BOOK OF TREATMENT FOR 1892.

The Year Book of Treatment differs materially in its general make-up from the Annual, noticed above. Special diseases are assigned to different writers, men qualified by their work to estimate the value of methods of treatment. For the most part, the book is composed of brief abstracts from current literature, and following these abstracts, where deemed expedient, explanatory remarks, suggestions, or other information bearing upon the topic follow in parentheses.

Diseases of the skin is assigned to Dr. MALCOLM MORRIS; diseases of the eye, to Dr. HENRY POWER; orthopaedic surgery, to Dr. W. J. WALSHAM; gout, rheumatism and rheumatoid arthritis, to Sir A. E. GARROD, and the remaining sections are cared for by equally popular and reliable authorities, although, like those contributing to the Annual, they are mostly English authors. The progressive physician will find it to his interest to provide himself with both reference books.

CURRENT LITERATURE.

Piperazin in the Uric Acid Diathesis.—The above reference to Prof. BARTHOLOW concerning the influence of nitric acid in lithaemia, prompts me to mention the new remedy—piperazin, recently brought to the attention of the medical profession for the relief of this disorder. Here-tofore, lithia salts have been regarded as our most potent agent in correcting this diathesis, but it has been shown experimentally that piperazin possesses an activity fifteen times that of lithia, while the clinical evidence is decidedly in its favor. The daily dose of fifteen grains is readily dissolved in a pint or a quart of pure water and the solution drunk ad libitum.

To HEIDENHAIN we are indebted for our knowledge concerning the functions of the Malphigian tubules and the epithelial cells lining the convoluted tubules, viz.: That the former excretes mainly the liquid portion, while the latter eliminates principally the urinary solids. It will be obvious, therefore, that with exact clinical observation from the introduction of a definite chemical product like piperazin into the circulation, much valuable information may be gained concerning the role played by uric acid,—whether it exists pre-formed in the circulating fluids, or whether it is a product developed de novo within the kidney itself. This is an extremely interesting question, but it must be submitted finally to the test of the experimental physiologist before the clinical results can be calculated with mathematical exactness.—Notes on New Remedies, June, 1892.

“Railroad Kidney.”—Railroad kidney is the name applied by Dr. CYRUS EDSON (Dietetic Gazette, May, 1892), to disorders of the renal function as it occurs among railway employés, or in those who travel much, on account of the intimate association of all travellers with dirt. Under the most favorable circumstances, dirt will fasten itself upon all exposed portions of the person, and thus an extra amount of work is thrown on the kidneys, and no doubt in persons suffering from disease of these organs, much harm may attend a prolonged journey. We must bear in mind at the same time that the peculiar motion associated with train-riding arrests the functional activity of excretory organs, and with our knowledge concerning the rapid absorption of poisonous products from the alimentary tract, too much stress should not be laid upon the presence of a little dirt externally.

Diagnosis in Dysentery.—Diagnosis in dysentery is a matter of no small importance. Time was when all affections of the lower bowel were submitted substantially to the same treatment—opium and astringents; but with a better knowledge of the pathology, improved methods must be followed. Dysentery may be either catarrhal, amebic or diphtheritic. The amebic form may be of a chronic character, with acute exacerbations, and this practically covers the entire field. Evidently the treatment must vary according to the conditions present, and for this reason diagnosis is of the utmost importance. While opium and astringents may be of service in the acute catarrhal forms, this routine practice in the diphtheritic forms would be quickly fatal, while at the same time the plan would prove utterly fruitless in those cases due to a micro-organism.

It would be well, perhaps, if all cases of dysentery were regarded as directly or indirectly due to bacterial infection. Although no micro-organism can be detected in connection with catarrhal dysentery, there is good reason to believe that bacterial products may bear a casual relationship to the derangement of function which we witness; and the same is true as regards diphtheritic conditions affecting the lower bowel. The matter is
brought to the attention of our readers because it is evident that too much routine work is done in many of the more common affections incident to the summer season.—Medical Summary, July, 1892.

Bassorin Paste is a new neutral ointment base, introduced to medical attention by the initial publication a year ago of clinical reports by Dr. George T. Elliot, of the New York Skin and Cancer Hospital and the New York Post-Graduate Medical School; in the May, 1892, issue of the Journal of Cutaneous and Genito-Urinary Diseases Dr. Elliot confirms previous reports and adds further favorable testimony. Bassorin is a constituent of most gums; it was first found in Bassora gum, and hence the name. It constitutes 43 per cent. of gum-tragacanth, from which it is principally derived for commercial use; it is insoluble, but swells in water like gum-tragacanth. Bassorin paste is prepared by soaking 1 part of pure bassorin in 15 parts of water, and adding dextrine and glycerin to the resulting mass. The paste is of the consistency of petrolatum; dissolves or suspends all remedial substances, except tannates and iron compounds; dries quickly on the skin, and can be readily removed with sponge and water. Dr. Unna, of Hamburg, has taken up the product, and after using it reports favorably. Additional reports are awaited with interest.

THE SANITARY CONDITION OF FLORIDA HEALTH-RESORTS.

Washington, D. C., June 13, 1892.

* * * * As the result of a careful investigation of the sanitary condition of the Hotels Ponce de Leon, Alcazar, and Cordova, in St. Augustine, Fla., and of such accounts of the cases of fever which occurred in these hotels during the spring of 1892, as it has thus far been possible to obtain, I am satisfied that no one of these cases of fever was caused by the water supply, or by the drainage of the buildings, or by anything connected with them or their surroundings. The water-supply has been examined chemically and bacteriologically, the plumbing and house-drainage of each hotel have been carefully scrutinized, the sources of milk-supply, of ice, and of fresh vegetables for the use of the guests of these hotels have been investigated, and no causes of disease have been found in any of them. There have been no cases of typhoid fever among the residents in St. Augustine during the past year, and the general sanitary condition of the town is excellent.

Between December 15, 1891, and April 25, 1892, about twenty-five cases of typhoid fever are reported as having occurred in about 25,000 persons who visited St. Augustine. Fourteen of these cases occurred among visitors while they were in the town, and eleven are said to have occurred from two to three weeks after the patients had left the town. In addition to the above, four cases are reported in hotel servants and one in a nurse. Seven of the cases in visitors while in the town were of the Hotels Ponce de Leon, Alcazar, and Cordova, and six of the cases reported in persons who had been gone from two to three weeks, were also guests of these three hotels. In all, therefore, out of about 16,000 guests of these hotels, thirteen are reported as having been affected with typhoid. The investigation into the details of these cases is not yet completed, and I can only say now, that it is probable that two or three of them were not typhoid fever at all; that two of them were ill on the day of their arrival, which illness became well-marked typhoid five days later, and therefore, was not contracted at St. Augustine; and that of all the cases at the above-mentioned hotels there were among the guests but three which it would seem must have been contracted during their stay in St. Augustine. The four servants affected with typhoid probably had the specific cause introduced into their bodies through contact with a fever case, or cases, or with soiled linen from such case.

Every educated physician will understand from the above figures the extreme improbability that so few cases, scattered over a period of two months and giving a ratio of less than one to a thousand people exposed, could have been due to anything
in the structure of the buildings, the general water supply, or the food, milk, or ice—and the detailed investigation of all these things makes it practically certain that no case of typhoid was due to any of them.

Whether the investigation, now in progress into the history of the reported cases will indicate the source of the disease, is, of course, doubtful, and probably the cases had no common source, but were each contracted at a different time and in a different place; but knowing, as I do, the great interest in these Southern winter health-resorts felt by a large number of Northern invalids, it has seemed best to make this preliminary statement in order to assure them that they can make their plans for going to St. Augustine next winter with perfect confidence; that, while absolute security can be had nowhere, so long as they are there they will probably be less liable to be exposed to the contagion of typhoid fever than they will be if they remain at home.

[Signed]    JOHN S. BILLINGS, M. D.
      Surgeon U. S. A.

News Items.

The American Chemical Society will hold its fifth general meeting in Rochester, New York, August 16th, 1892.

Prof. Sir William Atkin, well known on this side of the Atlantic as the author of a standard work on Practice, died at his home in London, June 27th, 1892.

Prof. Carl S. F. Crede, whose name is associated with a certain method of placental delivery by pressure, first published in 1860, died on March 30, at the age of 73 years.

Emin Pasha, reported dead in the Sudan from smallpox, whose real name is Edward Schnitzler, graduated in medicine at Berlin in 1864, and has had a most remarkable career, having for several years attracted the attention of three continents.

The late Dr. D. Hayes Agnew, by will, gave to the University of Pennsylvania the copyright of his work on Surgery, and also the sum of $50,000 on the death of his widow. Dr. J. Howe Adams, of Philadelphia, has been selected to prepare a biography.

A French woman, aged 42 years, of Pittsburgh, Pa., was subjected to an operation for the removal of gall-stones, with the result that seventy-two gall-stones, the smallest the size of a hazel-nut, were removed, and the operation proved a success, the patient having recovered.

The Russians are keenly alive to the value of women in medical work, and the Russian Imperial Council has, by a large majority, decided to establish a medical school for women in St. Petersburg. The Imperial Government and the Municipal Council will contribute $158,500 for the purpose. The municipal authorities will also give the site for the buildings for the school and clinic.

The annual meeting of the American Medical Association, held in Detroit, Michigan, June 7th, 8th, 9th and 10th, proved to be one of the most successful, from a scientific and social point of view, in the history of the organization. Notwithstanding the limited attendance and lack of interest in some of the sections, the participants in other sections were active, even enthusiastic, so that a large amount of valuable information was brought to the attention of those present, which will reach the profession through the various channels in due time. The contributions to this organization, so far as they relate to practical therapeutics, will be duly examined, and such well-grounded conclusions as have a direct bearing upon clinical medicine presented for the benefit of our readers. The next annual meeting, to be held in Milwaukee, Wisconsin, promises to be even more profitable and popular than the one just closed.
The following remarkable cases of Dyspepsia are important on account of some almost unparalleled symptoms and their extreme gravity; ** and all were dependent solely upon mal-assimilation of food.

The first case is that of a young man whose time had been chiefly devoted to literary pursuits. In a personal sketch, which I give briefly in his own words, he states: "My sufferings increased daily; I often felt that I was dying, while the terrors of death at such moments were intensified a hundred-fold. In the meantime a perceptible change was going on in my heart and mind, and friends united in censuring me for my eccentric conduct. They did not and could not understand that the morbid effects of the disease were slowly but surely gaining complete control over my thoughts and feelings; nor, that when the functions of the nervous system are perverted, the victim becomes, to a certain extent, an irresponsible agent and suffers complete transformation of character. I can truthfully say from dreadful experience, that there are stages of this disease when the victim, like the drowning man grasping at a straw, will swallow anything in the shape of anodynes or stimulants for relief. Finding that alcoholic beverages mitigated my sufferings, I used them liberally at times; but knowing that such excesses must end
ening in the morning, just after sleeping soundly for hours, or at any time after sleeping—frequently screaming aloud at this time. Her talk was incessant, coherent and incoherent, generally of a pleasant character; in her disordered fancies she would enjoy and describe visions of flowers, of bright parterres, decorated tapestries; she would repeat poetry and long reminiscences of her earliest life; all delivered in pleasant, but in highly figurative language. But at times she was beyond control, and may be said to have lost her mind—so entirely irresponsible were her actions.

Knowing the calm and soothing effect which sleep usually exerts upon violent inebriates with delirium, and persons with various neurastheniae, I was forced to the conclusion that she could not stand the depressing effect of sleep, which left her a prey to the uncontrollable excitement and loss of mental balance—all dependent upon a lack of assimilative power—together with the absence of full and suitable nourishment. All hypnotics were therefore discontinued; she certainly did not require sedatives—for the compound "bromida," and others freely used, had failed to give any relief.

A complete change of treatment was ordered, as follows: syrup of the hypophosphites, three times a day; whiskey in substantial amounts, frequently repeated; beef extract, and other concentrated nourishment, with hot coffee on first awakening.

She yielded surprisingly well to these measures, without any interruption, until complete and entire control of herself was obtained.

The attacks have returned several times at long intervals, and each time have yielded to the liberal use of stimulants, food, and the syrup of the hypophosphites with strychnine; and the correctness of the diagnosis was absolutely proved by the almost instantaneous relief afforded by the treatment. She lived long afterwards—dying at 86—having been for years in perfect health of mind and body.

Another case occurred in a gentleman of middle age, after having passed through a great affliction, and having been extremely imprudent in eating—indulging freely in nuts, raisins and other indigestible substances in the intervals of his regular meals, began to suffer from complete loss of appetite and a train of nervous symptoms. He had attacks of dizziness to such a degree that he would have to lie prone upon the floor, or the ground, as the case might be; he could stand none of the ordinary drafts upon the reason or the intelligence—being unable to perform the daily duties of his calling; he could not write a letter, and feared to walk around the square upon which he lived. This culminated in such a low condition of the nervous system that he was twice prostrated—thought that he was about to die; he once asked a friend "if he did not know better than to look at him—that he could not stand it"—surpassing in this the weakest and most nervous female. Complete recovery of appetite, health and strength took place after a month's absence in a Northern city for rest and change of scene, with the prudent use of stimulants taken with the most nourishing food, but without any medicines whatever.

A gentleman, aged 25, was so much afflicted with dyspepsia and ill health after prolonged confinement to books at school and college, that he repeatedly believed that he was dying; saw visions by night and day, and was so timorous and fearful that he would not sit in the open seat of a vehicle without the grasp of some one's hand; neither would he leave a room for fear that he would die before his return.

These and other exhibitions of groundless apprehensions and timidity were presented by a man who had previously and since given striking instances of his manliness and courage. Dyspeptic symptoms so marked and violent—some of them approaching closely to those of hysteria, were also complicated with spermatorrhæa caused by ascarides. He was much
reduced in flesh and strength, but recovered perfectly after two operations by Lallemand's _porte caustigue_ efficiently applied, and some tonic remedies.

These cases can easily be multiplied—as, for instance: A patient, aged 38, after about a year of suffering from insomnia, constant constipation and extreme nervousness, was thought by his friends to have softening of the brain and to be doomed to the lunatic asylum. It was at once apparent that his mind must be set at rest and some hope instilled into him; this was done by assuring him in the most confident manner that there was no serious organic disease present, that his nervous symptoms being functional and neurotic could be controlled, and that he would surely recover by judicious management.

An occasional mercurial laxative was given, his digestive organs were strengthened, and the tonic hepatic stimulant referred to in case 1 was administered.

As a result, his insomnia, general depression, and all fears of hereditary disease disappeared, and he is now in complete possession of health and strength.

Another case may be cited:

On one occasion I was abruptly informed by a young gentleman that he had lived in mental purgatory for nine months. On inquiring the cause he replied "Dyspepsia," and added that had he been grossly insulted by anyone during this period he could not have mustered courage enough to resent it.

In stating this I would add that he was a man of powerful physique, being over six feet in height, of undoubted courage, and apparently in perfect health—except this mal-assimilation and morbid mental condition. He also entirely recovered. ** ** **.

I believe that, in the impaired condition caused by mal-assimilation, defective quantity and quality, and irregularity in taking of food, and consequent anemia produced thereby, by which the blood becomes impaired and the nourishment and integrity of the nerves and the brain fail to be maintained, will be found the true pathology of cases such as these, which give rise to so much loss of time, painful anxiety and suffering to the patient and to his friends. The recoveries under judicious management, change of air and scene, nourishment, moderate use of stimulants, wine in some form (sound California port, or beer, if they can be tolerated), strychnine, tonics, etc., support the correctness of this view.

No. 4 George Street, Charleston, S. C.

**HEREDITARY CHOREA—REPORT OF CASES.**

By L. C. Stephens, M.D.,
President of the Barnwell County Medical Society; Vice-President of the State Medical Association; and Member of the American Medical Association.

Read before the South Carolina Medical Association, April, 1892.

** ** ** My apology—if any be necessary—for reporting the seven cases of hereditary chorea coming under my observation, is to add to the too meagre records. We have the astounding declaration by the very best authority that, before 1889, "only twelve authors had reported cases, occurring in fifteen families." ** ** ** To test the genuineness of the cases observed they are submitted now in detail.

Case 1.—Ben A. showed unmistakable indications of the disease at twelve years of age. His great-grandfather, father, paternal uncle and aunt died from chorea, beginning after forty in the males and after thirty in the female. When seen by me in 1877, eight years after the attack, he was twenty years old. His gait was unsteady—and halting—progressing in regular order from three or four steps, when the lifted foot would involuntarily fly out in front beyond the usual distance, then it would be placed down firmly; bringing the other up to it, as if to steady himself, the same process would be repeated. The head, trunk and extremities were so constantly agitated by twitchings and jerks, that the process of eating was carried on with difficulty. Mental excite-
ment or physical exertion caused marked exaggerations of the movements. The appetite and physical appearance fairly good—no abnormalities, in fact, of any of the organs noted. The emotional characteristics were manifested in peevishness and irritability, consummating in the shedding of tears. No demonstration of suicidal intentions, or exhibitions of violence towards any of the family. His symptoms rapidly grew more pronounced, and in proportion to the difficulty of deglutition, which ensued, did exhaustion develop, causing death at twenty-one.

Case 2.—Taylor A., brother to case one, age forty-two. In him choreic symptoms were not noticeable till twenty-eight years old. In physical appearance at the time of the attack he was up to the average, and even at this writing, 14 years after it fastened upon him, he is tolerably well preserved. Under excitement he cuts the most grotesque antics—muscular twitchings so exaggerated as to keep his head and arms flying up and down like a jumping-jack, his efforts at control only increasing the comicality of the situation. If he attempts to greet you with a handshake, he will approach in his characteristic hop-and-a-jump way, and just at the extreme moment a jerk will abort his effort, when recovering, he will make a rush towards you, which will result in your being nearly run over if you are not expert in dodging. So irritable does he become, at times, that he makes threats and attempts, which, had he the power to execute, might possibly result in damage to the person who falls under his displeasure. Although he has never been the instrument of any injury to his family (a wife and four children) yet his movements are constantly watched. No doubt his mind, in a short time, will fail entirely.

Case 3.—Mrs. Josephine E., their sister. When about sixteen years of age, budding into womanhood, this intelligent, bright, handsome and popular young lady, began, it is said, to suppress external manifestations of the dreadful malady, which she knew to have been handed down to her, and which had already destroyed two generations of her kindred. Notwithstanding this knowledge—possibly intending to get all out of life she could in the way of enjoyment—she married at seventeen. Pregnancy soon resulted and with it began the work of her destroyer. The disease rapidly progressed with all of its subtle powers. Not long after the birth of her first son, physical and mental decadence marked the rapid progress towards the end. This modest young lady—"whose cheeks once rivalled spring roses, with teeth the whitest of pearls"—was at times transformed from an angel of light to a demon of darkness. When her whims were gratified she was aglow with sunshine, but cross her purposes, she, like the fiends themselves, became aglow with the red reflection of the caverns below. Another son being born to her—a few more struggles with the infirmities incident to the fatal affection, and the end was reached at twenty-three.

Case 4.—Lucius E., son of case three. At sixteen all of the symptoms of the malady were plainly manifested, and progressed so rapidly that at twenty-one he became a wreck, both mentally and physically, and was removed to the State asylum for the insane, where at twenty-three he died.

Case 5.—Claud E., second son of case three. He is nineteen years of age. There are no very marked indications of the disorder yet visible, still enough to evidence the existence of incipient chorea; slight twitchings of the muscles of the neck and face, restless and impatient demeanor. No evidence of a lack of mental equilibrium exists; nor of the possession of much mental endowment.

Case 6.—Duncan A., second son of Taylor A., case two. Twelve years old; chorea from childhood; so perceptible now that he is shy of strangers. From this sensitiveness he has never been urged to attend school, nor has any effort been made to teach him at home. He is engaged in light work about the farm, however, without coercion. Does not exhibit
any aptitude for work or industrial habits. The movements are marked.

Case 7.—Addison, third son of Taylor A. Like his brother Duncan, the disease developed under one year of age. He is well grown for his age—eleven—clumsy looking, intellect below medium. Easily moved to tears, in fact a regular "crybaby" youngster. Health and appetite all that could be desired. The facial convulsions are more constant and marked than in his brothers, evidencing a more rapid progress and early impending doom. He and brother represent in regular succession three generations of the fatal inheritance.

In summing up, I have verified the history of eight others of this family. As far as it goes—the statements of relatives—I believe to be correct, corroborated by other good information. The family became scattered over several States. I have not been permitted to ascertain the time of life in which the trouble began in each case, but the relatives all assert that no recovery has ever ensued.

Before dismissing this subject, I think the following propositions are legitimately deduced; viz:

1. That however similar the two affections—the "Sydenham" and the "hereditary"—in their clinical features, the pathology is entirely different.

2. That statements as to the exact location of the cause of the latter are conflicting and amount to the dignity of a conjecture.

3. That the former is successfully controlled by arsenic and the bromides, while the latter, if not aggravated, is not affected by the treatment.

4. That no remedy has, as yet, been discovered, whose therapeutic agency has been the least efficacious in aborting or checking the progress of the malady.

Blackville, South Carolina.

Reference Literature.

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Pelvic Pain and Its Treatment.

By W. A. Newman Dorland, M.D.,
Instructor in Gynecology, Philadelphia Polyclinic.

In order to appreciate the therapeutics of pelvic pain, a word is necessary as to its nature and pathology. Pelvic pain, as viewed clinically, appears in two distinct forms; the first, or true ovarian, and the second, or uterine. The former is distinguished by its peculiar shooting or lancinating character, radiating from one or the other ovarian centre across the lower abdominal segment to the opposite side, posteriorly to the lumbo-sacral region—"small of the back,"—upward to the breast and shoulder of the affected side, and downward following the course of the genito-crural nerve to the genitalia and along the inner anterior portion of the thigh to the knee. This pain is of the same sickening nature as that which is elicited in the male when pressure is made upon the testes. It gives rise to intense suffering, and if unalleviated frequently reduces the patient to the deplorable condition of chronic invalidism. It is, in truth, the fruitful progenitor of many of the so-called cases of physical wreck of the gynecologists and neurologists.

The uterine pain or ache is a dull constant gnawing, a "bearing-down," located in the center of the pelvis, and accompanied by a similar pain in the small of the back, together with the leucorrhoeal discharge of endometritis. It is also associated with pain in the top of the head, and hyperesthesia of the scalp at this joint. It is the one pain with which all women are more or less acquainted, especially those who have given birth to children, and may persist for years without treatment, the patients regarding it as one of the inevitable banes of womanhood and maternity.

The pathological conditions which are associated with these painful manifestations are as diverse as are the pains they generate. The intense periodic ovarian
pang is in by far the greater number of cases consequent upon the formation of the ovarian hematoma. A Graafian follicle having passed through the progressive stages of maturation reaches its full development, and is ready to rupture and discharge its contents into the Fallopian tube. Instead of accomplishing this, however, the rupture is incomplete, the tough fibrous tunic of albuginea resisting the outward pressure of the graafian fluid. As a consequence an effusion of the contents of the vesicle takes place into the ovarian tissues, and a blood tumor, a true hematoma, is produced. This, by exerting pressure upon the delicate and sensitive ovarian tissue and upon the plexuses of nerves in the immediate vicinity of the ovary, produces the characteristic excruciating pain which in the more marked cases is almost, if not altogether, constant. The periodical exacerbations just prior to and during the menstrual epochs are readily explained as due to the increased tension which is produced at these times by the physiological congestion of the organ and consequent addition to the contents of the previously existing hematoma, as well as to the formation—as may be readily demonstrated by examination of the removed organs—of other hematomata in various portions of the ovary. Indeed, many of these ovaries are actually riddled with hematomata in different stages of development, a pathetic proof of the intolerable anguish which the sufferers had been called upon to endure.

Another cause of this most severe form of dysmenorrhea—the ovarian—is the presence in one or both ovaries of a slow form of inflammation resulting in the generation in the organ of fibrous tissue—the so-called cirrhotic ovaritis. Here there is a gradual diminution in the size of the ovary from cicatrical or fibrous contraction, and this diminution in volume is attended with excruciating paroxysms of pain.

The uterine ache, or dysmenorrhea, may be produced by various morbid conditions of that organ. Either there is subinvolution of the uterus following a child-

birth with early getting up, or more frequently a miscarriage, in which case the uterus is heavy, soggy, and relaxed, and the seat of an inflammatory process either within its parenchyma or involving the endometrium, and frequently both; or there is a retroflexion of the organ with a consequent increasing hyperemia and attendant inflammation; or still again, advancing a stage further, there has been a partial descent of the uterus, and an extension of the inflammatory process to the adjacent peri-uterine tissues, with the formation around the uterus of inflammatory adhesions binding the retro-displaced organ firmly down in Douglas' cul-de-sac, where it exerts pressure upon the rectum and sacral plexus of nerves.

Again, in young virgins we find frequently as the only cause of the intense dysmenorrhea of which they complain, a sharply defined anteflexion with consequent stenosis at the internal os. This is the oft-mentioned obstructive or mechanical dysmenorrhea in which there is a retention of the menstrual fluid with steadily increasing pain until the pent-up material overcomes the resistance offered to its passage and is discharged in a gush of fluid and partially coagulated blood.

Whatever may be the etiology of the pain, when we come to consider the question of therapeutics in these cases, it is as well at the outset to impress the recognition of the fact that all therapeutics is but palliative. A glance at the pathology of the various conditions as described above must confirm the truth of this statement. These patients rightly belong to the domain of gynecological surgery, and radical measures alone will result in a permanent cure in those cases in which there is organic lesion. There is no known remedy that will absorb the effusion of an ovarian hematoma, or entirely loosen by absorption the bands of a pelvic exudate and free a bound-down retroflexed uterus. There is no remedy contained in the Pharmacopœia that will dilate a stenosed cervix and banish the menstrual cramp of a
sharply anteflexed womb, or that will arrest a progressive cirrhotic change in an ovary. All attempts at the cure of these conditions by remedial measures must be abortive, and the patience and strength of the sufferer will be exhausted and the reputation of the gynecologist jeopardized if the treatment shall be pursued along a medicinal line only. The proper radical line of treatment should be indicated and the inefficacy of medicinal measures explained. Then, when from unavoidable circumstances a delay in operative procedures is necessitated, or the patient absolutely refuses to submit to the use of surgical measures, steps may be taken to alleviate the condition by means of drugs.

The remedies which have proven themselves of any value in my hand are not many. In twenty-one cases of ovarian and obstructive dysmenorrhea that refused either temporarily or permanently any operative interference, I have employed with a considerable degree of satisfaction a sedative mixture containing hydrastis and viburnum. To this, if desired, Jamaica dogwood may be added, as in Liquor Sedans.* In three of the above twenty-one cases, one was a young girl of fifteen, whose dysmenorrhea was of the mechanical or obstructive type, who had suffered from a leucorrhoeal discharge since six years of age, and the relief was marked. In the latter case the menstrual flux, which had always been scanty, became profuse and absolutely unaccompanied by pain. In the other cases the suffering was markedly diminished. I have frequently supplemented the action of these remedies by the exhibition of acetanilid in powdered form in three to five grain doses, giving one powder every hour until the pain disappeared. In one instance the ovarian pain which had stubbornly resisted all efforts to overcome it yielded promptly to the acetanilid, and two months later the patient came to my office to report that she had not had the slightest return of her suffering. There was probably a large neurotic element in the case.

These two remedies together with the use of mild counter-irritation applied over the regions of the ovaries, externally or directly to the cervix and vaginal vault, have usually sufficed to greatly alleviate the patient's condition when the trouble was either ovarian in origin or of the obstructive uterine type. I have in a few instances had recourse to the employment of codeine in pill-form, one-half grain three times daily, or to some preparation of aletris, preferably the cordial in drachm doses, but this has been exceptional. The counter-irritant employed has been a mixture of croton oil, one drachm, tincture of iodine, two drachms, and ether, five drachms; or tincture of opium and tincture of aconite, each one drachm, and tincture of iodine, six drachms, applied externally by means of a camel's hair brush; equal parts of Churchill's tincture of iodine and pure carbolic acid, or the Churchill's tincture alone may be painted over the cervix and vaginal vault, and injected into the cervical canal, but not into the uterine cavity.

In the patients with large subinvolved uteri and inflammation of the uterine tissue and endometrium, the action of the acetanilid may be supplemented by the use of ergot and tincture of nux vomica, or ergot and tincture of the chloride of iron in equal parts, twenty to forty drops of the mixture being exhibited every two to four hours according to the nature of the case.

120 So. 17th St., Philadelphia.

LITHIUM SALICYLATE.—Lithium salicylate is regarded by some as more searching in its action than sodium salicylate. In gout and in acute articular rheumatism it is claimed that the action of lithium compliments that of sodium, removing the central irritation in cases where this end was not attainable through the use of the sodium salt. In chronic rheumatic affections of the tendons, the lithium salicylate also shows better results, although the dose recommended—one drachm—seems to be unusually large, but no bad effects follow this dose.

* [The published formula of Liquor Sedans is as follows: Each fluid ounce contains: Viburnum prunifolium (Black Haw) and Hydrastis canadensis (Golden Seal), each 60 grains; Piscidia erythrina (Jamaica Dogwood), 30 grains, combined with aromatics. Dose, one to two fluid-drachms.—Ed.]
THE PRINCIPLES TO OBSERVE IN THE TREATMENT OF SUMMER DIARRHEA IN CHILDREN.

By John Aulde, M.D.

All physicians who accept in whole or in part the modern doctrine of bacteriology are agreed in the belief that summer diarrhea in children is dependent upon the presence of poisonous substances in the alimentary tract; and although all are not positive as to the peculiar nature of the poison, there is a strong feeling that it occurs in the form of a micro-organism. For example, we know that infection may take place from these poisons in the stomach (gastric infection), and also from both the small and large intestine (intestinal infection). Inasmuch as these questions have been so thoroughly discussed by others it will be unnecessary for my purposes to go over this ground, but I must remind the clinician that the word "infection" should convey to his mind more than the fact that a mere poison exists in the stomach—or intestine. These micro-organisms are, themselves, actively poisonous, but the products resulting from their dissolution partake of the same toxic character, and as the usual changes incident to finite bodies take place, toxic products are absorbed into the blood and find their way into the different tissues of the body, there to set up irritation and thus mask the real nature of the disease. A child sick to-day from intestinal disorder due to micro-organisms, unless nature deals kindly with it, is more sick to-morrow from the absorption of the poisons following the ordinary changes characteristic of bacteria, and therefore the treatment must be of a dual character, if we desire to avoid the depression incident to the initial stage of the disease.

The premises having been admitted, it will readily be appreciated that innumerable difficulties present, unless we depend to some extent upon *vis medicatrix nature* in favoring the elimination of the soluble poisons already deposited in the structures of the body. But, assuming that nature unaided is constantly at work in this conservative process, our first efforts should be directed to the removal of all poisonous substances, microbes and offending ingesta, and with this in view, the medication selected must be of such a character that no harm will result to the already inflamed and irritated membrane of the alimentary tract from its administration. The plan of treatment should embrace the exhibition of no medicament that in perfect health would seriously derange cell-function, because it is in maintaining the integrity of the cell-function that the safety of the patient depends. In all inflammatory conditions of the intestinal mucous membrane, physicians are agreed that the irritated condition in some occult manner favors the absorption of poisons. Whether it results from the greater activity of the inflamed cells in taking up poisons, or from the demoralization of cells which remain in their normal condition, is still an unsettled question, but the clinical fact is recognized that the symptoms of inflammatory action—accelerated pulse-rate and elevation of temperature—proceed *pari passu* with the disease; hence, we are warranted in assuming that cell-function must be restored if we would cope successfully with the disease.

Turning now to the subject of treatment proper, the question will be asked: "Is there any remedy that will definitely and specifically restore disordered cell-function, and thus prove curative in all cases of diarrhea in children?" Unfortunately, however, this question must be answered in the negative; and it will be admitted on reflection that the conclusion is reasonable and warranted, else we might expect a revolution in the phenomena of nature. Health would be "catching," instead of disease. An all-wise Providence has ordained that a violation of law is followed by punishment, and it remains for the physician to discover these laws and prevent their violation, or perchance, lighten the penalties so far as lies in his power.
Before proceeding further, it will be advisable to consider briefly the superficial views which have hitherto obtained in regard to methods of treatment, because, while our knowledge of the etiology of disease has been advanced, no perceptible changes have taken place in the principles to be observed in medication, except perhaps in the matter of advocating the employment of antiseptics. And although I do not wish to be understood as decrying the importance of antiseptics, I desire to place on record the assertion that entirely too much is expected from them. A keratin-coated pill of salol is no doubt of decided service, but in the case of adults it has certain limitations, and cannot be given at all to children. Its toxic character when administered in large dosage, owing to the liberation of carbolic acid, requires that it should be used with discretion in all cases. In small doses frequently repeated, it will prove quite sufficient in many cases where the patient is strong and robust, but in a majority of cases the strength of the patient contra-indicates its use, and it does not conform with the requirements above mentioned, viz.: Absolutely harmless and non-irritant to the structures involved. This, of course, applies to antiseptics when employed to destroy micro-organisms in the small intestine, but not to the use of such medicaments when introduced into the stomach for local action, or when exhibited by means of enemata for the purpose of disinfecting the colon, both of which measures are highly commendable, and should never be neglected.

The employment of either alkalies or acids, while at times of benefit, is always attended with uncertainty, and in serious cases the physician, having deranged the chemical equilibrium by one or the other, is sometimes at a loss what course to pursue, as it is often an impossibility to restore vital force, much valuable time being irretrievably lost.

Notwithstanding this unfavorable view, a considerable number will recover under either method of treatment, according to the indications present, but more depends upon the resistance of the organism than the influence which the medicine has upon the disease. Both remedies possess certain well-known therapeutic properties; for example, alkalies lessen the acidity of the secretion, an unfavorable action in intestinal affections—except to correct acidity due to improper diet; but they partially compensate for that by increasing the oxygen-carrying capacity of the blood. On the other hand, acids lessen the oxygen-carrying capacity of the blood by diminishing its alkalinity, but they benefit the patient by lessening the secretion from mucous surfaces, and when given in large quantities, retard the multiplication of bacteria. Acids tend to arrest fermentation and bacterial invasion at all points in the alimentary tract, while alkalies contribute to produce putrefactive changes, their only redeeming quality being that they increase the alkalinity of the blood. The latter, doubtless, do harm in most cases, although the former arrest the normal functions by creating astringency of the bowels, and may do serious harm if long continued. Neither of these agents produce any definite and perceptible action upon cell function unless given in considerable dosage, and even then the effect is uncertain owing to the derangement resulting from introducing a foreign substance into the system. Generally speaking, in the treatment of diarrhea, acids and alkalies affect the patient, but have little or no direct influence upon the course of the disease.

Opium and astringents next demand a share of attention, because they belong to classic methods rather than for any intrinsic merits or worth which they possess. When the bacteriological search-light is thrown upon the treatment of diarrhea by these agents, it discloses a medley of contradictions which must prove discouraging in the extreme to those who had reason to hope for improvements based on the results of bacteriologic investiga-
tion. Such remedies as bismuth and the vegetable astringents, for instance, when introduced into the alimentary tract, can effect no good purpose, except as mere palliatives, since their action is wholly that of an irritant; and opiates, by locking up the secretions, effectually shut the door against their removal in the manner intended by nature. Truly, there is nothing which so markedly portrays the exact phase of this method of treatment (by opium) as to say that it is "incendiary medication," and for the good of humanity I trust that its dangers may not be disregarded.

Mercurials have long held sway in the treatment of intestinal disorders, and their value cannot be denied, but the selection of the preparation is an item of no small importance. Ten years ago, I began by adopting the recommendation of Dr. Ringer, giving $\frac{1}{50}$ grain of mercury bicarbonate every two hours, but finding that some patients were peculiarly susceptible to its influence, the dose was decreased to $\frac{1}{250}$ grain at the same intervals. Evidence of mercurialism appearing even with this small dose, it was again diminished to $\frac{1}{150}$ grain, and was finally discarded entirely for the biniode in the latter dose—or even smaller dosage—at hourly intervals, and the results were far beyond my most sanguine expectations. This remedy given in solution is an efficient antiseptic when it reaches the stomach, and in urgent cases it may be given at shorter intervals during the first hour or two, but it has the advantage over all other mercurials in being an active and reliable stimulant of the hepatic function. Excretion takes place principally through the intestinal mucous membrane, but in the dose named it has no depressing action upon cell-function. On the contrary, the combination with iodine makes it a constant scavenger of the tissues throughout the body, and the dose seems to be just sufficient to act as a gentle stimulant upon the cells of the intestinal tract, and thus prevents the rapid absorption of poisonous products from bacterial changes. It may also be used in the form of enema, although in ordinary cases properly sterilized water will answer every purpose.

The method here outlined is especially adapted to the cases in which the liver is involved; another class in which this complication is absent, will be fully covered by the administration of copper arsenite in the same dose at like intervals, and in most cases where indicated, the effects are but little short of marvellous. The decision between the two remedies will be made according to the condition of the liver, and whether the pain is confined exclusively to the small intestine, or involves the colon. When the liver and colon suffer, the biniode should be administered; if the disorder seems to be confined principally to the small intestine, and is associated with vomiting and purging, copper arsenite should be given as directed. Occasionally a saline will materially expedite recovery, but this is not always demanded.

In conclusion, it should be noted that treatment of diarrhea in adults is conducted in substantially the same manner as when it occurs in children, except that the dosage is slightly increased, although this is not always necessary. When the attack comes on suddenly, and the patient is threatened with a prolonged attack of illness, it will be found advantageous to give at once $\frac{1}{10}$ grain of copper arsenite dissolved in hot water, six, eight to ten ounces. It will often relieve the vomiting, purging and pain, without other medication, and approaches as nearly to a "specific" as anything now in use as a therapeutic agent. It has the advantage too, of being based upon strictly physiological grounds, and conforms to the requirements laid down in the beginning of this paper; but space will not permit further discussion, and in a future article, I shall take an opportunity of presenting some considerations bearing upon the basis of scientific therapeutics.

Clinical Record.

RHUS TOXICODENDRON IN SCIA-TICA AND RHEUMATIC AFFEC-TIONS.

I have used rhus toxicodendron in sciatica and rheumatic affections, and find it does most good in those cases which have more pain in beginning motion, the pain subsiding very materially when limbered up and recurring again on sitting or lying down a short time. Am now treating a case of obstinate, chronic sciatica, not presenting the above-named conditions, in which rhus toxicodendron was exhibited without effect—with injections along the course of the nerve, morning and evening—using the following formula:

R Antipyrińi .......... gr. x.
Atropine sulphās .......... gr. 1–50.
M. Sig. For hypodermatic use.

I have at this writing, given the patient twelve injections, and there is very marked improvement in the lameness.

UNTOWARD EFFECT OF COCAINE HYDROCHLORATE.

In using cocaine hydrochlorate quite extensively during the past year in various diseases of the nasal mucous membrane, I have noticed that when used frequently on a patient for a considerable time, the patient—men usually—complains of a loss of virility; in fact, in a few cases, pronounced impotence occurred. I have not seen this effect of the drug mentioned in any of the periodical literature coming under my observation.

C. L. Gregory, M. D.
Yreka, California.

RHUS TOXICODENDRON IN RHEUMATIC NEURALGIA.

I opportunistly had a case which presented the symptoms of rheumatic neuralgia of the shoulder, in a middle aged lady. I must say that I tried the remedy (rhus toxicodendron) with anything but a feeling of confidence, as the smallness of the dose seemed to be absurd as compared with old-fashioned ideas, but before many doses of the drug had been administered, the pain, which was of two months' duration, vanished.

J. Lindsay Porteous, M.D.
Yonkers, N. Y.

RHUS TOXICODENDRON IN PSORIASIS—EFFECT OF A LARGE DOSE.

** * * I wish to give you my experience with rhus toxicodendron. I have not known of its use in rheumatism, but some twelve years since I was advised to try it in skin diseases, and after using it in quite a number of cases I have concluded that it is one of the most efficient single remedies we have in this class of cases. I have quite recently treated a very bad case of psoriasis, effecting a cure in less than six weeks. I gave the lady (50 years of age) from five to ten drops of a saturated tincture three times a day, and used as an external wash dilute alcohol, with a small quantity oil of wintergreen in the alcohol. I make a saturated tincture from the green leaves by crushing them and covering them with dilute alcohol.

My faith in its usefulness in skin diseases was strengthened by an accident that happened me: I had a bottle of the tincture and a bottle of syrup of rhubarb sitting together, and by mistake I picked up the bottle of rhus and took a good swallow. On discovering the mistake I immediately took pretty large doses of olive oil and about ten grains of carbonate of soda. I felt no bad effects from this over-dose, but to my surprise on the second day I found complete desquamation was taking
place, so that every bit of the cuticle was completely shedding off, and I now believe I am proof against external poisoning by the leaves. After the light you have thrown on the remedy I shall surely try it in rheumatism and cystitis.

Geo. Kirkpatrick, M.D.

La Harpe, Illinois.

ARSENITE OF COPPER IN DYSENTERY AND CHOLERA INFANTUM.

Here with are appended two cases treated with arsenite of copper:

Case I.—Mrs. Elizabeth McC., aet. 85, mother of eight children, was taken with severe pain in bowels with cramp, followed by slight dysenteric symptoms. Saw her for the first time at 8 o'clock, A. M. Prescribed arsenite of copper in doses of $\frac{1}{100}$ grain every ten minutes for four hours, and then every half hour for four consecutive hours, and later, every hour or two. Patient completely recovered in forty-eight hours, the pain and tenesmus being promptly relieved. I consider this a very remarkable case, considering the surroundings and age of the patient.

Case II.—Mary C., infant. aet. six months, suffering from cholera infantum, had resisted the usual remedies and even a removal to the sea-shore. I gave her $100$ grain every half hour; there was a decided and marked improvement in the first twelve hours, and in three weeks a perfect recovery.

I could give evidence in the case of at least a dozen cases treated by arsenite of copper with satisfactory results. I am inclined to the opinion that arsenite of copper is decidedly more advantageous in those cases accompanied by dysenteric symptoms.

F. M. Morgan, M. D.

Berkley, Virginia.

ARSENITE OF COPPER IN CHOLERA MORBUS.

In regard to the effects of arsenite of copper I submit the following:

Case I.—Wm. E. was taken with severe pain in the stomach, and almost constant vomiting, accompanied in a short time with frequent discharges from the bowels at night. After trying various domestic remedies, he sent for me on the following morning. I found the patient suffering severe paroxysms of pain; attended with diarrhea and frequent emesis. Prescribed arsenite of copper, gr. $\frac{1}{106}$; water, fl. ozs. 4; take a teaspoonful every ten minutes. After two doses had been taken, vomiting ceased, pain was gone. In one hour he was sleeping, and had no further trouble, and on next day was on the street feeling as well as ever, except being weak.

Case II.—H. M. C. was attacked with cholera morbus in the morning. Pain severe, bowels discharging every few minutes; could not make the slightest movement without vomiting. This seemed to me to be one of the worst cases I have seen in a practice of more than twenty years. Prescribed as in Case I with the result that after the first dose vomiting ceased, and no more diarrhea or pain after the third dose. On next day patient was up and about, and though looking much the worse for the attack, expressed himself as feeling very well.

Two other cases, not so violent as the preceding, were treated in the same manner, with substantially the same results.

From my limited experience with the arsenite of copper, I am led to believe that in it we have a most valuable addition to our remedies for this disease.

D. N. McBride, M. D.

Rainsborough, Ohio.

The Human Heart.—The workings of the human heart have been computed by a celebrated physiologist, and he has demonstrated that it is equal to the lifting of 120 tons in twenty-four hours! Presuming that the blood is thrown out of the heart at each pulsation in the proportion of sixty-nine strokes per minute, and at the assumed force of nine feet, the mileage of the blood through the body might be taken at 207 yards per minute, seven miles per hour, 168 miles per day, 61,320 miles per year, or 5,150,880 miles in a life time of 84 years. In the same period of time the heart must beat 2,869,776,000 times.—E. r.
Recent Medicaments.

Tuberculin and Tuberculocidin.

The active principle of tuberculin, otherwise known as "Koch's lymph," is supposed to be an albumose, and although put through a process of sterilization, it is believed to contain organic bases that produce injurious effects. Tuberculocidin is a modification of tuberculin, advocated by Prof. Klebs, and is claimed to be free from the injurious properties belonging to the "lymph" as originally introduced by Prof. Koch. The investigation set on foot to discover a remedy for tuberculosis by a study of the pure cultures of the bacillus tuberculosis, was prompted by a belief generally current that all poisonous substances of this character generated in the body, carry with them certain antidotal properties; hence the assumption that this albumose, which is derived from this method of cultivation, and is non-toxic, might prove antidotal to the tubercle bacilli when brought into contact with them in the system.

While it is still too early to estimate the effects that will follow the introduction into the system of this pure albumose, knowing the influences which are produced by soluble poisons in the blood, when deposited in the different tissues, there is a warrant for the belief that benefit will be derived therefrom. It is doubtful, however, if the plan recommended will prove of more than temporary service, and although it may serve to arrest the tubercular process, it can scarcely be expected to render the person subjected to its influence immune against the disease at some future period when the conditions are favorable.

Lobeline.

Dr. Silva Nunes (American Journal Medical Sciences), has published his conclusions with reference to the value of lobeline in the treatment of asthma. He does not believe that it possesses the poison-
ment; the narcosis is not so deep as that produced by ethyl bromide, but the recovery is always uneventful. As compared with the latter, its action is somewhat slower, but it is less likely to produce vomiting.

Pental is obtained by the distillation of amyl alcohol and zinc chloride, and subsequent treatment of the distillate by sulphuric acid and water. It is also obtained from amylene hydrate by the action of acids. It occurs in the form of a colorless, highly inflammable liquid (sp. gr. 0.62), soluble in alcohol, chloroform and ether, but not in water. It is more stable than ethyl bromide, and does not undergo decomposition when exposed to the light and air.

— Hydrazine.

Hydrazine, or diamine \((N_2H_4)\) is a new synthetic compound which may possibly be found of value in medical practice, owing to its actively antiseptic properties. It is a poison to both animal and vegetable life, and kills the germ of mould; peptone solutions containing 1 to 1,000 diamine sulphate will not support bacterial life, and they remain unchanged for considerable periods of time.

— Thilanin.

Thilanin, or brown, sulphurated lanolin, is prepared by the action of sulphur upon lanolin. The product, which contains 3 per cent. of the active ingredient, is an ointment-like mass with about the same consistence as lanolin, dark, yellowish-brown in color, and with the characteristic odor of sulphurated organic compounds. The original object aimed at in its preparation was to obtain a body possessing all the useful properties of a remedy of the good old times—oleum lini sulphuratuum—without its disadvantages.

The preparation has been used in a number of cases of eczema of all degrees of intensity and extent, in the most different parts of the body. In some of them the usual remedies had been tried in vain.

The application of thilanin was followed by alleviation of irritation and itching, and subsequent restoration of the skin to the normal condition and functions. In eczema of the scalp, where cutting the hair very short is not feasible, the ointment must be diluted with oil or aqueous liquids—which it absorbs as well as lanolin—in order to enable it to be brought into intimate contact with the affected parts.

A beneficial influence was also observed upon scyosis, herpes, acne, psoriasis, and other forms of skin diseases (Saalfeld). Experience showed that it had a more energetic effect than the usual indifferent remedies—Ungt. Hebræ, boro-vaselin, or boro-lanolin—while at the same time perfectly non-irritating. On the other hand it relieves the itching of a number of skin affections.—Modern Materia Medica, Helbing.

— Méthylal.

Méthylal was first brought to the attention of the profession as a medicament by Personali in 1886, but it has not been favorably received during late years, owing to the fact that other remedies of its nature have largely taken its place. It is classed with the "acetals," and occurs in the form of a very mobile, colorless liquid (sp. gr. 85.51), boiling at 107° to 108° F. It is readily soluble in water, alcohol, fatty and ethereal oils. According to Mairet and Comemale, it is administered hypodermatically as an hypnotic, applied externally as an analgesic and used internally for its anodyne effects upon the digestive tract. It has been employed as a sedative in delirium tremens, the dose being one and one-half minims with nine parts of water, given subcutaneously every two or three hours. For a liniment, méthylal is mixed with six times its weight of almond oil, and as a dental anodyne it is prepared with four parts of the tincture of coca. For internal administration it is combined with twelve to one hundred parts of water, or water and syrup.
THE AMERICAN THERAPIST.

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With Practical Suggestions Relating to the Clinical Applications of Drugs.

JOHN AULDE, M.D., - - - Editor.

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Editorial.

COLD BATHS IN TYPHOID FEVER.

The cold bath, as a therapeutic measure in typhoid fever, occupies a somewhat anomalous position, those who are most active in its support and who have practically determined its real value, being averse to the adoption of the method in case they were affected with the disease. Where the plan has been thoroughly carried out in a series of cases, the decided reduction in mortality rates surely indicate that it is an improvement over ordinary routine methods. Again, the fact that substitutes are advocated, implies that it has merits; hence a few words on this important topic may be of service. Dr. Barr, of the Liverpool Northern Hospital has recently issued a book in which are reported fifty-five cases of typhoid fever with but a single death, treated by continuous immersion, a method first recommended thirty years ago, by Hebra, for the treatment of burns, scalds and other extensive lesions of the skin. In the course of a review of Dr. Barr’s book, a critic in “The American Journal of the Medical Sciences,” (August, 1892), contrasts the benefits derived from the cold bath with the advantages claimed for the method by continuous immersion, as follows:

“The stimulus to the respiratory centres, to the circulation, to the skin, produced by the sudden immersion in cold water; the abstraction of heat resulting from the continuous agitation of the water in contact with the surface produced by briskly rubbing the patient’s skin during the bath; the favorable influence upon the peripheral circulation brought about by warm blankets and alcohol after the bath, and the rhythmical repetition of these influences, constitute a therapeutic procedure totally differing in every respect from that of continuous immersion. It is to these rhythmical alternation of influences upon the nervous system as well as to its distinct antipyretic working, that the beneficial effects of the method of systematic cold bathing are attributed by Brand and his followers.”

Now, while the foregoing fairly represents the ideas that obtain concerning the therapeutic properties of the cold bath in this disease, it cannot be said that it represents either fairly or fully the true facts underlying the plan of treatment. For example, all advocates of the method claim that without friction, the cold bath is unsafe, or perhaps, to put it more mildly, is of little value; but in the opinion of the writer, much better results would follow if an attempt was made by rubbing, to empty the lymph-spaces into the general circulation, as is done under massage. While freely admitting the advantages arising from the abstraction of heat, and the stimulating effect upon the circulation, the respiratory centres and the skin, it will be apparent that these effects are but palliative, so long as the poison is generated in the system; hence, our explanation of these benefits should be based upon a more rational idea. It is not beyond the range of possibilities that the clinical facts here noted might be fortified by adding thereto the scientific facts which of late have received a full and satisfactory demonstration. Reference is made here to the well-known antiseptic properties of blood-serum, and to the influence exerted by phagocytosis in nutrition. With the cold bath sending the blood with increased power into the abdominal vessels, and dilating them to their utmost capacity; and with proper manipulative procedures on the part of the masseur, it is but reason-
able to assume that the poisonous products so readily absorbed from the intestinal tract would be unfavorably influenced, and the blood returning to the periphery without these poisons would possess all the stimulating effects claimed for the cold bath on general principles.

In addition, however, must be noted the fact that digestion would be improved by the same process, while the cerebral functions will as quickly respond, and the mythical "heat-centre" would as promptly disappear. The "soluble" poisons are carried to the liver, to the kidneys, to the lungs, but perhaps, more especially do they affect the cerebral structures. facts which it seems, have been overlooked in blocking out methods of treatment. Our views, heretofore, have been too superficial in regard to treating this disease, but when the principles which afford us the best results are correctly interpreted, much of the dissension that has existed will vanish, and our mortality rates will decrease in proportion to our ability to counteract the effects of these soluble poisons that are lodged in the various tissues, and which constitute, probably, the most formidable aspect of the disease with which we have to contend. With suitable internal medication, medication that does not absolutely destroy the functions of digestion and over-power the nervous system, attention to diet and bathing the skin, nearly every mild case of typhoid fever can be conducted to a favorable termination without recourse to heroic methods; and the cold bath, therefore, may be reserved as a final measure for severe cases, and should be permitted to take the place of narcotics and antipyretics.

SOLUBLE POISONS IN THE BLOOD.

Soluble poisons find their way into the blood from the pathogenic bacteria in the stomach and intestine, and being carried throughout the organism, set up more or less irritation in the various tissues. The earlier manifestations of this irritation, we have learned to understand, and can, to a certain extent, counteract by medication; but the later, or secondary manifestations, unfortunately, have been too often set aside, or overlooked entirely. Perhaps no lesson of greater significance has ever been taught the medical profession than that relating to the diphtheritic poison, by the experimental investigations of Drs. Welch and Flexner, of Baltimore, Maryland. Solutions prepared from the diphtheritic membrane, on being injected under the skin of rabbits, produced death in the short period of twenty-four hours; but the same solution, sterilized, and used in the same manner, required fourteen or fifteen days to produce fatal results. In both instances, however, the post-mortem lesions were those characteristic of diphtheria, showing that while the micro-organisms themselves are actively poisonous, the soluble poisons taken up by the blood are also toxic. The irritations which they set up may be found in lesions of the kidneys, exudates affecting the mucous membranes, with fatty degeneration of the heart and liver.

Illustrations of this method of infection are of frequent occurrence, and should put the practitioner on his guard as to the final outcome of any disease dependent upon the presence of micro-organisms, as it will be evident that what has previously been regarded as the disease is but a part of it. Take for example, a case of amebic dysentery, and it is not uncommon to find as a result of infection, that abscess of the liver, pleurisy or epyma, present as a complication. Local affections as the sequelae of typhoid fever are quite numerous, and even slight disorders of digestion, if not relieved, will be sufficient to cause derangements of the nervous system that are quite formidable and persistent until the true causes of their development are discovered by an examination of the digestive apparatus. Asthma, epilepsy, headaches, neuralgias, and many of the disorders peculiar to women, may be traced to the alimentary tract, and doubt-
less, many cases of auto-infection have been put through a series of medication on the supposition that locomotor ataxia was threatened.

But the simple assertion that we have to deal with soluble poisons in the blood is too indefinite, and besides, it is misleading. It does not carry with it any more direct information than was conveyed by the statements of physicians several generations ago, who claimed that disease was due to "The peccant humors in the blood." The fact is, that these poisons do not long remain in the blood, but are deposited in the tissues, according to the susceptibility which they display towards the special poisons. Thus, the tetanus poison is not found in the blood, but at the point of injection, and in the liver after death. The blood of an animal dying of tetanus artificially produced, will not induce tetanus in a second animal, but a solution prepared from the liver of the same animal is sufficient to produce the disease. In central Africa, where the natives use strophanthus-poison to kill animals for food, no harm results from eating the flesh of the animal so killed. The blood of an animal poisoned by aconite does not affect another animal when transfusion is practiced, because the poison of aconite is deposited in the tissues. Arsenic and phosphorus when administered in large doses, or in small doses for any considerable length of time, show a disposition to accumulate in the liver and produce fatty degeneration of that organ. Chlorate of potassium is known to be actively poisonous to the renal structures, while the poison of rhus toxicoden-dron affects the skin in a most singular manner. Ringer and Murrell found that when large doses of arsenic were administered to frogs, the entire skin could be peeled off, and the report of Dr. Kirk-patrick, in another column, shows that rhus has much the same effect upon the human body.

In concluding this somewhat cursory sketch of the more apparent effects of soluble poisons in the blood, it will be unnecessary to say that our information regarding these effects should be more direct and definite; we ought to be in a position, with our advances in pathology, to learn something tangible concerning the changes produced by poisons and by medicines upon the tissues and upon the cells composing the different structures. It is not enough to know the pathological conditions associated with disease; we must know something definite concerning the pathological effects of medicines, in order to determine their adaptability to certain diseased conditions. This point may be illustrated by repeating the general directions that arsenic should not be given in the early, or inflammatory stage of skin diseases, because it has a tendency to act as an irritant to the cells; and the same general directions would apply to rhus, just mentioned. Notwithstanding the general acceptance of this theory, it is true only in part, but the further discussion of this question must be deferred until a later period. The object of the present paper will be attained should it suffice to create an inquiry in the minds of medical men as to the relations which the soluble poisons in the blood bear to disease at different stages.

Correspondence.

"ARTERIAL RELAXANTS."

To The Editor:

The brevity and condensation of the paper by Dr. Andrew H. Smith, in the first issue of the Therapist are doubtless answerable for what seem like blemishes in the pathological pictures he presents; though, like all pictures, much depends upon the standpoint from which they are viewed.

For instance, in view of the opening announcement that "there is scarcely any other function of the body so much under the control of therapeutic agents as that of the vaso-motor system," one naturally expects to see pointed out some relationship and effect between that system,
with its "wonderful checks and balances" and the vascular relaxation of "the toneless vessels," as well as some allusion to the play of this mechanism in the restoration of the normal state through the aid of drug action.

Perhaps one reason why this expectation has not been realized, is to be found in the fact, that the necessarily limited number of drugs mentioned by Dr. S.—chiefly the nitrates—do not serve as favorable illustrations of vaso-motor nervous control over the arterial muscle. It would seem, indeed, that their action is directly through the blood, upon the tissues, which they effect by a deprivation of oxygen in the circulating fluid, thus checking "internal respiration," or oxidation, (Brunton) and in the case of muscle, arresting the chemical changes on which the generation of its inherent contractile power is now known to depend (Rosenthal, Muscles and Nerves.)

The muscular bands in the arterial tubes are favorably situated for speedily suffering this loss (owing to their proximity to the deoxygenated blood stream) and hence doubtless the prompt failure of their contractile power and the almost immediate relaxation of these tubes which follows the use of drugs of this class. In all this the vaso-motor nervous mechanism would appear to be little, if at all concerned.

Dr. S. does not think it possible "to limit the action of vaso-constricting medicines to the area of vascular distension,"—though he admits that this would be most desirable,—and hence he is driven to "lowering the general vascular tension" of the normally acting blood vessels, in order to relieve the locally congested organ. This is unfortunate, but no doubt such an indirect method of cure sometimes becomes necessary, owing to our defective knowledge. Might it not be, that too much stress is sometimes laid on the congestive stage of the process referred to; for after all, "although inflammation is usually associated with increased circulation, the two things are essential, Inflammation is an injury to the tissue, the increased circulation is the attempt to repair it" (Brunton Pharm., p. 301.)

Again, there is a concurrence of evidence that in disease, the susceptibility of a tissue is materially heightened, so that small doses of an appropriate medicine, which would produce no noticeable effect in healthy conditions would make their effects manifest under the exalted sensibility referred to. Thus we may reasonably expect that the effects of our contractile vascular agents will be felt in the inflamed area, where an increased susceptibility is present and that, with a judicious use of drug action, the less susceptible healthy tissue and organs may be saved the infliction of a disturbance of their normal functional activity in so far as drug administration is concerned.

Is it not a strange pathological picture which Dr. S. presents in his reference to lung congestion? He tells us, "the muscular structure of the right heart is in danger of over fatigue and exhaustion," and that "the remedy is to be found, not altogether in prodding the tired organ with cardiac stimulants, but in lessening its labor by curbing the vicious energy with which the left heart and the aortic system are unloading themselves into the over-distended veins."

This is an impossible situation. The right heart might, indeed, be embarrassed and unable to force forward the blood from the overloaded veins, owing to obstruction in the capillary circulation of the lungs; but under these conditions the left ventricle and aorta would be insufficiently supplied with blood, and would be comparatively empty. It is apparent, that if the left heart and aorta are pouring blood copiously into the capillaries and veins, they must first receive it from the lungs, and if the circulation through these organs is free and easy, the right heart would not be overworked in urging the blood forward. Surely Dr. S. meant to say that the remedy ought to be directed to
the peccant lung capillaries, for here, under the circumstances supposed, the nitrates might prove valuable. What he does say, is, that the remedy is to be directed to curb the left ventricle and aorta, though these are in no way to blame either for the lung obstruction or the consequent venous engorgement.

I can hardly conclude without a word or two in reference to the treatment of "a ruptured artery in the cranium." We are told, "here the indication is to lessen arterial tension, slow the blood current and give time for the formation of a clot in the bleeding part."

Now it is very true that in so far as the heart's action contributes to arterial tension, its vigor ought to be lessened by our cardiac sedatives. But "lessening arterial tension," by vascular relaxants, means inducing arterial expansion, the very condition of relaxation which before was pointed out as present in "the congestive and inflammatory condition." How can lessened tension in one case quicken, and in the other "slow the current?" Perhaps I am very obtuse, but this as well as the other pathological pictures referred to, seem far from satisfactory.

**Current Literature.**

**The Cold Water Treatment of Typhoid Fever.**—Thirty-eight cases of typhoid fever treated by cold baths; one death.

Temperature of bath 68° to 70° in thirty-one cases; in remaining seven, temperature 80° reduced to 68°. Greatest number of baths in any one case, thirty-five; smallest number, two. Average duration of bath ten minutes. Average reduction of temperature, 2.8°. Duration of fever averaged thirty days; the date of entry into hospital, or commencing treatment, being, on an average, the tenth day.

Advantages of cold bath over other methods of treatment: Immediate reduction of temperature from 2 to 4 degrees, resting quietly after it, or sleep; increased tonicity of the heart and slowing of pulse, fewer cases of lung complications and, if present, marked amelioration of their symptoms. Contra-indications: hemorrhage, peritonitis and also determined opposition of patient. G. Wilkins, M.D., Montreal.

[Abstract of a paper read before the American Association of Physicians, Washington, D. C., May, 1892.]

**A Study of the Germs in Drinking Water.**

—Many of the germs found in drinking water will not grow at the temperature of the human body. These germs, therefore, are not capable of inducing disease. It matters not how rich a given sample of water may be in these germs, if it contains no others, it cannot be said that the water is a source of typhoid fever. The freedom of communities, using such water, from typhoid fever, seems to justify this conclusion. Such a water may not be, and certainly often is not, a desirable drinking water. It may be turbid with suspended matter, unpleasant to the taste, and give off a disgusting odor, but there is no evidence that it can cause disease. Several interesting examples of this kind have come under observation. One of these may be mentioned. A certain city of about ten thousand inhabitants took, for a while, its public water-supply from a
shallow lake, the bottom of which was covered with decomposing organic matter of vegetable origin. This water was turbid, unpleasant to the taste, and gave off unpleasant odors, but none of the bacteria in it grew at 38° C. On the other hand, many of the inhabitants of the city took their drinking from shallow wells, the water of which was clear, sparkling and palatable. The well-water, however, contained germs which grew abundantly at 38° C. The use of the lake water in preference to that supplied by the wells was recommended early in the spring of 1891. Some followed the advice, others did not. During the late summer and early fall of 1891, there were more than two hundred cases of typhoid fever in the city, and at a public meeting held by the State Board of Health in this place, about the last of October, every physician in the city agreed to the statement that there had not been a case of typhoid fever among those who had used the lake water exclusively. This positive testimony of the physicians was also confirmed by the other citizens.

Victor C. Vaughan, M.D.

(From a paper read before the Association of American Physicians, Washington, D.C., May, 1892.)

The Seasonal Relations of Chorea and Rheumatism for a Period of Fifteen Years, 1876-1890.—1. Study is based upon the months of onset of 1,383 separate attacks of chorea and 673 separate attacks of acute inflammatory rheumatism; 666 of the attacks of chorea occurred in Boston, the remainder in Philadelphia. 2. Comparisons made with the meteorological records of Boston and Philadelphia during same period of time. 3. Chorea and rheumatism evidently seasonal diseases. 4. Fewest attacks of chorea occur in October and November, and the greatest number in March and April. 5. The greatest number of attacks of rheumatism occur in April, and the fewest in the autumn months. 6. Considerable resemblance, in general form, of the tracings for the diseases in question to the tracings showing the number of “storm-centres” passing within 400 miles of the two localities mentioned; also marked resemblance to tracings showing mean actual barometer and mean relative humidity. 7. Close resemblance of chorea and rheumatism tracings to the record showing the monthly variation in the amount of general sickness in the community; relation probably not one of cause and effect, but both conditions due to same cause. 8. Over-study considered a predisposing, not an exciting, cause of chorea, acting in conjunction with meteorological conditions, probably the most active etiological factor.

Morris J. Lewis, M.D.

[Abstract of a paper read before the American Association of Physicians, Washington, D.C., May, 1892.]

Etiology and Pathology of Dyentery.—We can divide dysentery into three forms: 1. Diphtheritic; 2. Catarrhal; 3. Amebic.

Diphtheritic Dyentery is characterized by necrosis of the epithelium and a fibrinous exudation. It is the form usually met with in acute epidemics. It may also appear in the course of a number of diseases, and may be produced by a number of causes. There is nothing in the anatomical lesions by which we may distinguish the action of a definite pathogenetic agent.

Catarrhal dysentery is characterized by an inflammation of the mucous surface of the intestine, leading to the production of shallow ulcers. Affections of the lymph follicles are more common in the catarrhal than in the other forms. What is said of the croupous is also the case in the catarrhal. In both these forms abscess of the liver may appear, but it is very rare.

Amebic dysentery is characterized by definite lesions in the large intestine and elsewhere. The lesions have always the same character, and we can recognize in them the action of a common agent. There are extensive ulcerations of the intestines, which, contrary to those of the other two forms, appear to be produced, not by extension downwards from the surface, but by a primary infiltration of the submucosa, with subsequent destruction.
of the overlying mucous membrane. Clinically, the disease is characterized by remissions and great chronicity. Abscess of the liver and lung is more frequent in amebic dysentery. The disease is caused by the ameba dysenteriae, and is associated with most of the cases of tropical dysentery. W. T. Councilman, M.D.

[From a paper read before the American Association of Physicians, Washington, D. C., May, 1892.]

Practical Results of Bacteriological Researches.—Science does not demand practical results, but investigates for the purpose of establishing facts and explaining phenomena. But medicine is eminently practical in its aims, and practicing physicians, as well as intelligent laymen, meet every announcement of a new discovery in pathology with the question: "Does it aid in the cure of disease?"

Hitherto the bacteriologist has been compelled to admit that the discovery of the specific cause in a considerable number of infectious diseases has not resulted in the discovery of a specific treatment for these diseases. But recently experimental evidence has been obtained which gives us reason to believe that in a number of infectious diseases, at least, the toxic bacterial products which give rise to the morbid phenomena characterizing these diseases may be neutralized in the infected individuals by the administration of antitoxines obtained from the blood of immune animals. Reference is made to the recent experimental evidence relating to anti-toxines in the blood of animals which have an acquired immunity against virulent cultures of the bacillus of tetanus, the micrococcus of croupous pneumonia, the bacillus of diphtheria, the bacillus of tuberculosis, and against the virus of rabies. The principal results of bacteriological researches in the field of preventive medicine are also briefly referred to.

The establishment of aseptic surgery on a scientific basis also depends on bacteriological researches relating to the pyogenic micrococci commonly concerned in wound infection. And the treatment of localized infectious processes, when these are accessible to local treatment, has been favorably influenced by the exact knowledge relating to antiseptic and germicide agents obtained by the researches of bacteriologists.

Geo. M. Sternberg, M. D., Lieut.-Col. and Surgeon, U. S. A.

[Abstract of a paper read before the American Association of Physicians, Washington, D. C., May, 1892.]

The Cholera Scourge.—In the latter part of April of this year, the first cases of cholera made their appearance in Djami, a small town of Afghanistan near the Persian frontier. It is said the English Resident of Cabul, in Afghanistan, made ineffectual attempts to stay the progress of the disease by adopting at the earliest moment the necessary precautions, but soon the disease was carried to other towns and finally made its appearance at Baku, on the eastern shore of the Caspian sea, the commercial metropolis of the country, and the western terminus of the trans-caspian railway. The sanitary conditions of Baku are extremely bad; it contains at all times a large floating population, and as a result of direct commercial relations with Russian ports, the fatal disease was promptly conveyed to the latter country, and to the surrounding towns in Afghanistan, so that at the present writing, the disease has a most forbidding aspect to the thickly settled portions of Continental Europe. While the unsanitary conditions of Russia are well known, a considerable portion of that country, owing to the recent famine, will prove a fertile field for its rapid spread, even to foreign ports, and although late in the season, it is just possible that it may be brought to this country before the winter sets in. Fortunately, however, at the principal ports of-entry, very thorough quarantine measures prevail, and unless one or more cases should accidentally elude the officers, there is little danger that we shall be subjected to a visitation at present.

Book Notices.


While medical journals are fairly bristling with accounts of the properties of new remedies, there are not many general practitioners who are able to keep track of the chemical character and physical properties of these numerous laboratory products, not to mention their derivatives and a long list of allied compounds. To this end the work under consideration is specially adapted, and in it the reader will find the necessary information in regard to the chemical, physical and therapeutic properties of nearly all those remedies that have lately been brought to the attention of the profession. As an illustration
may be cited the following products: Under the head of acetanilid are described five different substances, "derivatives or allied compounds." Antipyrine has nine; chinoline has five; and under the head of "creols" we find creolin, lysol, solvelol and solutol, para-cresol and cresol iodide. Part I. is taken up with the more generally used remedies—synthetic products, and includes a judicial estimate of their therapeutics. Part II. is devoted to those which are used more rarely, such as alstonine, anemonin, anisic acid, arbutin, etc., and a very complete index is furnished. Having reached a third edition, it is unnecessary to say that it will be appreciated.

**Essentials of Diagnosis:** Arranged in the form of Questions and Answers. Prepared especially for Students of Medicine. By Solomon Solis-Cohen, M. D., and Augustus A. Eshner, M. D. With 55 Illustrations, some of which are colored, and a Frontispiece. Cloth, 8vo., pp. 382. Philadelphia: W. B. Saunders, 1892. (Price net, $1.50.)

At the present day, when so much is required of the medical student, elementary works of this character, if they inculcate principles instead of suggesting mnemonic methods of learning, are to be welcomed, because they form a substantial ground work for future investigation in the study of more elaborate works. A somewhat cursory examination of the book shows that it is quite up to date in regard to pathology, but teachers will doubtless regard it with favor owing to the absence of any positive decision concerning disputed questions. Thus, in reply to the question, "How is membranous croup to be distinguished from diphtheria?" (p. 80). Ans. "Until the physician acquires sufficient experience to warrant a personal opinion, he had best consider all cases of membranous croup diphtheritic. The discrimination is difficult and disputed." Again, on p. 144, in describing the difference between membranous croup and catarhal croup, occurs the following statement: "In membranous croup shreds of membrane or casts may be expectorated, and diphtheritic membrane is sometimes visible in the pharynx. Laryngoscopic inspection, when possible, will settle the diagnosis."

Although there is more or less repetition, the condensation has not robbed the subjects of their interest, and besides, the earnest manner furnishes a stimulus to read the text carefully. A copious index makes reference easy, and being well printed and handsomely bound, there is every reason to believe that it will prove exceptionally popular with both teachers and students.

**Taking Cold.—By F. H. Bosworth, M.D., Professor of Diseases of the Throat in the Bellevue Hospital Medical College of New York. Paper, 12 mo., pp. 69. Detroit: Geo. S. Davis. (Price 25 cents.) One of the Physician's Leisure Library.**

Such brochures as this written for the laity are very useful, and should be commended, rather than frowned upon by the profession. It is the duty of medical men to assist in all legitimate ways in educating the people in matters pertaining to their health.

Dr. Bosworth is a recognized authority on disease of the upper air-passages and his little monograph on "Taking Cold" deserves a place in every household. While popular in style, it is based on scientific facts which should be known to all. The best parts of the book are the practical parts, particularly those which relate to the means for the prevention of a cold, such as care of the clothing, and especially bathing and exercise out of doors. The chapter on bathing alone is worth much more than the price of the book. The author errs, however, in declaring that salt water bathing has no advantages over bathing in ordinary water. He forgets that the greater density of seawater over ordinary water makes its effects much more pronounced, just as the greater density of water over air causes an immersion of the nude body in the former to be followed by a much more marked effect on the capillary circulation.
than does the exposure of the body in the air merely.

Dr. Bosworth's suggestions as to the treatment of colds are scarcely such as the layman could carry out for himself, but will be appreciated by professional readers, most of whom will be able to learn something from the work. B.R.

**Practical Notes on Urinary Analyses.**

By William B. Canfield, M.D., Chief of Chest Clinic and Lecturer on Clinical Medicine, University of Maryland, etc. The Physician's Leisure Library. Geo. S. Davis, Detroit, Mich., 1891. (Price 25 cents).

Urinary analysis is essentially a practical subject, and the more concise and systematic the exposition of the methods, the more practical and therefore the more valuable will such an exposition be. Dr. Canfield has in this small volume disposed of the subject matter in a most admirable manner, and his book may justly lay claim to the title given it. Reviewing briefly the general characteristics and normal constituents of the urine, he passes on to a consideration of its pathological appearances and abnormal constituents; after thus generalizing he concludes with a differentiation of the urine of the various morbid conditions, and a description of the reagents and apparatus employed in the examination, together with the order of analysis. The most recent advances have been noted, and places assigned to an elaboration of such innovations as RABE's trichloracetic acid test for albumin, the phenylhydrazin test for glucose, and the employment of test-papers and tablets, as suggested by Dr. Oliver for the detection of both albumin and sugar. Numerous tables and illustrations, as well as a complete index, add to the thoroughness of the work. The book commends itself as a valuable adjuvant in the diagnosis of renal and vesical disease. D.

**Correction.**

In the review of "The Pocket Pharmacy," Therapist, July, page 16, "all functions" should read, cell-function, and on the following page "chemical sphere," should read, clinical sphere.

**Publications Received.**


The Teachings of Experience and of Rational Therapeutics as to the Treatment of Pneumonia. By Boardman Reed, M.D., of Atlantic City, New Jersey. Reprint, 1892.


Eyesight in Middle and Old Age, with a few Hints for Its Care and Preservation. By L. Webster Fox, M.D., of Philadelphia. Reprint, 1892.


The Influence of the Doctrine of Contagion upon the Death-rate from Tuberculosis in the City of Philadelphia. By Lawrence F. Flick M.D., of Philadelphia. Reprint, 1892.

Remarks on, and Treatment of, Patients in, the Skin Clinic of the Jefferson Medical College Hospital. By J. A. Cantrell, M.D., of Philadelphia Reprint, 1892.

Three Cases of Neurotic Oedema following Traumatism. By Orville Horwitz, M.D., of Philadelphia. Reprint, 1892.

Spinal Anemia Due to Syphilis. By Orville Horwitz, M.D., of Philadelphia. Reprint, 1892.


**College Announcements.**

Prospectus of the Brooklyn College of Pharmacy. Session of 1892-3. Brooklyn, N.Y.


Annual Announcement and Catalogue: College of Physicians and Surgeons, Baltimore, Maryland. Session of 1892-3.

University of the City of New York: Medical Department. Fifty-second Annual Announcement of Lectures and Catalogue. Session of 1892-3.


Harvard University: Medical School. Special Announcement: Four-Years Course. Printed by the University. Session of 1892-3.

Miscellaneous.

Snake Bites.—Chronic acid dissolved in 100 parts of water (1% solution) is said to be a sure cure for viper bites. The Academy of Medicine has awarded the Orfila prize to Professor Kaufman, of the Veterinary College at Alfort, for discovering the valuable lotion.

They Are Different.—The measles bacillus, discovered in Berlin by Dr. Canon, varies in length from one three-thousandth of an inch to one one-thousandth of an inch. It possesses characteristics said to be different from those of any other bacillus known.

Snap Shots.—Do not hate anybody. Man is too weak and pitiful to be despised.

Hold fast to your good nature. Do not permit yourself to feel unkind.

Your proper sphere is evidently the earth.

You may have a bushel of light, but it will do no good unless you put it in the right place.

The town always runs mad and slays the dogs at least once a year.

When it comes to helping others you are cordially invited to help yourself.

It takes a broad grin to cover the face of the cheeky man.

Man always imagines that he is playing the devil when he is raking somebody over the coals.—Galveston News.

Evils Attending Public Dinners.—Discomfort and irritation at public dinners chiefly arise from two causes. There is too much food, and there are too many speeches. The ideal dinner cannot be properly described, perhaps, as short, sharp and decisive. Those adjectives better fit a cavalry charge, but still they do suggest the qualities which ought to distinguish a large banquet. The courses ought to be few and the service prompt and expeditious, so that when the time for speaking came the guests would find themselves zestful and alert instead of replete and somnolent. But still more important than this discreet and temperate satisfaction of hunger and thirst is it to confine the feast of reason and the flow of soul within definite and moderate limits. Just enough is infinitely better than a surfeit, for all concerned.

Mortality in England.—January and February were black months of death in England. The average rate of mortality in London in the month of January for some years past has been 24 per 1,000. The rate for the first four weeks of this year was 42, 32, 8, 49, and 46 per 1,000. The death-rate for that usually healthful winter suburb, Brighton, went up to 60.9 for the third week in January, while towns that had not been smit-ten by the scourge showed death-rates from 16 to 20 per 1,000. The deaths in London in the two middle weeks of January were 1,500 and 1,762 over the average of the corresponding weeks of the last ten years. In London alone, therefore, the epidemic may be regarded as having swept off 5,000 lives in January of those who, but for this visitation, would still have lived—five thousand dead, be it observed, killed outright and buried. How many have been invalidated and are more or less in the condition of the wounded after a great battle, no one can compute.

Oatmeal Bags for the Bath.—Take 5 pounds of oatmeal, ground fine, a half pound of pure castile soap reduced to powder, and a pound of powdered Italian orris root. Cut a yard of thin cheese cloth into bags four inches square, sewing them together on the machine and taking care not to leave any untied threads where a break may leave the contents ooze out.

Mix the soap, oatmeal and orris root thoroughly and fill the bags loosely. Sew up the opening in each and lay them away to use as required. They are used as a sponge, dipped in warm water, making a thick, velvety leather and wonderfully softening the skin, while the orris imparts a lasting fragrance.

It will be remembered that all soap applications, even the purest, should be entirely rinsed from the skin. Hospital nurses are trained to wash patients first in soap and water, then in clear, very hot water to take of the soap. It is recognized that boiling water is one of the excellent mild disinfectants.

Cost of Conducting a Medical Journal.—According to the Treasurer's report, published in the Journal of the American Medical Association for July 30, ult., the entire expenses connected with the publication of that Journal for one year, amounted to $30,748.56. In addition to this, however, there were other incidental expenses—among the items included in the report may be mentioned the sum of nearly $1,000 paid to the trustees to cover expenses attending the meetings held at Washington, Chicago and St. Louis, making total expenses for the year $33,479.91. The balance remaining in the hands of the treasurer at the date of his report is $2,045, as against $9,427.21 on hand at the time of his report at Washington one year before. This report shows, then, that the expenses have exceeded the income by the sum of $7,381.64; but this amount is likely to be made up by members who have not promptly paid their annual dues of five dollars each, as the report indicates that of the whole membership, but 2,700 had paid at the time of closing the books for the year. The indebted condition of the treasury calls for the prompt payment by delinquent members of their regular dues, in order that the managers of the journal may proceed with their legitimate work without financial embarrassment, and it is hoped that another year will present a better financial showing than that which has just ended.
The American Therapist.

A MONTHLY RECORD OF MODERN THERAPEUTICS,
WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

VOL. I. NEW YORK, SEPTEMBER 15th, 1892. No. 3.

Original Articles.

ADDRESS IN BACTERIOLOGY.

By G. Sims Woodhead, M.D. Ed., F. R. C. P. E.

Delivered at the Annual Meeting of the British Medical Association, Nottingham, England, July, 1892.

Its Limitations.

** ** Bacteriology, though a comparatively new science, has already made so deep an imprint on the science and practice of medicine that the enumeration in catalogue form of the various facts upon which, according to our present knowledge, the solution of important medical and surgical questions depends, would occupy a much longer time than we have at present at our disposal; it will be my aim, therefore, to indicate very briefly the extension and limitation of the bacteriology of medicine. It may be stated at the outset that in this matter extremists have little claim to be considered, and that, although most thoughtful men maintain that bacteria play a most important rôle in the production of disease, it is equally certain that no claim for anything beyond such important share can be claimed for the most virulent of pathogenic microbes.

Laying aside the question of the relation of micro-organisms to the special forms of surgical fevers, it can not be ignored that a knowledge of the life-history of bacteria and the relation of these organisms to specific infective disease is essential to every scientific student of medicine.

A Branch of Science.

It has been too much the fashion to look upon bacteriology as an art rather than a science. It was supposed that when we had obtained evidence that a definite micro-organism was associated with a specific disease, and that when we had found a means of destroying this organism, or of preventing its access to the tissues, the limits of what bacteriology could teach would be reached. Thanks to the genius of Pasteur, however, bacteriology is now looked upon as a branch of science, the study of which may afford us help in the solution of even fundamental problems in biology; it has assumed such importance, indeed, that into its service have been pressed the general biologist, the botanist, and the pure physiologist; while all who practice medicine and surgery feel that they must at least be conversant with the principles that underlie its study. I know there are some who will not agree with this, and who will tell us that we are bacteria mad; and, while acknowledging that in taking up a new subject there is a danger that we may be led to devote so much attention to it that it might appear that we attach undue importance to it, it must be held that, studied in the broader aspects, it has enabled us to grapple with some of the most difficult questions in medicine. Can an astronomer be accused of narrowness of vision because sometimes he is found looking through the telescope which covers a limited field and is studying with especial care a small area of the heavens? Which of us can tell of the boundless space and the countless worlds that are opened up by these seemingly narrow studies? The observer collects his data, applies the laws of physical science as at present known, formulates and proves new laws, and opens up and argues on a world so utterly beyond us that his facts to those uninitiated read like the wildest fiction, and his descriptions like poetry and romance.

Cell-Degeneration.

It would be a waste of time, gentlemen, were I to attempt to trace the history of fermentation, of putrefaction, of septic conditions, and of the relation of bacteria to certain diseases, but it may perhaps be of advantage to insist that there has been a continuous evolution and extension of our theories in regard to the nature of the action and interaction of bacteria on the tissues and organs of the human body. First, there was the mechanical theory, in which it was maintained that death was due to the impaction of groups of
micro-organisms in the capillary vessels; then came the theory that these organisms used up the oxygen so rapidly that the tissues received an imperfect supply, and somatic death ensued. Both of these may be partial explanations, but, unless we know how the oxygen is cut off (even accepting this explanation as partially correct), we are little nearer a satisfactory solution of the difficulty. The administration of phosphorus is followed by imperfect oxygenation of the tissues, and fatty degeneration occurs—how this is brought about it is difficult to say; similar degenerations are found in certain diseases set up by micro-organisms. Do such organisms, then, when introduced into the body, act directly by taking up and using for their own purposes the oxygen which would otherwise be applied to the nutrition of the tissues? Do they attack the tissues directly, making their way into their substance, and so devitalizing them that they are unable to perform their functions properly? Do the products formed by these organisms, being thrown out as it were in a nascent condition, immediately lay hold of the weakly combined oxygen in the blood, and remove it so that new compounds may be formed? Do these products act directly on the cells, and interfere with their functional activity? Or, lastly, do the cells when called upon to perform extra work in getting rid of these organisms or of their products—which in either case must be looked upon as foreign bodies—undergo such excessive stimulation that the supply of oxygen is not equal to the demand, so that the functional activity of the cells is in excess of their facilities for nutrition, and their protoplasm undergoes changes described as cloudy swelling, followed by fatty degeneration exactly like those met with in phosphorus poisoning?

Pathological Chemistry.

At one time it would have been deemed impossible to answer these questions; but as the study of the chemistry of bacteria has been utilized, our information on these points has become more and more definite, and as such definite information has been obtained, it has become possible to indicate some at least of the processes that are going on in certain of the specific infective diseases, and to draw inferences, some of which, however, have still to be put to the proof, as to the methods to be adopted in waging war against bacteria.

One of the most important outcomes of our study of the relations of bacteria to disease is that we have now a pathological chemistry; hitherto physiological chemistry has been elaborated and extended in order that it might be applied to the examination of certain products and excretions met with as the result of diseased conditions of various organisms; but beyond enabling us to make search for slightly modified physiological products, this physiological chemistry has helped us but little. This pathological chemistry has a great future.

**Antitoxines.**

I had intended to deal to-day with the subject of antitoxines—that is, substances which are said to be formed when bacteria or their poisonous products are injected into the fluids or tissues of an animal; these antitoxines are said to be the important factors, not in the production of immunity, but in the actual cure of specific infective diseases. As I find, however, that Dr. Sternberg, in a recent address on the practical results of bacteriological researches,* discussing one side of this question, goes into this matter very thoroughly, and gives a short summary of the results obtained in numerous experiments with anthrax, rables, diphtheria, tetanus, eroupous pneumonia, swine erysipelas, and also with ricin (the active poisonous principle in the castor-oil bean), and abrin (the similar product of the jequirity bean), all of which are brought forward to support the theory that wherever a poison is developed in the body, antitoxine—a substance which is supposed to neutralize the effect of the poison—is rapidly developed, with the result that neither specific organisms nor their poisons can continue to have any effect on the animal host.

**Influence of Antitoxines upon Cell-Activity.**

**When sterilized products of a culture of hog-cholera bacillus or the blood taken from an immune animal do not interfere with the action of the special poison when introduced simultaneously into the circulation, it must be concluded that such sterile product does not act directly either on the bacillus or the poison produced by the bacillus; on the other hand, we find that this same substance introduced into the circulation of the animal**

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undoubtedly exerts a certain protective influence, so that we are compelled to the conclusion that this serum—or rather some body present in it—must act directly on the protoplasm of the cells of the body. Metschnikoff argues that it must act as a specific stimulant, for it is generally accepted that there is a specific protection for most specific diseases. It must be held, too, that a modification of all the cells of the body with which this poison can come in contact may take place, for all these cells are equally liable to be attacked by organisms. It is, of course, not necessary to assume that only the migratory leucocytes are so modified, for although the leucocytes, on account of their motility and powers of migration and emigration, are first called upon to resist the attacks of invading organisms and their products, all the cells—especially those in contact with the circulating fluids—must become modified as they come in contact with the circulating poisons, and thus be gradually inured to carry on their work, even under extremely disadvantageous conditions, for there can be little doubt that they have frequently to help, under special stimulation, to join issue with micro-organisms and their products that have passed beyond the sphere of operation of the leucocytes at the point where the primary invasion occurs. If, too, the antitoxines are present in the fluids of the body, outside the cells, it must be assumed that for every disease there is a specific antitoxine left in the blood; this, of course, is possible, but, from what we already know of the life-history of the cells, we must go back to the protoplasm in order to trace the origin of this substance.

Influence of Therapeutic Agents upon Cell-Activity.

It is this ultimate modification of the protoplasm of the cells of the body under the influence of organic or inorganic therapeutic agents that we must look for our future triumphs in the treatment of specific disease where vaccination has not been resorted to, or has failed. Of the direct action on protoplasm there are only two or three examples, but there can be but little doubt that quinine and arsenic in malaria, and mercury and perhaps iodide of potassium in syphilis, act somewhat in this manner. In the case of mercury, even the untoward results sometimes attending its exhibition afford evidence of the direct action of the mercury on the protoplasm of the cells, the cells, as it were, becoming exhausted under the influence of the mercury, and so becoming an easier prey to the specific virus.

Antitoxines of Little Practical Value.

Should it be definitely proved that antitoxines are formed as the result of the action of certain bacteria on the tissues and fluids of the body, such a method—as at present within our reach—could prove of little practical value in the treatment of disease, for in the cases mentioned, where any definite results have been obtained, very large quantities of the blood or serum from immunized animals have been used in order to obtain the results described, and it is difficult to imagine how it would be possible to obtain sufficient of the antitoxine from living animals, however vaccinated; while the risks to patients would be so great that such treatment would be unjustifiable.

Acclimatization Theory.

There is one point of view from which we must look at these chemical products quite apart from the organisms themselves. One of the theories as to the effect of those chemical poisons in protecting an animal against the attacks of any but the most virulent organisms or of enormous doses of less virulent organisms must, so far as our knowledge goes, be based on what may be called the acclimatization theory, according to which various cells and tissues of the body become so accustomed to the presence of certain poisons when administered in small but gradually increasing quantities at definite intervals, that when large doses are actually formed within the body, the tissue cells are still able to react, to carry on their phagocytic functions, and thus to treat pathogenic organisms as mere saprophytes. Such a consideration as this would at present lead us to classify the methods of inoculation into at least two groups: (1) Those where the tissues have to become accustomed to the presence of a poison only, such as diphtheria and endocarditis, both of which are able to develop only at the surface of the body, where fibrin or some similar substance is so far removed from the action of the cells that the organism is able to grow, produce its poison, and so take up a coigne of vantage from which it can distribute its lethal substance, the local tissues being directly attacked, the general tissues being affected by the poison only.
Tetanus might also be included in this group, though here the conditions are somewhat different. Here it may be possible so to acclimatize the tissues (as in the case of hydrophobia) that the poison which, under ordinary accidental conditions, finds its way into a wound would have practically no effect, in which case the organisms introduced at the same time would also be dealt with by the tissues. In the case of diphtheria and infective endocarditis, where an enormous quantity of poison may be formed, and where, as we know, products administered have devitalized the tissues instead of increasing their resistance, the hope of inoculation proving useful does not seem to be very bright, though it may be that the introduction of exceedingly minute doses at certain definite intervals may confer a certain degree of protection. Where, however, pathogenic organisms are able to make their way into the lymphatics and blood-vessels, the prospects of obtaining good results from inoculation are much more favorable, as, if once an animal can become accustomed to the presence of the poison, the microbe itself can have little chance with the leucocytes and the tissues.

Tuberculin of Questionable Value.

The two processes, the antitoxic and immunization by specific acclimatization, are perfectly distinct from those on which Koch's treatment of tuberculosis is said to depend for its success. If a certain quantity of a sufficiently dilute escharotic be injected into the skin, slight inflammation is set up, accompanied by exudation of leucocytes, proliferation of the connective-tissue cells, and localized formation of new connective tissue. If, however, a first dose be followed by a second, a second by a third larger and more concentrated dose, the tissues may undergo necrotic changes, a slough is formed, and what is called reaction takes place; the slough gradually separates from the reacting tissues in which connective tissue is formed. This is exactly what takes place when tuberculin is administered; the tuberculin alone is not sufficient to cause any serious damage to the tissues, but, along with the poison that is formed in the tubercle bacilli in the areas affected, it intensifies the necrotic action associated with tubercle, especially in the immediate neighborhood of the bacilli, and in this way the partially devitalized or dead tissues may be got rid of more rapidly than in cases in which no treatment is attempted. Sad experience, however, has taught us that the increased dose of the poison so acts on the tissues in the zone away from actual sloughing, that in some cases at any rate it becomes much more susceptible to the attacks of the tubercle bacilli, and the disease spreads much more rapidly after the administration of tuberculin; and, although it is possible, though certainly not yet proved or even probable, that exceedingly minute doses of tuberculin may have a salutary and perhaps a protecting influence on the tissues, the clinical results up to the present have not been sufficiently satisfactory to encourage the hope that we have in tuberculin a substance that will exert a favorable influence on the course of an attack of tuberculosis.

Phenomena of Inflammation Considered.

The influence that bacteriology has had on medicine and surgery is best appreciated when some special process or condition is followed in its etiology, progress, and termination; in inflammation, for example, the study of bacteriology has revolutionized our conception of the whole subject, and, moreover, has enabled us to bring into harmony theories and interpretations of facts which hitherto have appeared to be diametrically opposed to one another.

Roser (quoted by Metschnikoff) maintains that inflammation is a disease due to the infection of microbes, and that the phenomena observed in repair are really the result of inflammation, or rather that they constitute those processes that end in resolution or the cure of inflammation itself. At one time such a theory would have been received with ridicule, and even now it is an exceedingly difficult matter to prove that inflammation in many cases is due to the presence of micro-organisms or their products.

It is only by a careful study of the processes described as occurring in lower organisms that we can gain any accurate conception as to the differences set up by mechanical injury and those induced by the presence of micro-organisms. As a result of the various observations made, we have come to look upon inflammation as only part of a series of changes, all of which work toward a definite end—namely, first, the getting rid of foreign bodies, whether organic or inorganic, whose presence might exert a deleterious influence on the tissues in which they are
lodged; and, secondly, to repairing the breach that has been left at the point at which these foreign bodies have been ejected.

Effects of Soluble Poisons in the Blood in Diphtheria.

In order that we may focus more accurately—or perhaps one should say, define more rigidly—the nature of the work which has been done in this connection, let us confine our attention to a single disease—diphtheria—in which, owing to the bacteriological chemical methods that have been imparted into its study, we recognize with a moderate degree of certainty, not only that we have to do with a specific organism, but also how it acts.

Loeffler, who first made pure cultures of the diphtheria bacillus, originally described by Klebs, found that, after removal of the microbe from the liquid nutrient culture medium by passing it through a cylindrical porcelain filter and injecting the filtrate into a guinea-pig, he was able to determine not only the same kind of local reaction that was obtained when the organism itself was introduced into the subcutaneous tissue, but that paralytic symptoms, so characteristic of the later stages of diphtheria, also supervened. Then by extracting with a watery solution of glycerin, filtering, and dropping the filtrate into absolute alcohol, he obtained a flocculent precipitate, which could be washed again and again with alcohol without passing into solution. This solution, readily soluble in water, still retained its power of setting up distinct local reaction after being washed, dissolved, re-precipitated, and again dissolved.

Roux and Yersin, accepting Loeffler's statement that the poisonous material appeared to be somewhat of the nature of an enzyme—that is, a ferment associated with the vital activity of a living organism—repeated and extended his experiments. They have made observations on the nature of the swelling set up at the point of inoculation by the organisms or by the poisons; they noted that, although there might be congestion and effusion into the serous cavities, evidences of fatty degeneration of the liver and kidney, and characteristic diphtheritic paralysis, no organisms could be found beyond the seat of inoculation. From this they argued that the poison formed at the seat of inoculation must be diffused by the lymphatics and vascular circulation into every part of the body; that it might attack the nervous tissues, especially, apparently, the peripheral nerves, so giving rise to degenerative changes of the nerves and muscles, and of those tissues which appear to be involved in the process of conversion, secretion, and excretion of the poisonous substances.

Experimental Observations in Harmony with Clinical Experience.

Their observations are entirely in accord with clinical experience. The degenerations that are met with in the kidney and the liver in cases of diphtheria are essentially similar to those found in children who have succumbed to this disease, while the symptoms of peripheral paralysis and the changes in the nerves appear in the two cases to correspond in the most minute features. These observers were convinced that it was some special part of the products of these organisms that gave rise to these symptoms, and they, after various experiments, came to the conclusion that the active substance was not actually precipitated by the alcohol, but was entangled and carried down by the alcoholic precipitate.

Local and Systemic Action of Albumoses.

Sidney Martin, going a step further, has succeeded in separating definite substances, each of which, appearing to have definite effects on certain tissues and functions, give rise to special symptoms and pathological changes. He has compared their physiological effects with similar or allied substances obtained from anthrax patients and cultures, and from cases of ulcerative endocarditis and tetanus. He found, for instance, that the albumoses—intermediate products between non-dialyzable albumins and dialyzable peptones, substances comparable as regards their structure and chemical reactions to those formed during the process of peptic digestion—could be separated not only from the membrane of diphtheritic patients, but also from the spleen and blood of the same patients, and from pure artificial cultures of the Klebs-Loeffler organism as cultivated by Klein and himself, and that they produced very definite local effects when injected subcutaneously—a condition that was usually accompanied by marked rise of temperature, paralysis, fatty degeneration of certain of the peripheral nerves, both motor and sensory, of the heart muscle, and in a minor degree of certain other organs.
These features were observable even when a single dose only was given, but were much more marked when small but frequent doses were exhibited. The marked wasting and degeneration, which in many cases appears to be progressive and continuous, indicates that we have here to do, not only with a direct poisonous action of the albumoses on the tissues that they specially affect, but that there is general interference with the function of nutrition—a condition always accompanied by imperfect coagulation of the blood.

**Bacillus Anthracis and Bacillus Diphtheriae Compared.**

Dr. Martin, who had previously described a powerful alkaloid or organic base in the products of the *Bacillus anthracis*, and in the blood and organs of anthrax patients, was naturally led to look for a similar substance in the diphtheria products; but here, as if to accentuate the difference that may exist between the poisonous substances produced by two different organisms, he found not an organic base, but a substance which he speaks of as an organic acid, as, although it was separable by the same processes as those used to isolate the base or alkaloid, it was found to be acid in character. The organic acid had, however, the same (but in a markedly feebleer) physiological action as the albumose, also giving rise to nerve degeneration.

In the diphtheritic membrane where, as in ulcerative endocarditis, the organism is growing on coagulated fibrin, a substance which is readily digested by and prepared for the nutrition of the organisms found in these diseases, these albumoses are always found accompanied by an extremely virulent substance entangled in the proteid of the membrane, and precipitated by alcohol. This substance is similar in all respects to the enzyme described by Roux and Yersin. It is attenuated by heat, destroyed by boiling, and is characterized by the same physiological actions as the albumose and the organic acid, extremely minute doses producing very grave symptoms.

**Specific Diphtheria Symptoms.**

Diphtheria, then, is entirely dependent for its specific symptoms on the diphtheria bacillus, experiment corroborating in a most remarkable manner clinical observation. This bacillus does not attack healthy individuals, but where there is slight ulceration of the throat or slight fibrinous exudation on the surface of the tonsils or the posterior surface of the velum palatii, diphtheria suddenly makes its appearance. Sometimes the exudation appears to be associated with the local action of the diphtheria bacillus itself, but usually the diphtheritic process appears to be secondarily to small patches of ulceration and exudations. Experiment offers the explanation of this fact. The diphtheria bacillus does not appear to have the power of attacking healthy mucous membrane; but when it finds a nidus in coagulated fibrin, it is able to produce its special secretion or enzyme, part of which acting on the fibrin, just as the enzyme met with in the stomach acts on food, rapidly transforms the insoluble and undialyzable fibrin into soluble albumoses, some of which in turn are utilized for the nutrition of the micro-organism, while the remainder of the enzyme and the products of its action on the fibrin, absorbed by the lymphatics and blood-vessels, are carried into the system, where they act on the tissues and organs already mentioned, and, after being broken down into lower molecular combinations in certain organs, are excreted.

It is to the presence of these three sets of products that the symptoms of diphtheria and the changes met with in the tissues are due, and, as Dr. Martin points out, all three sets of poisonous substances may be obtained from pure cultures of the specific diphtheritic organism.

**Action of Bacillus Diphtheriae.**

In diphtheria, then, the bacillus is the primary infective agent. It, as a result of its vital activity, produces a powerful enzyme—Martin's secondary infective agent. Part of this enzyme, acting locally on the coagulated fibrin on which the organism is subsisting, converts it into various soluble products known as albumoses; some of the enzyme being absorbed, continues the process of digestion in those tissues and organs in which it is allowed to remain long enough in contact with the proteids contained in the fluids of the body, especially, as Martin points out, in the spleen, through the spaces of which the blood passes extremely slowly, remains in contact with the enzyme for some time, and the albumoses are broken down into much less complex chemical substances, the most important of which in diphtheria is the organic acid, while in anthrax it is an alkaloid or organic base, the less com-
plex organic acid being less virulent than the albumose, while those of still less complex molecular constitution appear to be little more noxious than ordinary effete products.

**TOXIC ACTION OF BACILLUS ANTHRACIS UPON CELL-LIFE.**

In anthrax, on the other hand, the semfinal product of anthrac bacillus is the cause of death, the alkaloid exerting a far more powerful physiological action than the intermediate albumoses which in diphtheria act so energetically. It is interesting to note how the definite changes set up by these poisons correspond to those set up by inorganic and organic poisons—such as phosphorus, antimony, and some of the other compounds which induce fatty degeneration through malnutrition, especially by interfering with oxygenation or by increased stimulation of the protoplasm, which—unable to obtain extra-cellular material to carry on its functions under increased stimulation—has to fall back, as it were, on its own protoplasm, which is rapidly converted from proteid into fatty matter.

Here, then, with the protoplasm over-stimulated and wasted, and with the products still present in the blood, the process of wasting becomes more and more profound; owing to the previous wasting, even normal stimulation is now excessive; the degeneration may go on even after the poison has been removed, and ultimately the patient may die of failure of certain organs when all danger from the direct action of the poison appears to have disappeared. We now know that in the case of the microbes of pyocyaneus, hog cholera, tetanus, tubercle, and some other diseases, the poison is actually combined with the protoplasm of the micro-organism, and it is quite possible that in these cases of "marasmus" it may continue to be given up for long after the organisms themselves are dead, thus keeping up irritation and stimulation of the protoplasm; the condition of "marasmus" continuing after the microbes are dead, and therefore, as was at one time supposed, innocuous.

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**SABAL SERRULATA—SAW PALMETTO.**

By S. F. Dupon, M.D.

Saw palmetto is one of the medicinal agents in use among negroes and Indians for the relief of cough and bronchial affections. It was first brought to the attention of the medical profession through the investigations of Dr. J. B. Read, of Savannah, Georgia, who induced a firm there to undertake the extraction of the oil. One hundred bushels of the fruit yields but a few gallons of the oil. In my practice I use only the concentrated tincture made from this expressed oil, and have been unable to obtain satisfactory results from any other product.

As an evidence of the health-giving properties of the Saw palmetto, it may be mentioned that during the "off years," when the fruit is in season, every species of animal becomes fat—even poultry. During hard winters, animals and poultry stand the cold better and remain in good condition when they have access to this article of food.

Lately, owing to the flattering recommendation of guaiacol in tuberculosis, the writer has combined the Saw palmetto with that remedy, cod-liver oil and eucalyptus, using the following formula:

R Saw palmetto, con. tinct...f 3 ½ jv
Guaiacol..................1 2 j
Cod-liver oil..............1 3 ½ il j
Water of Eucalyptus....1 q. s. ad 1 ½ x
M. Sig. A teaspoonful every three hours. (Shake.)

In addition to the above, an inunction is employed according to the following formula, the application being made night and morning over the area of lung affected:

R Iodoform........................3 j
Oil of Saw palmetto.....3 j to 3 ½ j
Cotton-seed oil.........1 ½ j
M. Sig. Use as an inunction night and morning.

Sufficient time has not elapsed since I began this method of treatment to warrant the assertion that the plan is curative, although patients now under observation gain
seven to ten pounds per month. The profuse morning expectoration ceases, the appetite is good, and patients sleep with all the symptoms indicative of health.

It is in whooping cough, bronchitis, etc., where the marvellous power of this remedy manifests itself; it seems to modify in a remarkable manner the progress of pertussis. Much has been written lately upon the efficacy of Saw palmetto in diseases of the bladder, prostate, etc., which I can most positively endorse, relief being often afforded from the local application of the tincture within an hour, while the urine is fully impregnated with the odor of the drug.

Care must be exercised to obtain a reliable product, as only one variety produces the true medicinal oil; much also depends upon the location and character of the soil.

Assuming that the views advanced by Dr. Kinnicut (New York Medical Journal, May 21, 1892,) are correct, and that guaiacol combines in the blood with toxic albuminoids engendered by the disease, and that they are thus rendered non-toxic and their elimination favored, we have good reason to believe that an agent so potent as Saw palmetto, acting on mucous membranes, invigorating the system, creating fat, would be a great boon to the emaciated suffering from tuberculosis.

Recently I had an opportunity of observing the influence of this drug upon a most desperate case of laryngitis occurring in a negro. There was an absolute loss of voice, and total inability to swallow liquids even. After exhausting all known methods of treatment, I put him upon drachm doses of the tincture with five grains of ammonia muriate, although he could do no more than retain the medicine in his mouth. Within six hours he was able to swallow, and in twenty-four hours he expectorated shreds of membrane and enormous quantities of mucus which gave evidence of the gravity of his disease.

Fort Harack, Ga.

Clinical Record.

CIMICIFUGA AND VIBURNUM PRUNIFOLIUM.

Mrs. V——married, ed. 32, mother of four children, consulted me in the summer of 1891. She presented a well-marked rheumatoid arthritis, involving shoulders, elbows and phalanges of upper extremities, and hips, knees and toes, in fact, about all the articulations. She walked bent forward, elbows and knees stiff and painful, phalanges distorted, having the characteristic appearance of bird’s claws, tendons being contracted and rigid. Knee- and elbow-joints enlarged. Of course this condition rendered locomotion and physical effort painful, but to make matters worse, there was connected with it serious perversion of the menstrual function, characterized by irregular, scanty or excessive flow. History covered a period of eight years.

The following prescription was made up and ordered to be taken in forty-drop doses three times a day, size of dose to be increased:

R Ext. Cimicifugae racemosa.

Ext. Viburnum. prunifolium......4 dr

M. Sig. Forty drops to a teaspoonful 3 times a day.

In two weeks’ time decided amendment was noticeable, there being less soreness and stiffness of joints, and consequently better locomotion. In a word, under above treatment unmodified, improvement went steadily, muscles acquired in a great degree their wonted energy, tendons lost their acquired rigidity, articulations were unlocked, and deformity of phalangeal joints became less apparent.

IODOFORM.

Following are a few of its numerous applications. In the obstinate chronic enlargement of tonsils so common in our changeable climate, the writer has derived good results from iodoform in pill of ⅔ or 1 gr. three times a day, persisted in till patient declares throat is well. In
glandular enlargements, particularly of a strumous nature, an ointment, 20 to 60 grains to ounce of lard, vaselin or lanolin, will prove a prompt and effective sorbafacient.

It has been found useful when applied to enlarged prostate gland. A professional friend informs me that a prostatic enlargement with stricture that had resisted all other treatment yielded to the local application of the drug. Writer has seen a small ulcer of leg to which a 20 per cent. ointment was applied, rapidly fill up from bottom with healthy granulation. Large burnt surfaces have healed and cicatrized without contraction under its benign influence.

R. B. McCall, M.D.

Hamersville, Ohio.

STROPHANTHUS.

From a clinical standpoint, I can say that in all forms of cardiac weakness in which muscular changes of the fatty, or atheromatous, kind have begun, strophanthus is especially indicated. You are aware how useless digitalis is in this class of cases; strychnine has been our only hope heretofore, but now strophanthus seems, in some twenty-five cases I have used it, to be the "magic potion" that prolongs life.

Some time ago I had an elderly lady consult me, suffering from chronic Bright's disease, with an irregular and weak heart, beating at 140; dyspnœa of the most aggravated kind existed, all the tissues were water-logged, presenting a complete picture of despair. I purged with calomel and res. jalap, ââ gr. j., and ext. hyoscyamus, gr. ss, (given at bed-time), using every three hours, tincture of strophanthus, m.v., with liq. ammon. acetas, dr. ij, every five hours. The result in a short time was as follows: Heart, 90 per min.; dyspnœa, nil; dropsy, gone; appetite good,—a magical change. The only treatment demanded later was for the condition of the kidneys; and this is by no means an isolated case.

D. E. Hughes, M.D.,
Resident Physician, Philadelphia Hospital.

(Special Article.)

THE PROGRESS OF CHOLERA.

By John Aulde, M.D.

The progress of epidemic cholera has been rapid, but up to September 1st, outside of Russia, it was not general, Hamburg being the only large centre of population invaded. Cable reports under date of August 31st, indicate that the health authorities of that city had failed to stay the spread of the disease, and that the resident physicians were exhausted, help having been sent to them from Berlin. On the above date it is said eight hundred new cases occurred, and the deaths numbered several hundred daily. An emigrant steamer, the Moravia, Hamburg to New York, reported on her arrival here a large number of suspicious deaths en voyage, and as a consequence all her passengers were quarantined at the latter port. The S.S. British Princess, Liverpool to Philadelphia, was detained at quarantine for a period of five days early in September, but it was finally decided that no danger existed, and the passengers were allowed to land. No action, so far as known, has been demanded on the part of the authorities at either Boston or Baltimore, the other two principal ports of entry, and it is safe to say that no true case of cholera existed in the United States on September 1st, excepting, of course, undeveloped cases in persons just arrived and under observation.

In view of the dangers following upon its introduction into this country, the public should be fully instructed as to prophylactic measures. In matters of hygiene, both public and private, each good citizen should study to do that which is best calculated to promote the welfare of the community, while physicians will not fail to advise their patients concerning the necessity for keeping the digestive apparatus in a healthy condition.

The number of deaths from the disease in Russia is estimated at 150,000 or over, but we have no means of determining the
accuracy of the report. A statement has appeared to the effect that the mortality has exceeded fifty per cent. which, by a simple calculation, would place the total number of cases at 300,000 occurring in that country alone.

The official returns from all Russia for August 29th, showed 4,859 new cases, with 2,529 deaths. On August 31st, there were 123 new cases with 40 deaths at St. Petersburg, and at that time the activity of the disease appeared to be on the wane, there being a decrease in the number of new cases with a slightly lowered mortality. At the date of writing but few cases had occurred at Berlin. The disease is reported to be rapidly spreading throughout Belgium, several deaths having taken place at Brussels, Antwerp and Malaines, an important railway centre. At Paris 21 cases with 10 deaths were reported under date of September 1st, and at Havre on the same date there occurred 59 new cases with 19 deaths. Cholera is also reported as prevailing in a number of Austrian cities, and in some of the principal shipping ports of Great Britain.

Considering the danger to this country imminent, President Harrison on September 1st, issued a proclamation establishing a quarantine of twenty days against all vessels carrying immigrants, and in the meantime every exertion will be made by the National government in connection with State and municipal Boards of Health to arrest the disease should it make its appearance. Below is appended a number of useful and timely suggestions which may prove of great value to the community; even in the absence of cholera, if physicians would take the trouble to call the attention of the public to the advantages arising from the adoption of improved sanitary measures.

The treatment of cholera during the present epidemic is doubtless based upon the results of laboratory studies of the comma bacillus, the specific germ associated with the disease, and probably includes the employment of salol as an intestinal antiseptic; but from the cable reports, it must be admitted that mortality rates above fifty per cent. are far from satisfactory. Castor oil has some advocates, but Prof. Nothnagel, in Hamburg, it is said, has found the most decided benefit in the use of warm salt water hypodermatically. It is claimed by those who have followed this line of treatment that the results are marvellous. In cases where the patients were in such a state of collapse that it was impossible to discern the pulse, recovery followed the employment of this remedy.

By way of digression, it may be pointed out that while this favorable action is to be accepted as a clinical fact, it is nothing more than the practical application of a scientific fact first demonstrated by Girard, viz.: That solutions of sodium chloride (common salt) injected into the rectum, not only increase the secretion of gastric juice, but also the aggregate amount of hydrochloric acid and pepsin in the stomach. The most important individual prophylaxis consists in keeping the stomach in a normal condition, and it will be readily apparent that the salt solution in the form of enema simply restores the normal acid character of the gastric secretion, which contributes materially to augment the vital powers, and thus enables the patient to tide over a critical period.

In this connection I may be excused for quoting the treatment by copper arsenite, which I have advocated elsewhere*, viz.: "Copper arsenite might be expected to produce a favorable effect upon the vomiting (in Asiatic cholera) as well as upon the pathological changes occurring in the intestinal tract. It should be given in small doses by the mouth, say one thousandth of a grain every hour, and larger quantities by enemata, say one-fourth of a grain in solution in a pint of water every three hours."

The well-known therapeutic properties of this remedy certainly entitle it to our

favorable consideration, and should the disease make its appearance in our midst, the accumulating clinical evidence in its favor is sufficient to warrant a critical investigation.


SUGGESTIONS FROM THE PENNSYLVANIA STATE BOARD OF HEALTH.

PRECAUTIONS AGAINST ASIATIC CHOLERA.

Filth is the home, nest and breeding place of cholera. The removal of filth beforehand is of infinitely more use than its attempted disinfection after the epidemic has begun. To this end it is essential:

1. To examine the condition of all public water supplies, and, if pollution is discovered, to cut off its source.
2. To examine the surroundings of all private wells with reference to the existence of causes of pollution.
3. To remove all house refuse, offal and garbage from the neighborhood of habitations, and either bury or burn it.
4. To use copperas, dry or in solution (a pound to the gallon of water), in all places which are in the least offensive.
5. To examine thoroughly all house plumbing and drainage, and remedy defects.
6. To thoroughly and frequently cleanse all cellars, out-houses, stables and pig-styes, using whitewash freely.
7. To drain all wet places in the immediate neighborhood of dwellings; and to drain, vent, and, if necessary, cement damp cellars.

The organization of local Boards of Health in every city and borough in the Commonwealth is of importance to aid in carrying out these suggestions, and local boards already in existence should act with energy and dispatch on the first note of warning. Should our quarantine authorities, National and municipal, be successful in their efforts to prevent the introduction of this disease, it will be a satisfaction to know that no pains taken, no labor expended, no expense incurred in improving the sanitary condition of our towns and our homes will have been wasted. These measures must inevitably result in diminishing the prevalence of other diseases which we have always with us, and which, in the long run, therefore, carry off more victims than cholera in its comparatively short, though terrible stay. Should it make its appearance after we have thus put our habitations and surroundings into the complete state of preparation above recommended, we may view it with comparative indifference.

Recent Medicaments.

MENTHOL.

Menthol has distinct analgesic properties, and may therefore be used for relief of neuralgia of the fifth nerve and other painful affections where local applications are available. Its employment may be conducted either by applying a plaster, or by means of menthol in the form of a cone or stick. This is quite a popular method of treatment, and in many cases it affords temporary relief; it has therefore been employed internally for like purposes. In doses of from five to ten grains, it gives a pleasant feeling of warmth, stimulates the cardiac action without increasing its rapidity, and raises arterial pressure.

The chief action of menthol, however, is that of a pain-relieving agent, and it has been found especially useful in the treatment of migraine, in supra-orbital neuralgia, and in the headache of neurasthenic and anemic patients, but of course this effect will not be lasting. In some cases sciatica is relieved, and thus another drug is added to the list of those recommended for this intractable malady. In the case of weak and anemic patients, “in whom the administration of antipyrin is contra-indicated,” Dana recommends the substitution of menthol.

Saffrol has substantially the same effect as menthol; it is the liquid stearoptene of oil of sassafras, and may be given in headache and in sciatica in doses of twenty drops.

DIURETIN.

Diuretin is known technically as sodiotheobromine salicylate, and contains theoretically about 49 per cent. of theobromine and 38 per cent. of salicylic acid. It is readily soluble in warm water, and the solution remains perfect after cooling. The dose ranges from 45 to 90 grains per day as a diuretic. In Helbing’s Modern Matteria Medica (3d edition) its medicinal uses are given as follows:
"Like caffeine and theobromine, diuretin has a marked diuretic action; compared with the former it is superior, having no serious or dangerous cardiac action, while it has the advantage over the pure alkaloid of being freely soluble. In doses of from 45 to 90 grains (gramme 3-6), pro die, in divided portions, it acts as a pure diuretic, without effect upon the heart (Gram, Schroeder). Later observers, with a few exceptions, note, however, that diuretin strengthens and regulates the heart's action, as is shown by an increase of blood-pressure, and by sphygmographic tracings (Pfeffer, Babcock, Kress, Hoffmann, Geissler). Diuretin has been successfully employed in dropsy of both cardiac and renal origin, in hepatic cirrhosis, and in various diseases of the heart and kidneys, accompanied by edema (above-named authors and Piercz). The volume of urine excreted in the twenty-four hours increases during the administration of diuretin three- or four-fold, and even more in some cases, without any prolonged after-effect or by-symptoms; exudations of a non-inflammatory character are rapidly absorbed (Masius); slight diarrhea is not infrequent (Pfeffer, Kress). Given to healthy persons, no increase in the quantity of urine has been observed (Hoffmann, Pfeffer)."

It is best given in the form of a simple solution, or with some flavoring agent, but should not be combined with acids nor with acid vegetable juices, as they throw down the theobromine by destroying the chemical relations of the compound.

**Diaphtherin.**

Diaphtherin (Oxychinasepal), quotes the Pharmac. Review, is a new remedial agent, a compound of sozoic acid (aseptol) and oxychinolin; it occurs in powder form, is of yellowish color, and readily soluble in water. It fuses at 85° C. Its aqueous solution strikes a bluish green color with ferric chloride, which changes to yellow upon addition of hydrochloric acid; contact with iron utensils must be avoided. Prof. Emmerich claims increased disinfectant and antiseptic properties for diaphtherin, as also absence of toxic effects; it is to be applied in form of one per cent. solution.

**Ethyl Bromide.**

Ethyl bromide is prepared by mixing together alcohol and pure concentrated sulphuric acid, when the mixture is allowed to cool and potassium bromide added in small portions. Distillation is then practiced at 125 C., and the distillate purified; later, ten per cent. by weight of fresh almond or olive oil is added and the product re-distilled from a water-bath. It is an inflammable liquid, freely soluble in alcohol, ether, chloroform and oils, but not in water, and when exposed to air and light, decomposition takes place—bromine and hydrobromic acid resulting. Preparations having a pungent or unpleasant smell are not suitable for inhalation, and it is to this decomposition probably that a number of deaths may be charged.

Ethyl bromide is used in surgical operations when narcosis will be required but a few minutes; it has also been employed with satisfaction in obstetrics, and being rapid in its action, may be useful in alleviating the pains of labor. As a preliminary, a drachm or less is poured upon a handkerchief, and the attendant, or the patient, places it in such position that the fumes will be inhaled, anesthesia being produced in most cases within thirty seconds. It has been employed in Prof. Billroth's clinic at least 150 times since September last, and in operations extending to eleven minutes, but Bauer claims that Pental possesses advantages over ethyl bromide, in being entirely free from unpleasant after-effects.

Dr. Alfred Gleich (Wiener klin. Wochenschrift, 1892, No. II.) records a fatal issue in Prof. Billroth's clinic after its successful employment in nearly 400 cases. The operation was multiple incision of a carbuncle in the right deltoid region; five drachms were used in all and death resulted three minutes from the beginning of narcosis. It should be stated, however, that an autopsy discovered fatty degeneration of the heart and liver, and parenchymatous degeneration of the renal epithelium, and probably death would have taken place from the use of any other anesthetic, or possibly from the shock, had no anesthetic been administered.
THE AMERICAN THERAPIST.

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With Practical Suggestions Relating to the
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JOHN AULDE, M. D., - - - - EDITOR.

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Editorial.

THE DISTINCTION BETWEEN
SCIENTIFIC AND CLINICAL FACTS.

Physicians often feel so anxious to relieve the ailments of patients that they are liable to lose sight of the distinction which should be made between scientific and clinical facts. The former are associated with the work of experimental physiologists, while the latter pertain almost exclusively to the domain of empiricism; it has become the custom to group these clinical facts as the evidences of "clinical experience." The dependence placed upon clinical facts as reliable data in the treatment of disease has, perhaps, proven the greatest stumbling block to the legitimate advance of medical science. So long as clinical facts alone are considered in the selection of remedial agents, just so long shall we remain chargeable with failure to apply correctly the knowledge gained from physiological investigation, post-mortem observations and chemical study.

The claims here advocated can be more easily comprehended by the citation of cases which will serve to demonstrate the practical bearing which these questions may have in our daily work. For example, the value of potassium chlorate in diphtheria is everywhere recognized as a clinical fact; the scientific fact upon which it depends is, however, too often overlooked, viz.: That potassium chlorate is eliminated unchanged by the kidneys and by the salivary glands, where it enacts the rôle of an antiseptic and stimulant of cell-activity. Being held in solution in the blood-stream, it is carried to these structures, which seem to supply a natural outlet for this poison as well as for the poisons incident to the disease; and, acting as an irritant (stimulant) either through its direct influence upon excreting cells, or indirectly through its action upon nerve-supply, disordered function is restored. The principle is true when applied to factitious disease just the same as when disease arises from natural causes, as will be apparent when we recall the clinical fact relating to the value of potassium chlorate in mercurial salivation.

Bartholow always taught that potassium chlorate acted as a protoplasmic poison at the points of elimination, but Bartholow failed to go one step further and estimate the effects of the remedy upon disordered cell-function; and his works bear evidence of the inconclusiveness of his conclusions, as he frequently uses the expression, "In the present state of our knowledge."

The clinical facts relating to the value of arsenic and Rhus toxicodendron in skin disease, quinine in malaria, potassium bichromate and cod-liver oil in respiratory affections, oxygen in pneumonia and asthmatic conditions, calcium sulphide in furunculosis, cantharides in cystitis, mercury in syphilis, aconite, gelsemium, digitalis and strophanthus in cardiac affections, are equally susceptible of proof that they also depend upon upon scientific facts. Shall we attempt to unravel this tangled skein, gathering up the threads singly, studying their peculiarities carefully in order to place them where they properly belong, with a view to completing in substantial and attractive form this special department of therapeutics?
HEALTH PROTECTIVE ASSOCIATIONS.

A decidedly practical turn has been given to urban sanitation by the action of a number of public spirited and thoughtful women of the city of Brooklyn, N. Y., who have banded themselves together under the above name, or "Neighborhood Societies" The function of these associations is to improve the sanitary conditions of their immediate sections by having the vacant lots, alleys, back-yards and front-yards kept in an attractive manner, while at the same time they look after the sanitary condition of the houses of the poor, have the fences repaired, the garbage burned or carted off, and formal reports are made at the regular meetings at private houses of the members as to the results attained in this commendable work. It is to be hoped that this work will rapidly become popular among the better classes, as it will be of incalculable benefit in arresting and preventing the spread of disease.

POTASSIUM BICHROMATE AN EXpectorant? 

Generally speaking, the value of an expectorant has heretofore been estimated in proportion to its power to create nausea. Lobelia at one time occupied a pre-eminent position in methods of practice advocated by so-called "Thomsonians," but it was doubtless no more highly esteemed by them than was ipecac and antimonials by the regular school. The expectorant properties of apomorphine and pilocarpine, both powerful cardiac depressants when administered in medicinal doses, are now recognized, but neither have attained great popularity owing to the fact that their action cannot be controlled, in consequence of which alarming symptoms often attend their exhibition. At the present time, alkalies seem to meet with general accord, although their inefficiency must be admitted; they arrass the patient by deranging digestion, lowering blood-pressure, creating nausea, increasing secretion and prolonging the disease they are intended to cure. Under these circumstances recourse must be had to stimulating expectorants which produce just the opposite effects; these include ammonium preparations, balsams, terebinthinates, sulphur, nux vomica, and some of the vegetable expectorants. But these remedies, as usually exhibited, do nothing more than effect a change in the clinical picture. True, the patient recovers, but in a majority of cases, recovery would be as prompt and more perfect without the introduction into the stomach of most objectionable combinations, not to mention the employment of emetics, liniments, poultices, plasters and other adjuncts (?).

It may be stated as a fact borne out by clinical observation, that expectorants as usually understood, both depressant and stimulating, are not entitled to recognition in scientific medicine. It must not be understood, however, from the foregoing assertion, that the expectorant properties of remedies are denied: simply that the claims set up for so-called expectorants are denied, because these claims have no foundation in fact. The great value of certain medicaments in respiratory affections is well established, but the peculiar rôle enacted by these medicines by which relief is afforded, is not properly understood, hence, the unsatisfactory condition of therapeusis in this class of cases. Both apomorphine and pilocarpine, previously mentioned, may be given in appropriate dosage under certain conditions with perfect safety, and with prompt amelioration of symptoms.

It is refreshing, therefore, in this connection, to call attention to the report of Dr. Hunt, in another department of this issue, describing from a clinical standpoint, the expectorant properties of potassium bichromate. The medicinal virtues of the remedy are not well known, although early recognized as an antiseptic and escharotic. From a therapeutic point
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of view, it occupies a position in relation to diseases affecting the nasal and buccal cavities, the stomach, the trachea and bronchial tubes, much the same as mercury biiodide and copper arsenite bear to disorders of the intestinal tract. While possessing antiseptic properties similar to potassium chlorate, the bichromate is more readily soluble, excretion taking place through the kidneys and mucous membranes. In the case of bronchitis, for example, elimination is effected through the mechanism of the epithelial cells of the mucous membranes, the increased vascularity of these structures being favorable to this process, just as boils and carbuncles seem to develop a tendency to eliminate poisonous products from the system either at, or near by the affected area.

The action of bichromate, however, in minute dosage, is that of an irritant to the cells—usually demonstrated "stimulant action"; by which their functional activity is increased. In other words, these cells, overloaded with effete material which they are unable to discharge, on being exposed to the irritant action of a foreign substance through the medium of the blood-stream, are sufficiently stimulated (irritated) to enable them to begin again the performance of their normal functions. It would be more appropriate then, to say that the medicament is instrumental in restoring the normal function of the demoralized cells, than as stated above, that their functional activity is increased. In bronchial affections, as a rule, increased secretion should be avoided instead of courted, and yet expectorants are usually given for the purpose of increasing secretion. Simple restoration of the function is sufficient, this being followed naturally in due course by an increased secretion as a result of previous inactivity. How unfortunate then, in using the bichromate for its expectorant properties, or any other remedy, for the rule has few exceptions, that it should be given in sufficient dosage to cause nausea, or to produce a local effect which destroys the power of these cells to functionate.

Physiological actions should guide the practitioner in his selection of remedies, but having learned these, it seems unwise to attempt the removal of diseased conditions by means of these medicaments in toxic doses. Potassium bichromate is best adapted to the plastic variety of bronchitis, acute, subacute and chronic, and may be given in solution, after thorough trituration. The dose for an adult ranges from 1/60 to 1/30 grain, at intervals of from two to four hours. For children, 1/30 to 1/50 grain is dissolved in four ounces of water, and a teaspoonful of the solution given every ten minutes for the first hour or two, and afterwards at hourly intervals.

Correspondence.

WAS IT TYROTOXICON?

To the Editor:

Quite frequently we hear of persons being poisoned from eating ice-cream. I never had the misfortune of attending such a case until just recently, and I have been puzzled not a little to know what the poisoning was due to, or in fact whether it was the ice-cream at all or not. I was hastily summoned a few weeks ago to see a lady, whom the messenger said was very sick with "cramp in her stomach." On my arrival I found not only the lady who had sent for me, but two others, one a child about ten years old, both females, suffering from cramps and almost incessant vomiting.

The symptoms in all three were identical; face pale, extremities cold, feet drawn up, pulse feeble and rapid. Upon inquiry I found that the trio had been partaking freely of ice-cream some few hours before. I said to myself, "Well, here is a case of genuine ice-cream poisoning." I had used arsenite of copper in many cases of cholera morbus with such good effects, I determined to try it in these cases. After a
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Fair trial I gave it up as not being the appropriate remedy. I then resorted to chloro-anodyne, one drop in a teaspoonful of water every five minutes; this soon checked the vomiting, and with other remedies, as the cases demanded, my patients were soon on the road to recovery.

I had never given the subject of ice-cream poisoning more than a passing thought, and the question naturally came up: To what is the poisoning due? Upon inquiry at the restaurant where the cream was purchased I found that the flavoring extract used was vanilla, and that the flavoring from the same bottle had been used in making ice-cream for weeks previous, and that no cases of poisoning had ever been reported. Likewise other parties had eaten cream from the same freezer and with no bad results. Then I began to think over the cases carefully. I had told the ladies that it was my opinion that they were poisoned from eating the ice-cream. They were all from different families; all had eaten the cream at the same time; all were taken sick about the same time; the symptoms were the same, and all got well on the same line of treatment. Naturally one would come to the conclusion that the cream was the cause. Could I have been mistaken in my diagnosis? Was this a case of poisoning from eating ice-cream or not? The questions I would like to ask are: Can people be poisoned from eating ice-cream, and if so, to what is the poisoning due, and what would be the symptoms? F. T. Field, M.D.

Elroy, Wisconsin.

Hematuria — Diagnosis Wanted.

To the Editor:

I am troubled with hematuria and want advice. I am 63 years old; general health, appetite and digestion good. About twelve months since, commenced passing a little blood from the bladder, mixed with urine, and frequently firm clots were passed, blocking the urethra, but easily expelled; no pain or uneasi-

ness. The attack lasted two or three days, and returned again after an interval of some weeks. Took gallic acid internally, with no appreciable benefit. There was some little itching about the glans at extremity of urethra. About two months ago had a slight attack, and passed about a teaspoonful of clotted blood at one time. About a week since, passed more clotted blood, and in twenty-four hours urine had cleared up. Yesterday morning and last night had quite a spell; passed more blood and larger coagula than at all the other times put together, and there was more irritation along, and at the extremity of the urethra, than there ever has been. Altogether I probably passed half a Gill or more of coagulated blood and urine last night and this A. M. In the absence of clots urine has a smoky, dirty appearance. At times am troubled with polyuria, getting up three and four times during the night, and passing large quantities of clear white urine, almost as clear as spring water, and just now I passed moderately clear urine, and in straining the last few drops were quite bloody. There is not, nor has there ever been a sudden stoppage of the flow during micturition. I fear encysted stone or malignant disease of the prostate or bladder. Had a brother to die immediately after the war with cancer of the rectum.

Had urine tested about a year ago for albumin and sugar with negative results; not by an expert, however, in urinalysis. No specific history. With the above imperfect sketch can you give me a probable diagnosis, or any advice that would likely be of service? By so doing you will very much oblige.

Answer.

Note.—Although much uncertainty attends a diagnosis and advice without a personal interview, communications of this class have always received prompt attention, and the question presents itself concerning the advantages which would accrue to subscribers were this feature made a regular department of the journal. The above case presents a number of in-
terest all questions for discussion, and our correpondent, who is a resident of Texas, would no doubt be glad to avail himself of any suggestions that might be offered by readers of the Therapist. Any replies received will be forwarded direct, and copies retained for publication, if desired. The following is a copy of the answer sent.—Ed.

Dear Doctor:
I have read your communication with care, and am of the opinion that absence of pain would preclude the presence of either cancer or encysted calculus, although they cannot positively be excluded. Taking into consideration your age—which would be favorable to enlargement of the prostate, your location—which predisposes to malarial affections and arrangements of the hepatic function, both contributing to produce nervous disturbances sometimes manifested by increased secretion of urine, I would suggest that you give attention to the condition of the liver and keep the bowels free by the daily employment of enamata of cold or tepid water. Unless there be some contra-indications, I would recommend ten drops of dilute nitro-muriatic acid in half a glass of water after meals, the diet to be restricted to meat and stale bread and good butter, with some of the succulent vegetables, such as tomatoes, cold-slaw, water cress, etc., the object of which I have no doubt you will appreciate. Should you find any benefit from this régime, it will be evident that the hematuria is due to enlargement of the prostate, and that can be materially improved by other medication after you have relieved the passive congestion dependent upon a torpid condition of the liver.

THE RIGHT METHODS.

To the Editor:

Your position in regard to the advanced views upon toxemia and the influence of the cells in the arrest and cure of disease meets my warmest admiration. You are undoubtedly working in the right direction to realize a sound and rational thera-

peusis. If we but ascertain the actual effect of a single drug, debarring the dosage and other influences going to affect its use in the curative processes, we shall have made a decided advance upon the methods of the past. We must have a scientific examination and test of these points, and I believe you are starting in the right method to obtain them.

J. Wellington Byers, M.D.
Charlotte, N. C.

Current Literature.

Potassium Bichromate as an Expectorant.
—It was during the winter of 1875 that I was in attendance upon a child two years of age, who was ill with bronchitis. Though seventeen years have elapsed, I well remember the child as it lay then, breathing at the rate of ninety respirations per minute, pulse too rapid and feeble for me to count it, countenance cyanosed, veins of forehead and neck prominent and turgid, and a cool moisture covering the little sufferer’s body. The child was suffocating and seemed to me to be dying. I called for consultation and my friend, Dr. Alexander Hutchins, responded. He produced from his pocket a powder, telling me that it contained one grain of the bichromate of potassium, titrated with nine grains of sugar of milk, directing me to place it in a tumbler with twenty teaspoonfuls of water, and give of the solution a teaspoonful to the child every ten minutes till the symptoms were modified. That was in the evening, and in less than two hours the symptoms of suffocation were so much relieved that I was able to leave the child for the night, with directions that the medication should be kept up at one-hour intervals.

The change in the condition of the child when I visited it the next morning was surprising. The respirations had dropped to less than forty; the child had been able to sleep and take some nourishment; the cough, which before was dry and barking, had become looser, and the lung, which
the night before hardly admitted any air, was now filled with loose, moist, bronchial râles. The aspect of the case was changed from that of a child evidently dying from what we then called capillary bronchitis, to a plain case of bronchitis which went on to successful recovery.

This, gentlemen, was my first introduction to a drug which has ever since formed a part of my armamentarium. For sixteen winters I have used bichromate of potassium, a substance which we are more apt to think of on account of its chemical properties; or, if included at all in our materia medica, it is as an escharotic, a rather mild substitute for the more active chromic acid.

My experience with the remedy has been confined to catarrhal conditions of the respiratory mucous tract. I have not kept histories of cases, and can, therefore, only generalize and say, that for the past fifteen years bichromate of potassium has been my principal agent in treating this class of diseases in infants and young children. In medicinal doses it is practically tasteless, and in my hands more efficacious than the nauseous chloride of ammonium which most of us use in about the class of cases in which I use the bichromate. The experience in my first case has been more than once repeated, though it took a second case almost as bad as the previous one, to which I again called Dr. Hutchins in consultation, with an equally gratifying result, to give me the confidence in its utility which I now have.

I like the old term alterative. I know it has been discarded by modern therapeutists as non-scientific; but while it may be so, it expresses a something which we all intuitively understand, and clinging to the old word, I would describe the therapeutic action of bichromate of potassium in these cases as an alterative expectorant, which a slight increase in the dose makes more stimulating and may become an irritant emetic.

Drysdale says that not more than ¼ grain should be given per day, but I have exceeded that amount without bad effects.

I am accustomed to instruct the attendants to diminish the dose if it acts as an emetic, but not to diminish the frequency of its administration. When it is rejected by the stomach, it is without nausea or after-irritating effect. Trituration seems to make it less irritating to the stomach. I find that when I write a prescription for one grain of bichromate of potassium to be dissolved in twenty drachms of water the attendants will tell me that it seems to irritate the stomach and is apt to be rejected, whereas, if I give ten grains of the powdered tritrate I have described or a corresponding number of the ¼ grain tablets, to be dissolved in twenty spoonfuls of water, spoonful doses are almost never rejected.

Jos. H. Hunt, M.D.
(Brooklyn Medical Journal, August, 1892).

Palatable Medication in Gastro-Enteritis.—Suppose we are called to a case of gastro-enteritis in a child one year of age, and decide to give (instead of mild chloride or salol or any other antiseptic or laxative or astringent) cuprum arsenite granules. That child would take (considering adult tonic dose as 1-60 gr. three times daily, also as a tonic three times daily) 1-800 gr., which in 24 hours would amount to 1-266 gr. Suppose we put one granule 1-134 gr. in 24 tea-spoonfuls of water and give it so as to be taken in 24 hours; although the child would be taking but 1-3216 gr. in each dose, yet in 24 hours it would have taken double its proportional tonic dose, so in giving this medication we are treading not on the door-sills of infinitesimals; at the same time we are using two-edged tools with absolute safety. These ideas are merely given to call your attention anew to the desirability of making our medication safe, pleasant and efficient. The success of some of our neighbors in retaining children's practice is not because of a superior system, but because they give drops where we give drachms, grains where we give ounces.

A. H. Mambert, M. D.
(Practitioners Monthly, July, 1892).
A Portable Case for Clinical Examination of Urine.—A simple, portable case of apparatus for clinical examination of urine is certainly a great convenience; and the importance of facilities for prompt and accurate examination in certain emergencies is sufficiently evident.

*** The wood-cut represents the apparatus with the case open. The box is of hard rubber, and when closed it measures six and three-quarters by four inches, and is two inches deep. It can, therefore, be readily carried in the pocket or in a physician’s bag. All parts of the apparatus are of rubber or glass, except the hinges, catches, test-tube holder, and the alcohol lamp, which are nickel-plated. The cut gives a clear idea of its appearance.

The reagents are Roberts’ test for albumin, acetic acid, Squibb’s two liquids used in testing for glucose, and blue and red litmus paper. The liquids are in glass bottles with paraffined cork-stoppers, and fitted with hard-rubber caps. A rack turns up to a vertical position when the case is open, and carries seven short test-tubes, a rubber forceps, with a rubber match-box in a place that is to be used in taking the specific gravity. The urinometer, in its paper case and glass for holding the urine, with the alcohol lamp, are in the bottom of the section. The case also contains a clamp for holding a test-tube when the urine is boiled. In the top section is a compartment for a pipette graduated in tenths of a cubic centimetre, a large brush for cleaning the test-tubes, and a small brush for cleaning the pipette when necessary. In the top of the case are the following directions for use printed on a card:

Test for Albumin.—Fill a test-tube to the depth of about half an inch with the test-liquid (five parts of a saturated solution of magnesium sulphate and one part of pure nitric acid). Carefully introduce, with the pipette, about an equal bulk of urine, so that the urine will float on the test-liquid. If albumin is present, a white zone will appear between the two liquids. If the white zone should appear, control the test in the following way: Fill a test-tube nearly full of urine; add one or two drops of acetic acid (five per cent. solution of chemically pure acid); boil the top of the urine.

If albumin is present, the top of the urine will become cloudy (Roberts).

Test for Sugar.—Introduce into the test-tube, with the pipette, 0.5 c. c. of the solution of cupric sulphate (31.5 grains of pure cupric sulphate in an ounce of distilled water with one drop of sulphuric acid); then 0.5 c. c. of water; then 0.5 c. c. of the solution of alkaline tartrates (160 grains of Rochelle salt and 44 grains of caustic soda in an ounce of distilled water); finally, 0.5 c. c. of water, and shake the mixture without applying the finger to the mouth of the test-tube. Boil the mixture and allow it to cool slightly; then add 0.5 c. c. of urine, boil and allow the mixture to cool. If sugar is present, there will be a reddish or yellowish precipitate.
sugar is present, the mixture will remain clear, and there will be no marked change in color (Fehling's test, modified by Squibb).

The apparatus is made by Messrs. Geo. Tiemann & Co., 107 Park Row, New York city, and is filled by Dr. Edward R. Squibb, Brooklyn, New York, who supplies the urinometer carefully tested, thus securing perfectly reliable reagents. * * * * The time occupied in making an examination and cleaning need not be more than ten or fifteen minutes.

AUSTIN FLINT, M. D.
(New York Medical Journal, July 16, 1892.)

Cold Water and Ice in Typhoid Fever.
—More than twenty years ago I was called in haste to one of my patients, who, on a previous visit, was doing well, and found her pale and prostrate from an enormous hemorrhage from the bowels. A bladder filled with ice and water was at once placed over the right ileocoæal region; the discharge soon ceased and she went on to recovery. "She might have gotten well without it?" That is, perhaps, true; but it shows that the cold, so much dreaded, is not objectionable. Two years since I was called to a similar case by a friend. A young married woman had an exhaustive hemorrhage. Bladders of ice and water were applied. The pale, prostrate woman, worn down by her two weeks' illness and the hemorrhage, was not chilled but comfortable under its use. I am not ignorant of the common belief that this crisis, as it is called, is a relief in some cases; but that there is no danger in the use of cold over the inflamed area is an important fact, and was well shown here, the patient being comfortable under its use and recovering speedily. For many years, whenever in this fever, soreness was manifested in the right iliac region, I have had ice applied there to allay irritation and avert hemorrhage; and, doubtless, with success in some cases, as none have since occurred where the ice and ice-water were freely applied over the tender abdomen.

In 1879 four adults of one family had typhoid fever; three suffered from much bronchial affection, with a tenacious, slightly bloody expectoration, with a sense of heat and oppression. Cloths dipped in ice-water were freely applied over the front of the chest. The cold was agreeable, relieved the unpleasant sense of heat, and all recovered. Whenever, in this disease, the fever is high, my practice has been to sponge the body and limbs with cold water, and to give plenty of cold water as drink. The poultice is simply disgusting, oppressive, and useless.

HIRAM CORSON, M. D.
(Journal of Balneology, May, 1892.)

Book Notices.


The third edition of Dr. Cathell's comprehensive essay came into the hands of the writer in the autumn of 1883, and was then studied carefully, greatly to his profit, both from a professional and financial standpoint. Since that time it has been increased in size from 208 to 343 pages, and the additions have added materially to its merits, so that it is now even more interesting than when first issued. In these days when active competition is so liable to engender animosities and professional jealousies, no "code" could have a more salutary influence, and no scientific achievement thus far adduced is half as well qualified to promote harmony in our ranks as the plain and kindly suggestions of our author. The last edition has been re-read with unflagging interest.
SLEEP, INSOMNIA AND HYPNOTICS. By GERMAIN SEE. Translated by E. P. HURD, M.D., Member of the Massachusetts Medical Society, etc. Cloth, 12mo., 112 pp. DETROIT, MICHIGAN: GEORGE S. DAVIS. 1892. (Price, paper cover, 25 cents).

This is a timely and well written book on a subject of much practical interest. "The Philosophy of Sleep" is well considered and fairly presented. The causes of insomnia, psychical and physical, are discussed in their relations to the several abnormal conditions with which insomnia is usually associated. The methods of treatment are clearly laid down, and old and new remedies suggested in a manner calculated to aid the medical adviser. In the chapter devoted to hypnotics, the new analgesics, with the indications and doses of each are duly considered, and the chapter closes with useful hints on "remedial measures not medicinal."

Altogether it is a very readable book, which though, perhaps, presenting nothing altogether new or original, gathers up the various threads of the subject, under appropriate headings, and presents the opinions of prominent writers, together with the author's practical experience, in a useful and commendable manner.

The book closes with "a caution against the careless employment of hypnotics," and an exhortation to use them only after the failure of all available hygienic resources.


This book is one of the "Physician's Leisure Library" series, for which the profession is indebted to the enterprise of GEORGE S. DAVIS, publisher, of Detroit. It is the product of wide research and a good deal of ingenuity in arranging the material presented by the author in support of his thesis. Considering the important part played by the nervous system in the general economy of the organism, it is sure to be more or less implicated, either as cause or effect, and its functions disturbed in so serious a disease as consumption. The author evidently believes that the evidence he furnishes as to the causation of phthisis is sufficient; but it is doubtful if such a conclusion will be accepted by his readers.

It is stated as a truism, that "no organ can preserve its integrity when its supply of nerve is disordered;" or in other words, "degeneration of a nerve implies degeneration of the organ which it supplies with sensation and motion." In order to prove this relation between the pneumogastric nerves and the lungs, tabulated histories of numerous cases are presented, in which the disease during life and the post-mortem appearances of the lungs and of the vagi are placed in separate columns, to each of which the name of the observer is appended. A wide range of ailments is here presented, and the changes in the lungs represent nearly all forms of pulmonary disease. The conditions of the vagi are chiefly represented by the terms "degenerated," "atrophied," "compressed," "stretched," "affected with neuritis," etc. No other morbid condition except that of the vagi is reported. But how is it to be known that the degeneration, compression, atrophy, or other change in the vagi is the sole cause of the lung affection? Who knows how many other modifying conditions affecting the aération, innervation, circulation and nutrition of the lungs may have borne a part in inducing the lung disease shown at the post-mortem? Surely this kind of limited evidence cannot be regarded as satisfactory in a question of so much interest and importance. It is not without some surprise, therefore, that we find our author regarding these tabulated histories as "showing that all forms and phases of pulmonary disease are constantly called forth through the instrumentality of vagus degeneration."

The statement that "alcoholism and phthisis are not mere coincidences, but
that they have a relationship so intimate that one may be converted into the other," seems too sweeping and rests on equally inconclusive evidence.

One important consideration appears to have been overlooked by the author. It is not enough to show that phthisis is associated with a certain number of cases of insanity, or epilepsy, or alcoholism, and to base conclusions upon this limited evidence to the exclusion of thousands of cases of simple phthisis where no such association exists. In order to prove his thesis, it would be necessary for the author to include the latter class as well as the former, and to exhibit the relative numbers of each. This might be difficult or impossible; but in the absence of such a complete showing, he ought not to expect conclusions based on such limited evidence to be accepted as final.

A point of some importance, since it is presented more than once, is to be found in the statement, that "section of the vagi in animals is followed by inflammatory changes in the lungs," and again, that "pneumonia and even phthisis may be produced by section and irritation of the vagi without division." This calls for a brief comment.

It appears (Dr. Burdon—Sanderson, "Handbook for the Phys. Lab.," p. 318) that, as a result of section of the vagi, the air-passages are congested; the lungs contain but little air, and "the airless parts are soaked with a brownish-red serous liquid, and are here and there choked with a grayish-white material, which on microscopic examination is found to be young cells—pus corpuscles." It further appears, that similar effects may be produced, while the vagi are intact, by injecting mucus from the pharynx into the air-passages,—a fact which shows that the lung affection in question is not dependent upon section of the vagi alone.

The effect following the use of the tracheal tube of Dr. Arnspurger, alluded to in a subsequent chapter, does not alter the situation at all, because it is not foreign bodies such as particles of food or dust alone which it is necessary to exclude; and the pushing down of a tube into the trachea is a very likely means of conveying "mucus from the pharynx" to the vicinity of the lesser air-tubes, whence it may be readily drawn into the air-cells by inspiration. From this it will be evident that the author's argument, based upon the effects of section of the vagi, has not the value which at first sight appears.

Dr. Mays quotes Jens Sjou to the effect that micro-organisms are found in the alveoli and pleural exudations following section of the vagi, and that these bacteria when injected into the lungs of other animals "always generated a typical vagus pneumonia." Arguing from these premises, he says "it is quite positively established that catarrhal pneumonia, and even phthisis, may be produced by section of the vagi in animals" (p. 92). This is a most important conclusion, if true; but it requires further evidence than is here given to support it, if for no other reason, in view of the speedy death of animals after section of the vagi. Thus "rabbits in which both vagi have been divided commonly die before the end of the first day. Dogs live longer, often two or three days," (Ib.)—a time long enough to produce the symptoms of catarrhal inflammation mentioned above, but not long enough to produce such a process as that of phthisis. Nor is there any valid evidence that vagi irritation continued over a lengthy period produces phthisis, except that of the tabulated changes found in the vagi, which as already stated, may be only one factor, or only a coincident factor, or even only an effect of the general mal-nutrition characteristic of phthisis. Besides, any one only slightly acquainted with microscopic work is well aware, that in such examinations of nerve-cells and nerve-tissues, there are numerous sources of fallacy. Post-mortem changes, the effects of reagents in preserving and staining such structures, often lead to erroneous conclusions even in the hands of practiced observers.
Dr. M. says: "Probably the most conclusive proof that pulmonary consumption is a nervous disease is found in diabetes mellitus" (p. 100). What proof does he offer of this? I am unable to find any. His argument may be stated in the following propositions: First: Diabetes is in most cases caused by disease of the medulla oblongata. Second: Phthisis is also a disease in which the vagi and medulla are essentially involved. Therefore, it is proved conclusively that phthisis is a nervous disease. Unfortunately, however, the second proposition not being proven, being in fact the very one in doubt, the conclusion is of no value. It is an attempt to prove the second proposition by means of the first. Indeed, the alleged "conclusive proof" dwindles down in the author's own mind, to the statement that "on a priori grounds we may therefore reasonably expect an intimate association of these two diseases." This descent from "conclusive proof" to a "reasonable expectation" is significant enough. Which does he expect his readers to accept?

Dr. M. admits the influence of heredity, "which does not necessarily mean the transmission of the disease direct," but rather "a greater susceptibility to the disea" than is found in others.

He admits, too, the presence of the bacillus, but makes a marked distinction between "the natural genesis of a disease" such as phthisis, "which originates through a long line and multiplicity of causes independent of contagion," and the production of the disease by inoculation; the latter, he says, "finds its perfect analogue in the practice of grafting in the vegetable world" (p. 161).

The facts and arguments in support of the non-contagiousness of phthisis are of so cogent a character as to merit the serious consideration of those who hold the opposite view.

In regard to treatment there is nothing new presented, beyond the necessity for rest rather than exercise in weak patients, to whom the latter brings fatigue and exhaustion rather than strength and appetite.

The book ought to be widely read and carefully considered; only a few of its salient points have here been touched on. P.

**Publications Received.**


Diabetes Mellitus. By J. O. Jenkins, M. D., of Louisville, Ky. Reprint, 1892.


Pelvic Inflammation: A Pathological Study. By William Warren Potter, M.D., of Buffalo, N.Y. Reprint, 1892.


**Miscellany.**

The American Association of Obstetricians and Gynecologists will hold its fifth annual meeting at the Lindell Hotel, St. Louis, Tuesday, Wednesday, and Thursday, September 20th, 21st, and 22nd, 1892.

The Seventeenth Annual Meeting of the American Gynecological Society will be held at Brooklyn, N. Y., on September 20th, 21st, and 22d, 1892. Physicians are cordially invited to be present.

The American Electro-Therapeutic Association will hold its annual meeting at the Academy of Medicine, 17 West 43d Street, New York, October 4th, 5th, and 6th. Two interesting discussions have been arranged; one upon the value of different currents in ectopic gestation, another upon cataphoresis. Dr. Bliley will give a demonstration of the uses of the phonograph and micro-phonograph, and in addition there will be a full exhibition of electrical apparatus, while the social part of the program has not been forgotten.

Tuberculosis from Bed-bugs.—A report comes to us from Germany to the effect that tuberculosis had been conveyed from one person to another through the medium of bed-bugs. The evidence is apparently quite conclusive, as cultures were prepared from the bugs with which guinea-pigs were inoculated, and the animals died with all the symptoms and pathological changes characteristic of the disease.
Spasmodic Asthma.—This troublesome complaint may frequently be relieved in a few minutes by swallowing mustard seeds whole. Ground seeds will not prove effective, and care should be exercised to see that the seed used is fresh and active. It is quite a popular method of treatment among the laity in certain sections of the country.

Cholera Disinfectant.—A cablegram from Vienna announces that the Chief Sanitary Board of Austria has promulgated an order recommending lysol to be placed upon the official list of disinfectants. It is used in the form of a one per cent. solution for all purposes, such as washing the hands, linen, scrubbing floors and ceilings, disinfecting excreta, and is said to be an efficient and safe antiseptic—much superior to carbolic acid. It is further claimed that the comma bacillus is unable to resist the destructive action of lysol.

Artificial Respiration (Laborde).—Dr. Laborde of the Paris Faculty of Medicine is reported to have discovered a new method of practicing artificial respiration, which may be used in cases of suspended animation, and its value is enhanced by the extreme simplicity and facility of application. It consists in drawing the tongue well out of the patient’s mouth, and then imparting to that organ energetic and rhythmic backward and forward movements. This manœuvre has the effect of stimulating the respiratory reflex, and the idea was suggested to Dr. Laborde by the success which attended this method in the laboratory when experimenting upon animals.

American Public Health Association.—The meeting of the Association will be held this year on November 29, 30, and December 1, 2, in the city of Mexico, and will afford an excellent opportunity for its members to become acquainted with the attractions of that country. A preliminary circular has been issued, giving information in regard to reduced railway rates from different points in the United States, and the requirements for membership, and in the absence of cholera, no doubt, many physicians and their families will take advantage of the season of the year to make the trip. All members of the American Medical Association may become members of the Association by filing their application with the secretary and payment of the fee of five dollars, and this entitles them to the reduced rates and courtesies of the annual meeting. Further information and blank applications for membership can be obtained by addressing the Secretary, Dr. Irving A. Watson, Concord, New Hampshire.

Death in Grove’s Anodyne.—A druggist recently asked the writer what ingredients were used in the manufacture of a proprietary product known as “Grove’s Anodyne,” as he said a death had occurred from its use in the case of a small child, and he was afraid to sell it. It seems that the parents, instead of employing a physician, sought the anodyne at the druggist’s, and, after administering several doses and noticing that the child became unusually drowsy and was threatened with spasms, they called in a doctor in great haste. The physician said that undoubtedly the medicine had produced the narcotic effects observed, and, being unable to prolong its life, he kindly (?) gave a certificate of death from some disease. Later, the father of the child thought he had not done right, and asked the druggist if he ought not to do something to prevent other children from being murdered, but he was dissuaded from this course by the apothecary, who said nothing could be done now that the child was dead and buried, and that he would try and get rid of his stock of this preparation and would not keep it in the future; and that ended the matter, thus showing that human life is held extremely cheap in this section of the country.

The Care of the Home.—Suppose that a location has been selected and a house built, the next thing is to see that all is kept in a sanitary condition. Some families would convert the most scientifically constructed house into a den of filth. Cleanliness should be the watchword of every family. So far as sanitary needs are concerned, all the directions under this head might be condensed into a few words, “Keep everything clean.” Decaying vegetables must not be left in the cellar. Fresh air is to be admitted daily into every part of the house, from cellar to garret. Bed rooms especially are to be thoroughly aired. Refuse bits of food are not to be left to mold on the pantry shelf, nor should they be thrown out into the back yard. Better burn them. Offal from the preparation of food is not to be allowed to remain in the house, nor is it to be thrown out. It must be placed in the swill-barrel or burned. Dirty dishes are not to go unwashed, nor filthy floors unscrubbed, nor soiled linen unlaundred. Fresh meat, milk and other foods are not to be allowed to remain uncovered in living rooms or bed-rooms. The flour-box is to be kept free, not only from the ravages of rats and mice, but from the dust of the room. The drain from the ice-box should not be allowed to pass into a cesspool, sewer- or soil-pipe. Indeed, there should be no kind of connection between the ice-box, or other place in which food is kept, and any receptacle of waste matter. The floors and seats of water-closets and earth closets are to be kept clean. Drains and cesspools must be attended to. The supply of drinking water must be kept free from every contamination. Continued health is the reward for the care bestowed upon these details. The labor brings a rich return.—Lomb Prize Essay.
The American Therapist.

A MONTHLY RECORD OF MODERN THERAPEUTICS,
WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

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Original Articles.

MALARIAL CACHEXIA AND ITS TREATMENT.

By Joseph Sharp, M.D.,
Professor of Therapeutics and Clinical Medicine in the Kansas City Medical College.

[Read at the Meeting of the Kansas City District Medical Society, September 17th, 1891.]

Every physician who has practiced in a malarial district any length of time has found that it is not the ordinary but the extraordinary manifestations of malarial poison on the human organism that have been brought to his attention. The people of these regions usually know how to break up intermittenst, and even treat remittents of typical course with success, and only find it necessary to consult the physician when there is something unusual. Malarial cachexia with its many symptoms is among the most frequent.

It is equally certain that the practitioner does not find much concerning these unusual types of this class of diseases, even such elaborate works as Pepper’s System of Medicine and Wood’s Reference Hand-Book of Medical Sciences dismiss these phases of the action of malarial poison with a comparatively meagre notice. Wherever we have the continuous or frequently repeated action of a poison on the organism, whether that poison be inorganic as lead or mercury, or an infection as that of septicemia, syphilis, malaria, or tuberculosis, we find a gradual destruction of the blood and tissue-elements which greatly decreases the resistance of the body to the forces of its environment. This condition we, for convenience, call cachexia. The definition of this term by recent lexicographers certainly does not include just what the practitioner understands it to mean. Billing’s National Medical Dictionary says: “Cachexia, a depraved or defective condition of nutrition, due to constitutional causes, such as cancer, syphilis, etc.”; certainly a defective definition, in so far as it does not include any other idea than the disturbance of nutrition.

That of Dunglison, a Dictionary of Medical Science, new edition, 1873, is slightly better. “Cachexia—a condition in which the system of nutrition is evidently depraved. A bad habit of body, chiefly the result of scrobutic, cancerous, tubercular or venereal diseases when in their advanced stages.”

Copland (Dictionary of Practical Medicine, new edition, 1860, vol. I., pp. 326,) gives a much better definition. “Cachexia—kakos, ill or bad, and ezis, a habit—a bad habit of body.” Def.: “Depravity of the constitution without fever, affecting more or less the solids, the circulating fluids and the secretions.” Possibly this definition should go one step farther and say: this depravity of constitution is due to the continuous or frequently repeated action of a poison.

I will not here enter into the discussion, What is Malaria? but only consider it as the name for an entity which causes a typical reaction in the organism just as certainly as do any of the mineral poisons. There are many different forms of cachexia, as syphilitic, dropsical, scorfular, malarial, and those due to mineral poisons, such as lead and mercury; all of these forms have many symptoms in common. Among these may be named emaciation, loss of strength, loss of appetite, more or less icterus, shortness of breath,
on exertion, edema, scanty, high-colored urine of high specific gravity, or abundant light-colored urine of low specific gravity, indigestion, hæmïc murmurs, and a tendency to syncope. Yet I think in nearly every form of cachexia there is something characteristic.

Probably the best way to get at the group of symptoms, and the underlying pathological conditions which characterize malarial cachexia, will be to review the action of malarial poison on the organism. It seems to me that the effect of the taking in of a large dose of malarial poison to a person unaccustomed to its influence, or in quantities much greater than usual to a person habituated to it, is to produce ague or remittent fever. It certainly has been my observation that newcomers to a malarial district at the height of the season usually have either intermittent or remittent fever. Again and again I have seen persons infected in cornfields at the time of cutting, have the acute forms of intermittent and remittent fever notwithstanding that many of them had been more or less in contact with the poison for years. In this class of persons the quantity of poison absorbed has been suddenly greatly increased, and an acute reaction of the organism is the result.

This acute poisoning is marked by the rapid destruction of the tissue-elements, especially the red corpuscles of the blood, with more or less hæmïc icterus, and increased elimination of effete material from the tissue destruction. I cannot but think that this intense excitement of the organism results in the destruction of the poison, and if the organism was only dealing with a single dose, it would destroy and eliminate it. A dose short of that necessary to produce these acute phenomena is destroyed and eliminated, with more or less destruction of tissue. In certain cases, however, there seems to be a storage in the system of this poison, much in the same way that mineral poisons lie dormant in the tissues for considerable periods of time.

The resistance of individuals to this poi-
irregular heart action, general debility, indigestion, coated, furred, or dry red tongue, changed color of the skin, varying from a deep, pumpkin-yellow to a perfectly blanched condition, enlarged spleen and liver, and frequently a torpid condition of the bowels, with constipation or diarrhea, with greatly impaired stomacchic digestion. This condition is well pictured in Fayrer's "Climate and Fevers of India," as below quoted: "Puffy, blanched face, pearly conjunctivæ and lips, short and hurried respiration, weak cardiac action, hæmïc murmurs and feeble pulse, a tumid abdomen, not unfrequently dry, edematous lungs and areolar tissue generally, wasted muscles and a bronzed, discolored skin, with large and probably hardened spleen, * * * accompanied by an almost equally marked mental and physical torpor."

Wherein then is this cachexia different from other cachexias? In, it seems to me, 
First: That the nervous disturbance, whether pain, mental disturbance, or general lassitude, more frequently has a markedly regular periodicity.
Second: That the heart and circulating organs are not so much weakened, excepting where such debility is due to a diseased condition of the organs of elimination.
Third: That the changes in liver and spleen are different from those of other cachexiae, and are characteristic.
Fourth: That the icterus of the skin, hæmïc in origin, is in most cases characteristic, from its deep, pumpkin-yellow color, especially when there has not been loss of blood-serum through the kidneys, or exhausting diarrhea. All the cases of this kind that have come under my observation have been in the temperate zone, and I do not recall a death excepting where there was a diseased condition of the kidneys.

In the treatment of this condition, the fact that the organism has been saturated with a poison until its reserve force and tissue-elements are totally used up, should never be forgotten. As well as, that the nervous system is exhausted until it no longer resents the action of the poison, and that the nervous tissue may have suffered permanent injury as the result of this constant impact. That the muscular system and the viscera are impoverished, and may be undergoing degeneration. That there may be secondary poisoning growing out of un-eliminated effete material, and that these materials may have already produced lesions in the kidneys or bowels that allow a constant drainage of nutritious material from the blood-stream.

The first indication, then, in treatment is to remove the patient from the influence of the poison by a change of residence to a non-malarial climate; and this applies just as well in dealing with malaria, a biological poison, as with lead, a mineral poison. If it is impossible for the patient to change climate, the next best thing is to be housed on high ground over which the air-currents and fog of the low ground do not drift; sleep upstairs, stay in-doors at night, and be well protected by warm woollen clothing. The exhausted nervous system should be protected; rest is the thing needful. Food for these centres in the form of well-done bacon or ham, butter, cream, or cod-liver oil should not be neglected.

It is necessary, to be sure, that food is digested, absorbed and properly distributed to the tissues, and to this end pepsin and other digestants may fulfil a temporary indication; and the mineral acids, as nitric, hydrochloric, or nitro-muriatic, may be of the greatest benefit. It may be equally necessary to increase the activity and tone of the circulation temporarily by using alcoholic stimulants, ammonia or digitalis and its congeners. In certain cases elimination is almost at a stand-still, and remedies must be given to promote it. Early in my professional career, my attention was directed by my father to a class of cases with deep icterus, very scanty, high-colored urine and cherry-red tongues, in which an alkaline diuretic, as potassium acetate, acted like a charm. It
is well to attend to these matters of digestion, absorption and distribution of nutritive material, and the elimination of effete products, before hoping to fulfill the chief indication, the restoration of the tissues. Remedies that promote tissue-making, especially arsenic, iron and cod-liver oil, and easily assimilated fats, as well as the great nerve-tonic strychnine, are the remedies greatly to be depended upon. In the administration of iron preparations it should be borne in mind that while a very minute portion serves to give the impulse to blood-making, large doses do not necessarily insure or increase this action, and may serve on the other hand to overwork already heavily burdened organs of elimination.

To deal with the results from changes in the spleen and liver, iodine, iodides and bromides are indicated. If there is albumin, urea, or exhausting diarrheas, the loss must be stayed if possible. Although my professional life extends over a period of eighteen years, all in malarial districts, I do not give these cases cinchona preparations in large doses; the dosage in twenty-four hours is more frequently six to eight grains than from twenty to forty grains, as is my practice in acute malarial fevers. I certainly have seen no good in heavy dosage with quinine, and have, many times, felt that harm had resulted. These cases call for painstaking investigation, careful management and not heavy drugging.

1027 Cherry Street, Kansas City, Mo.

THERAPEUTICS OF MERCURY BINIODIDE.

By A. H. Thomas, M. D.

The biniodide of mercury is of great benefit in the diarrhea of children. It seems to be of most value in those cases that have been of several days' duration, probably kept up by a disordered condition of the liver. The biniodide, $\frac{1}{100}$ of a grain hourly, will in many cases change the character and lessen the number of stools in a few hours. If the stools are improved in color, but still frequent, a change to the arsenite of copper will usually effect a cure. These two drugs have been nearly all the medication I have used during the past season in these troubles, and I am thoroughly convinced of their efficacy.

In the treatment of bowel troubles of adults, the biniodide holds an important place. The "bilious" diarrhea of several days' standing will, in a majority of cases, yield to $\frac{1}{100}$ grain every three hours in one-half glass of hot water.

In dysentery we have good results from its use in the same way, although occasionally we are in need of opiates in the beginning.

In typhoid fever it seems to be of great benefit, given every two or three hours, in hot or cold water, as patient may seem inclined. It acts as an intestinal antiseptic, modifying the headache, diarrhea and abdominal pains, as well as reducing temperature. It is one of the few drugs that is useful in this tedious fever.

In the constipation of infants from a few weeks to a few months old, where the stools are dry and light colored, I have found it of considerable benefit, its action being curative in many cases. My usual mode of administration consists in giving a solution of $\frac{1}{100}$ grain in four or five teaspoonfuls of cold water, one teaspoonful being given every hour, which will usually produce a loose condition of the bowels. In two or three days this is repeated if found necessary. Arseniate of strychnine will be indicated where there is a lack of peristaltic action.

My limited use of the biniodide in small doses leads me to think that it is of great value in a class of cases where heretofore it has not been used to any extent. For convenience in prescribing I use tablet triturates ($\frac{1}{100}$ grain), as they are readily soluble and seem to be permanent.

Hurley, Wis.
NEW MEXICO AS A WINTER REP.
ORT FOR CONSUMPTIVES.

By James H. Wroth, M.D.

Accepting the well-high universal opinion of the profession that climate is the most important factor if not the only remedy for the relief or arrest of pulmonary troubles, more especially those which are strictly of tubercular origin, a word as to a part of the country heretofore little known, and with whose advantages even the profession are but slightly acquainted, may not be out of place. This is the time when sufferers from these diseases are looking about for a place of resort which will enable them to escape the moisture, cold, and general uncomfortableness of an eastern or northern climate; a place in which sun-light and fresh air enter largely into the make-up of their daily life.

The majority of the profession agree that a dry climate with a varying amount of elevation is best suited for pulmonary troubles. That portion of the United States coming under these requirements is entirely comprised west of the 100th meridian, and ranges in an irregular oval from the Mexican boundary north to Cheyenne and westward past the Colorado river of the west to coast range. Within this section can be found all desired degrees of elevation and temperature, but with a remarkably steady percentage of dryness. The portion, however, which presents probably the most equable climate is that of the valley of the Rio Grande, from the Mexican frontier, running north to a point within one hundred and fifty miles of the Colorado State line. Confined within the water-shed of that river lies a section of country which presents remarkable peculiarities as to climate.

Considering it first as to the precipitation, the line of ten inches of annual rainfall, the lowest within the Territory and well-nigh the lowest in the entire plateau, bends sharply to the north on striking the Rio Grande, and runs as a narrow belt—never more than twenty miles wide, confined to that river, to Embudo, a distance of three hundred miles. So marked is this belt that a journey of twenty to thirty miles on either side will land one in the fifteen annual-inch belt. In winter, that part of the year most affected by health seekers, the seasonal rain-fall from Albuquerque south is but three inches, and from there north to Colorado, but four inches. In striking contrast to eastern climates, our heaviest rain-fall is during the summer months, at the time when our temperature is highest. As to the temperature, the mean for the year for the entire valley lies within the range of the iso-thermal lines 50° to 55°; the average being 35° for January, that for July 75°, with the usual changes from night to day peculiar to elevations where the air heats up quickly with the sun, and as quickly parts with its heat when the source disappears. So marked is this here that a difference of 20° is apparent between shade and sunshine in summer.

Within this valley, one of the oldest settled portions of the United States, can be found all ages of civilization, from the ancient Pueblo to the modern American; but viewed simply as a health resort it is the place where one can live out-doors the entire year; where within the last ten years there has been hardly one day in the entire year in which the sun has not shone; where we are protected on each side by mountain ranges which act as a barrier against the moisture; where snow is practically unknown. During the last ten years of my residence here I have seen snow in the valley but twice in quantity sufficient to whiten the ground, and that lasting but a day; where land lies ready to be taken up and utilized, and where, unlike the eastern country, irrigation places at one's disposal the success or failure of its crops. No better section is now available for those of slender means desiring to make a home in a new country, or forced to seek health and fortune simultaneously.
And for those whose means permit, there exist cities, well sewered, equipped with all modern improvements, with good society, and all the means devised to make life enjoyable.

One word as to how to come and when to come. When to come: Any time and all times.

The caution as to how to come, is intended for those who have been afflicted in the East, and are unacquainted with the topography of the territory when entering the valley. The crossing of two high mountain ranges is necessary, and to expect an invalid to make the journey from Kansas City—at an elevation of about 800 feet—to the centre of the territory within thirty-six hours, as can now be done, the immediate crossing of these two ranges at an elevation of over 8,000 feet is preposterous. Such persons should make the trip in short, easy, slow stages, because the increase of pulmonary hemorrhages while en route—since the accession of the railroad, has been marked; and the explanation is simple. In former days when the only means of communication was by ox-teams or wagons over the old Santa Fe trail, consumptives ascended the ranges slowly, gradually accustoming themselves to the rarefied air, and successfully made the journey. The passenger of to-day is hurled within eighteen hours into an atmosphere to which his lungs are not accustomed. The intra-thoracic pressure is increased from the lessening of external pressure, and capillary hemorrhages, similar to those experienced by balloonists, sometimes occur, and from the nature of the lesions is more severe, with too often, in advanced cases, a fatal result. Hence slow journeys, resting for instance at Great Bend, Kansas, and at La Junta, Colorado, stopping a day or more at each place, or more frequent stops at various towns en route, thus making the entire trip in from four to six days, will permit the tubercular patient to pass the range without fear of danger.

As regards the manner of living, a word should be added. Those coming here for the purpose of health should remember that the daily range of temperature between night and day is extreme. This peculiarity is common to all elevated countries. They should provide themselves with warm flannels, and during the period of acclimatization they must avoid prolonged exercise to exhaustion, also night air, and yet in avoiding these, fall not into the more serious error of staying too much in-doors. Loafing around hotel lobbies and exchanging experiences with their fellow sufferers living in the hotel, has been the death of many who otherwise might have recovered.

The best advice to give to the consumptive who contemplates a trip to a high altitude for health is, to live in the open air, dress warmly, and busy himself with some occupation. This living in the open air will vary with the case from living a cowboy life to moderate walks through the towns. Horseback exercise is available at all times, and there are but few who cannot take it. Dressing warmly is called for on account of the great evaporation (reaching an average at Albuquerque of eighty inches) the perspiration being carried away as soon as formed so imperceptibly as to create the impression among strangers that it does not exist. Light occupation is needed to keep one's thoughts from dwelling too long upon symptoms and disease.

Albuquerque, New Mexico.

PERISCOPE OF THERAPEUTICS.

By J. Lindsay Porteous, M.D., F.R.C.S. Ed., etc.

Auleuronat.

Auleuronat a vegetable albumen has been introduced by Hundhausen as a food for the diabetic. It is prepared from wheat, is tasteless and without odor, of a yellow color, and in the form of a dry powder. It contains never more than 7 per cent. of carbo-hydrates, and never less than 80 per cent. of nitrogenous matter; used in syrups,
sauces, etc. (British Medical Journal, 11th June, 1892.)

**Salophen.**

Derived from salicylic acid; used where salol has been found useful, but has produced poisonous effects. Dr. W. Siebel believes after numerous experiments, that it possesses all the favorable qualities of salol and none of its unfavorable ones. It is odorless and tasteless, easily soluble in alkalies, alcohol and ether. We have used it in cases where we wished a rapid throwing-off of salicylic acid, as an antiseptic, with good results. In combination with phenacetin it often relieves headache, especially of a rheumatic nature.

**Menthol.**

Menthol in oil solution of 10 to 15 per cent., according to Drs. Cholewa and Bruner, has promptly relieved inflammatory narrowing of the auditory canal; and serious cases of suppuration with mastoid involvement, that threatened to require operation, have improved immensely by its use. It also cuts short any commencing furuncles, and even if the disease seemed checked earlier, if continued for a week, prevented relapses.

**Solanine.**

Desnos has great belief in this drug in many gastric disorders, as gastralgia, dyspepsia with painful manifestations, alcoholic gastritis, with or without dilatation; also in a case of gastric ulcer and one of cancer of pylorus with vomiting, great relief was obtained by administration of ¾ gr. in pill-form, half an hour before meals—not more than gr. ½ to be given in one day.

**Antipyrine.**

Our old friend antipyrine has appeared in a new rôle in the laboratory of M. Strauss, under the guidance of M. Vianna, Bahia (Brazil). He has found that it exerts a marked bactericidal power upon Loeffler’s bacillus, and that it destroys the toxic properties of the secretions of that microbe. The proportion of 2½ per cent. prevents development of the bacillus of diphtheria, and that the addition of antipyrine to the tubes containing Loeffler’s bacilli in full growth killed them in less than forty-eight hours. A 5 per cent. solution kills them in twenty-four hours. M. Vianna believes that antipyrine exerts an antidotal effect upon the diphtheritic poison. It does not completely destroy the poison, but modifies its toxic properties in a remarkable manner. Unlike any other antiseptic it can be administered in large doses, either internally or by subcutaneous injection.

**Red Bilberry (Vaccinium Vitis Ideae).**

Red Bilberry is used largely in Russia as a cure for rheumatism. Dr. T. T. Hermann used it in the form of a decoction, or infusion—one part of the fresh herb, with roots, to eight parts of the colature (from two to three tumblerfuls being given daily) in an obstinate case of chronic rheumatism with most striking results.

S. P. Smirnoff, of Cronstadt, tried it in nine cases which had resisted treatment by salicylates iodides, etc. Six of these cases were acute and three chronic. Seven were cured; the other two were not. He used a decoction prepared from one or two ounces of fresh stems, leaves and roots in six ounces of water. This quantity to be given during twenty-four hours.

**Trional and Tetronal.**

M. A. Ramoni, after experimenting on fifty-one insane men in the Roman Lunatic Asylum comes to the following conclusions:

1. They are superior to sulphonal and chloral. 2. The patient awakes more easily; there are no unpleasant after-effects, such as nausea, vomiting, loss of appetite, etc. 3. Action of the drug is rapid (thirty to sixty minutes). 4. Trional is superior to tetronal, the sleep produced by former being sounder and more lasting. 5. The sleep (after either of the drugs) lasts on the average six to eight hours, and is not disturbed by dreams.

Yonkers, N. Y.
Clinical Record.

TYPHO-MALARIAL FEVER.

To premise, I will state that we rarely, in my opinion, have here true typhoid fever, and further, that I differ from the opinion largely prevailing that the type of fever called typho-malarial does not exist. There is, in my opinion, and it seems to me that this opinion must exist beyond question in the minds, at least of physicians in the West, who have much practice in rural districts—a fever, not malarial in the sense that it is controllable by quinine, and yet not presenting the characteristics of typhoid fever. Whether this fever is called typhoid malarial or not is immaterial; probably some better name might have been chosen. It is not a compound disease as the name would indicate, but a distinct type of fever resembling a malarial fever but absolutely uninfluenced by quinine, except as an antifebrifuge, and in its duration at times resembling a typhoid, but without the same percentage of mortality, and withal a very serious and at some seasons a quite fatal fever.

Now as to the arsenite of copper in the conditions met here. From my use of it during a limited time I am not positive as to its value but I am satisfied of good results from its use, and have determined on its continuous use until my conclusions are confirmed or changed. The brilliant results anticipated from my reading, it has not been my good fortune to witness. I will record two or three of the important cases in which its use seemed to me of value, although I did not depend entirely on it for results.

Case I, C. L., æt. 12 years. (First Visit.)
Aug. 3, 5 P.M. P. 120 T. 104° F.
" 4, 9 A.M. " 101 111°
" 8 P.M. " 102 11°
" 5, 10 A.M. " 101 11°
" 9 P.M. " 103 1°
" 10 A.M. " 103 1°
" 12, 30 P.M. " 104 1°
" 6, 6 " " 103 11°
" 9 " " 101 1°
" 5, 9 A.M. " 98 " 99 1°
" 5 P.M. " 80 " 100 1°
" 11, 30 A.M. " 80 " 99 " 1°
" 11, 30 " " 84 " 102 1°
" 5 P.M. " 82 " 103 1°
" 11 A.M. " 72 " 98 1°
Cupric Arsenite (gr. 3/100) every 10 minutes.
Antipyrine gr. x; quinine every 4 hours, gr. v.
Continued arsenite every hour and quinine every 4 hours, and added Tr. gelsemium gtt. x hourly.
Suspended arsenite—other medicine, the same except not to awaken to give gelsemium.
Quinine and gelsemium, as ordered.
Antipyrine gr. x, and bath for 10 minutes.
Resume cu. ars. hourly—other medicines as before.
Bath 15 minutes and Antipyrine gr. x.
Gelsemium gtt. xv hourly, and bath.
Gelsemium gtt. xv, except when sleeping.
Suspended all remedies.
Resumed as before.
Continued to improve.

Case II, Mrs. L. R., æt. 25 years. (First Visit.) (This patient has been complaining for several days.)
Aug. 9, 8 P.M. P. 100 T. 101° F.
" 10, 2 " " 72 " 98 1°
Gave only cupric arsenite (gr. 3/100) every 10 min. for an hour, then hourly.
Continued to improve.

(Had a chill on the 13th, and some fever since.)
Case III, P. M., æt. 14 years. (First Visit.)
Aug. 16, 1, 30 P.M. P. 125 T. 106° F.
" 16, 7, 30 " " 110 " 104 1°
" 16, 10, 30 " " 104 "
" 17, 9 A.M. " 98 1°
" 17, 7 P.M. " 99 "
" 18, 12 M. Bad night. " 104 " 105 1°
" 18, 6 P.M. " " 105 1°
" 19, 9, 30 A.M. " 99 "
" 20, 9 " " 102 11°
" 20, 6 P.M. " " 102 "
" 21, 8, 30 A.M. " 98 1°
" 22, 8, 30 " " 98 1°
Antipyrine gr. x; arsenite every 10 min. for an hour, then hourly.
Antipyrine gr. xv; arsenite every hour, Tr. gelsemium gtt. xv hourly, and quinine gr. x every 4 hours.
Continue medicines throughout the night.
Suspended arsenite and diminished gelsemium to gtt. v, and quinine to gr. v.
Suspended arsenite and diminished gelsemium to gtt. v, and quinine to gr. v.
Antipyrine gr. xx.
Antipyrine gr. xx and resumed arsenite and increased quinine and gelsemium.
Continued arsenite, gelsemium and quinine.
Continued to improve.

Case IV, J. C., æt. 17 years.
Sept. 20, 3 P.M. P. 120 T. 102° F.
" 3 P.M. P. 120 T. 102° F.
" 2, 8 " " 100 " " 98 1°
Quinine gr. v every 4 hours, and morph. sulph. gr. 1/10 once.
Quinine gr. iv every 4 hours, and arsenite 3/100 every 10 min. for an hour, and then hourly.
Continued to improve.

1) Whenever Antipyrine is mentioned but the single dose was given.
I have not presented any cases here to support my assertion as to the existence of a type of fever neither malarial nor typhoid as that was not the purpose of this communication but the thought was called out by your reference to the use of the arsenite in aborting typhoid fever, and the fact here—in rural districts—of its rare appearance, and trusting this imperfect skeleton may be of some value to you. Francis W. Gallagher, M.D.

Saint Mary's, Kansas.

SPORADIC CHOLERA.—REPORT OF A CASE.

On the 5th of September, 1892, I was called to see Joe Haggard, a muscular negro, aged 40, whose former habits were said to be good, and from those in attendance I learned the following history: Six days before, he had been working on the public road during a very hot day, and that evening had eaten heartily of boiled cabbage and bacon for supper. I should mention that the bacon and vegetables consumed by the patient were obtained from a Hamburg steamer that slipped into the port of Savannah and unloaded a portion of her cargo from New York, and at once steamed out to sea; later on, the authorities fearing that the No. 2 hams might be infected, ordered the entire lot destroyed. The case being peculiar, I am particular to note everything. During the night of the 5th, the patient was taken with diarrhea, due, no doubt, to the effects of heat and his work on the road, and also to the habit of drinking water from ditches. A condition resembling cholera morbus ensued, and it was stated that the only remedies used were ginger and soda. On the fourth day, before I saw him, he was taken with violent pains, cramps in the legs, and the discharges from the bowels were covered with black patches; his condition seemed hopeless, and he appeared to be in the last stage of dissolution. On the morning of the 5th, a neighbor sent a messenger, an intelligent colored woman, for me, who described what had passed from the bowels, especially the black patches; she also told me of the cramps in the legs drawing him up, etc. I found the patient apparently in the algide stage of the cholera; he was cold, but conscious, and could protrude his tongue, which was brown and dry. In reply to the question about pain, he would put his hand to his forehead, and seemed to be constantly examining his shrivelled fingers and blue nails, although there was no nausea at the time. The axillary temperature was 96°, the pulse oscillating and weak, and there also appeared twitching of the facial muscles; the abdomen was flattened, no urine was in the bladder, nor had he passed any in twenty-four hours. Hiccough was unintermitting, for which he was given lozenges containing magnesia, charcoal, pepsin and ginger, followed by sodium bicarbonate (C. P.) in water, which in a measure relieved the symptom.

The condition was such that I regarded the patient as beyond recovery, but gave him the following: Phenol salicylate, 15 grains, and oil of eucalyptus 10 drops, to be taken together in about a spoonful of whiskey. Directions were left to repeat the mixture in smaller dosage every two hours, and give in alternation, tincture of camphor and dessert-spoonful doses of whiskey along with egg-nog. The patient was ordered rubbed with dry mustard, hot bricks were put under the bed cover, upon which hot vinegar was to be poured, while turpentine stupes were ordered applied to the abdomen. Reaction occurred with slow recovery.

When first called to this case, I took the precaution to notify a member of the County Sanitary Board, and also placed a copy of my communication in the hands of a city official, expressing the opinion that it was a clear case of sporadic cholera, or perhaps what Russian and German authors call "paralytic cholera." One should be careful to avoid being classed as an alarmist, but I believe it is best to
be cautious in all cases of this kind. A report is current in the neighborhood that a death occurred quite near to the home of the patient described, which was said to be due to eating crabs that had been boiled in a copper kettle. The report of a number of cases in New York about the same time that my patient was under treatment, seems to be one of those peculiar coincidences for which we are unable to account.

In a communication last year, I affirmed my belief in the value of salol and eucalyptol when we have to deal with a poisoned condition of the blood, due to albuminoid compounds from the alimentary canal reaching the circulation. I am now convinced that phenol salicylate is a safe and effective intestinal antiseptic, and in combination with eucalyptol, which is a volatile, antiseptic stimulant, much may be accomplished in ridding the system of effete material. While not claiming it as a specific, the recovery of the foregoing case is phenomenal beyond my comprehension, and I have had an extended experience with the remedy in cholera infantum and cholera morbus, as well as with sodium salicylate in fevers, sufficient to warrant these conclusions.

S. F. DUPON, M. D.
Fort Harrack, Ga.

**LITHIA AND URIC ACID.**

Recent publications on Materia Medica continue to repeat that lithia is a solvent of uric acid in the blood. This appears to be an error. Dr. Haig (Uric Acid; London, 1892, p. 30) says: "In the test-tube lithia is a beautiful solvent for uric acid, but in the body the chemical combination with phosphates not only prevents its action on uric acid, but puts out of use a certain amount of phosphates also," thus actually allowing an increase of uric acid in the blood, by removing one of its natural solvents. This was pointed out by Rose (Chemical Analysis, p. 15) so long ago as 1860; and, if true, is a fact of much importance.

**Current Literature.**

**ICE IN TYPHILITIS.**—This disease, so insidious in its approaches, so often fatal, is one in which ice is very efficient, besides being from the first hour of its application pleasant to the patient, who feels that it is doing saving work. August 14th, 1848, I was called to a friend ill with this disease, and despite "appropriate remedies," under the persistent use of poultices, he died October 1st, though Dr. Isaac Parrish aided me in the treatment. It saddened me greatly when, on examination after death, the parts were found gangrenous; the feces had passed through the side of the bowel down among the gluteal muscles. When, seven years afterward, in 1855, I was called to a boy of 11 years of age, on his back, with legs drawn up and a dull swelling occupying the region of the ileo-cecal valve, the fate of my friend came before me, as did the case of Mrs. A. and the snow. Regarding the swelling, tenderness and pain as evidence of a serious inflammation in a dangerous locality, the ice was at once placed on the affected part, because elsewhere the boy was well. I well knew if the cold would remove the inflammation my patient would recover. Opium was given to allay pain, the ice continually applied, and the next day he was much better; not so sore; not so much pain; the skin where the ice-bag lay, cold almost as the bladder of ice and water; the patient not restless but comfortable under his ice cushion. In a few days he was well. I have often wondered what would have been the result had President Garfield been put on a cushion of ice and water and kept heavily under the use of opium (to allay pain) and nothing more. You say something more? A proper solution of corrosive sublimate injected into the wound a single time, to kill the microbes, and a plaster over the wound to keep them out? Well, perhaps so; but think it would have been rather cold for them to operate there. The ball lodged so near the surface that the ice would pro-
bably have prevented the inflammation and averted suppuration. It is pleasant to have a hobby? Yes, and more useful than to have no thought and blindly follow teachers. Since the success in the boy's case I have resorted to it in every inflammation of the abdominal organs which has presented, and with good results.

Hiram Corson, M.D.
Journal of Balneology, May, 1892.

Cholera—Individual Measures of Prevention.—Means and Mode of Infection.—Since the infectious agent exists in the evacuations both from the stomach and from the bowels, various materials become capable of conveying the infection of this disease—such as clothing soiled with this matter; hands fouled with it; articles of food and drink which have been contaminated with it. It is by means of soiled clothing and personal effects, upon which this agent is preserved in a more or less moist condition, that the infectious principle is usually conveyed long distances, both by land and by sea. The contamination of watercourses and small streams by vomit or dejecta is perhaps the most frequent and certainly the most rapid means of producing a sudden and widely extended outbreak of Asiatic cholera. The watercourses are not infrequently also contaminated by washing therein the personal effects of cholera patients.

Regarding the comma-bacillus of Koch as the infectious agent, it has been established by numerous and exact experiments that this microbe is not only able to live for a considerable length of time in water, but is even capable of enormous multiplication therein, especially if the water contain a certain amount of organic or vegetable material. The use of such contaminated water for drinking, bathing, and culinary purposes is perhaps the most frequent mode of introduction into the human organism of the contagious principle of cholera infectiosa.

The universal practice of the watering of milk also renders this article exceedingly and especially dangerous to children during periods of the prevalence of cholera; and, where extensive and sudden local outbreaks of the disease cannot be attributed directly to the use of contaminated water, it is generally the milk which conveys the cause of infection. Other articles of food are in a far less degree liable to contamination, but there are numerous examples of infection occasioned by thoughtless and accidental contamination of vegetables, fruits, and other nutritious material.

Experience has abundantly proved two laws which have an important bearing upon the spread of cholera: (1.) The tendency to infection varies exceedingly among individuals, and is with the majority small. (2.) Disturbed conditions of the digestive apparatus greatly increase the susceptibility of an individual and render him far more liable to an attack after exposure to the infection.

As has already been said, it is exceedingly improbable that the infectious principle is ever conveyed to the healthy by the medium of the air; it is certainly never transported to any considerable distance in this manner. It is very doubtful, if even possible, that infection may take place through the lungs. It is certain that it cannot be effected by cutaneous absorption. The disease, therefore, cannot be properly termed truly contagious in the common use of the word. It is extremely doubtful if there be a single well-authenticated case upon record in which the disease has been conveyed in any other manner than by the introduction of the infectious principle into the stomach.

Still, regarding the comma-bacillus of Koch as the infecting agent, it has been abundantly proved that the normal acid juices of the stomach are capable of destroying it. It is, therefore, not surprising that the examples are multiplied in which water and other ingesta known to be infected have been swallowed, intentionally or accidentally, by healthy persons, without harm. If, however, this living infec-
tious principle, the comma-bacillus of Koch, escape beyond the lower end of the stomach and pass into the small intestine, the contents of which have an alkaline reaction, multiplication with enormous rapidity therein, elaboration in considerable quantity of the poisonous ptomaine, and the establishment of the disease which we recognize as Asiatic cholera become possible.

E. O. Shakespear, M.D.

(From a paper read before the Philadelphia County Medical Society, Sept. 14, 1892.)

Tuberculin and the Living Cell.—In my report on this subject to the Colorado State Medical Society last year, I advanced a theory of the action of tuberculin which I much wish bacteriologists would either refute or more fully elucidate than, so far as I am aware, has yet been done. This theory or explanation was based upon the power of living cells to repair injuries to themselves independently of other parts of our body. This idea not only recognizes the power of the tissues to reproduce their like, but also indicates an independent thought of Nature that takes some cognizance of the extent of the injury and the quality of the injuring agent. The directness with which the hypodermatically introduced antitoxine of tuberculosis, or whatever else it is in tuberculin that constitutes its active principle, goes to the highly susceptible tuberculously affected tissue and there stimulates a healing process, is strongly suggestive, if not proof-positive that there is a natural susceptibility of those affected cells, because they are thus diseased. This effort in the direction of healing is an exaggeration of any attempt at repair previously made—a function involving purpose and selection, not heretofore attributed to the ultimate divisions of the living body.

Histologists do not appear to have yet fully comprehended these functions of the living cell; yet some of us practical physicians are convinced, both by experience and by analogy, of certain specific effects of tuberculin, and invite biologists, histologists, and bacteriologists to explain the facts and physical evidences upon which our conviction is based. Is the demand unreasonable? The histologist can describe, as Richard Garnet, of London, has nicely done, what connective-tissue cells are; how, as nucleated corpuscles, they variously lie in a matrix, through the interstices or minute channels of which granular or wandering cells freely pass, on missions of supposed utility, and in which spaces the lymphatics find their terminal ramifications—all of which suggest an intimate relation between the lymphatic system, the white corpuscles of the blood, and the connective tissue cells—in other words, the means of repair or the fibrous healing process. Yet neither this histologist nor any other can tell any better than you or I how the life-principle in these cells enables them to change their form, to increase their number, and to exhibit a power of choice and self-direction of action according to the various demands made upon them, such as is observed in a higher order of living beings.

It may be that this contemplation of the living cell, rather than the great complexity of minute forces—the animal body—will bring us nearer to the desired solution of the mystery of life. It is only nearer, however; the goal is not reached. Here, in the living cell, followed down to the minutest subdivisions of which a powerful lens will allow us to judge, is life, existing separately and independently, as well as in combinations. These associations are either harmonious or in controversy with other microscopic existences. Here, in the region of the living cell, is waged an incessant, many-sided warfare between living constructive and equally living destructive cells, compared with which, as numbers go, the wars of nations are as nothing; and there is no cessation until either the allotted end of life of all these cells is reached, or is anticipated by the death of the individual. * * * *

The success of treatment with tuberculin rests upon many precautions, or upon
favorable conditions to be secured by the physician in charge. Among these are:
1. The proper selection of cases; 2. As thorough a knowledge as possible of the physical condition; 3. The natural resistance of the tissue; 4. The intensity and extent of the tuberculous infection; and 5. The gradation of dose.

(From a paper read before the American Climatological Association, Richfield Springs, June, 1892.)

Potassium Iodide in Actinomycosis.—Actinomycosis has generally been considered, in man at least, an almost incurable, if not a hopeless disease. Dr. Raffer, in the Reforma Medicale of February 4th, has reported four cases of recovery, in which the disease was accessible to surgical measures. These were scraping and the injection of antiseptics into the tumors—these injections consisting of a five per cent. solution of carbolic acid in glycerin, and if sinuses were present, cotton wool saturated with this fluid was introduced into them. Veterinary surgeons have for a long time employed tincture of iodine with much success as a local application, but quite recently a very distinguished teacher at the Utrecht Veterinary School has drawn attention to the value of iodide of potassium in every form of the disease when given as a drug; from his experience of this agent in cattle affected with actinomycosis, he pronounces it an infallible remedy, and Professor Nocard, at a recent meeting of the Paris Central Veterinary Society, in giving an interesting account of the disease, mentioned instances to prove that this medicament promptly and radically cures actinomycotic glossitis in cases which were formerly deemed hopeless. The dose for the ox began with six grammes in half a pint of water once a day, soon increased to eight grammes, until signs of iodism began to manifest themselves, when it was continued for only a few days longer.—The Lancet, July 9, 1892.

Note.—It might be worth while to suggest here the local use of jequirity paste, which is known to contain an exceedingly active ferment.

Antipyrine, Phenacetin and Phenocoll Compared.—From an extended and careful series of laboratory experiments upon dogs, Drs. David Cerny and Wm. S. Carter (Notes on New Remedies, Sept. 1892) have arrived at the following conclusions in regard to the comparative actions of antipyrine, phenacetin and phenocoll upon the circulation and heat phenomena:

Action upon the Circulation.

Antipyrine.—1. Antipyrine in small and moderate amounts produces a rise of the arterial pressure, this stimulating effect being due to an action upon the heart.
2. The lowering of the pressure by large or toxic doses is due similarly to a depressant action of the drug upon the cardiac organ. The remedy does not seem to influence the vaso-motor system.
3. Antipyrine causes an increase in the pulse-rate through paralysis of the cardio-inhibitory centres. The secondary decrease in the number of pulsations is of a purely cardiac origin, the drug exercising a depressant effect upon the heart itself.
4. Antipyrine, in excessive doses only, changes the hemoglobin of the blood into methemoglobin.

Phenacetin.—1. Phenacetin in moderate doses causes a rise of the arterial pressure by acting upon the heart, and probably likewise by a stimulating influence exercised on the vaso-motor system.
2. The reduction of pressure by the drug in large amounts is mainly of a cardiac origin.
3. The remedy increases in small doses the force of the heart by a direct action.
4. Phenacetin increases the pulse-rate chiefly by cardiac stimulation, and possibly also by influencing the cardio-accelerating apparatus.
5. The drug reduces the number of pulsations, especially in large quantities, primarily by stimulating the cardio-inhibitory centres, and, later, by a depressant action upon the heart.

Phenocoll.—1. Phenocoll in ordinary amounts has practically no effect upon the circulation.
2. Large doses diminish the blood-pressure by influencing the heart.
3. Phenocoll reduces the pulse-rate by stimulating the cardio-inhibitory centres. It then increases the rapidity of the pulse by paralyzing said centres. The final diminution is of cardiac origin.

4. Upon the blood itself phenocoll has no action.

Action upon Heat Phenomena.

Antipyrine.—The results obtained with antipyrine in fever show that the fever is produced the first day by an increase of heat-production without any alteration in the heat-dissipation. This increase is greatest the first hour, and the temperature continues to rise although the heat-production falls some after the fever is established.

The second day we see the fever produced again, as on the previous day, by an increase of heat-production. But the very next hour, after the administration of antipyrine by the stomach, we observe in the composite curve a fall of 1.2° C., produced by a double action: an increase of heat-dissipation and a reduction of heat-production. The fall of temperature continues till the end of the experiment. It would seem from this that antipyrine, to cause this double action, must influence the thermotaxic mechanism.

Phenacetin.—Our experiment with phenacetin in normal animals shows practically no changes. There is a slight fall of temperature the third hour after the drug is given, but so slight that it cannot be said to be due to the effect of the remedy.

Phenocoll.—An examination of our experiments with phenocoll in normal animals shows that it exercises no effect on the heat functions. There is a slight fall of temperature at the end of the experiments, but this is so slight that it is probably the result of the animal being kept in the calorimeter for several consecutive hours, and not that of the action of the drug.

Conclusions:

1. Antipyretic, phenacetin and phenocoll all fail to produce any effect on the heat functions of the normal animal.

2. Antipyrine produces a decided fall of temperature in the first hour after its administration in the fevered animal. This reduction is due to a great increase in heat-dissipation, together with a fall in the heat-production.

3. Phenacetin, both in septic and albumose fevers, produces a very slight fall of temperature during the first and second hours after its ingestion by the stomach, but the greatest reduction occurs the third hour after its ingestion. The fall of temperature results chiefly from a decrease in heat-production, with a slight increase in the heat-dissipation. The increase in dissipation is not as great as with antipyrine. Probably the delayed action of the drug depends on its insolvency.

4. Phenocoll causes in fever a very decided fall in temperature, which occurs the first hour after the administration of the drug by the stomach. This reduction is the result of an enormous diminution of heat-production, without any alteration of heat-dissipation.

“In concluding this study,” they remark, “we are justified, judging from the results of our experimentation, in saying that of the three drugs in question, the safest for practical purposes, especially as regards an action upon abnormal temperatures, would be phenocoll. Phenacetin is slow on account, no doubt, of its insolvency, and is comparatively feeble as an antipyretic. Antipyrine, it is true, is soluble and prompt in reducing feverish conditions, but its action upon the circulation, particularly upon the heart, is so pronounced, even when administered in therapeutic doses, that it is, for this reason, a dangerous substance to use. Phenocoll, on the other hand, is readily soluble, rapidly absorbed, and, undoubtedly, promptly eliminated. Its power to reduce abnormally high temperatures is very decided, and it does this in therapeutic doses, without depressing the circulation. Phenocoll, therefore, would seem to be superior to antipyrine and phenacetin as an antipyretic.”
SUBSIDENCE OF CHOLERA.

Advices from abroad concerning the ravages of cholera at the beginning of the month were decidedly favorable, as the disease was at that time under control, the number of deaths being smaller in proportion to the cases, while new cases were much less frequent than a month ago. Although the disease had made its appearance in the southern section of Continental Europe, it was far less malignant in character than when first brought to Russia, and with the near approach of cold weather, the probabilities are that we shall not hear much about it until the coming summer. The citizens of the United States will watch with a lively interest the progress of the disease, as it is well known that it may be brought to this country through the medium of commercial relations as well as by the immigrants who are seeking homes in our land, so that notwithstanding the most stringent quarantine regulations, it is not unlikely that sporadic cases will make their appearance.

At this writing, no statistics have been published aside from the press reports in relation to cholera at Hamburg, from which it is learned that on the 26th of September, the number of cases occurring in that city alone numbered 17,157, with 7,339 deaths, a mortality exceeding forty per cent., and this with the advantage of the best medical talent in Germany. This unfavorable showing is to be regretted, since we boast that at the present time more is known concerning the causation of the disease than ever before; but there is a possibility, in fact, there are strong probabilities that the great mortality was due to the unsanitary condition of the place, where a single person afflicted with the disorder was sufficient to produce the disease in a hundred others. That cholera in Hamburg extended to the better residence section, and was almost equally fatal there, is no offset to the assumption, as it is well known that in times of pestilence the more comfortably situated citizens of a community are often as severely afflicted as the poorer classes, because they suffer from fright as well as from the depressing atmospheric influences, even where a disease is non-contagious like the one under consideration. While fright is but a pre-disposing factor, it tends to interfere with the normal activity of the digestive apparatus, and as a consequence, the lowered vitality lessens the resistance of the organism to the mephitic influences of the poison which may possibly be distributed in such a manner that it reaches the stomach when that organ is in a condition to let it pass without destroying it.

In this connection, it is just and proper to say that the people of this country are under deep obligations to the New York Health Board for the thorough manner in which the disease was met at that port. It was announced on the 14th of September that no less than six cases of true Asiatic cholera had occurred in that city at different points, but the methods adopted for isolation were so thorough and systematic that not a single secondary case made its appearance.
BARLEY-WATER FOR BABIES.

Barley-water for babies may seem rather a trite subject for discussion, but it is one of vast and growing importance. The methods of living are so different now as compared with those which prevailed several generations ago, that we cannot fail to see that the digestive apparatus as a whole has been greatly weakened. In other words, dyspepsias and indigestions are on the increase, and even if nothing be said of the diseases to which these disorders give rise directly, the evidence is conclusive that "the sins of the fathers are visited upon the children," thus fulfilling the biblical maxim. But the question will be asked, What has all this to do with barley-water for babies? Indeed, it has a great deal to do with it, for be it known that barley contains an active ferment which is not destroyed in the simple process of preparing barley-water, and under favorable conditions may give rise to serious disturbances of the stomach, in which case the child not only requires medicine for the real disease, but for the factitious disease produced by the food-stuff.

It would require too much space to show that barley-water for babies is useful only when the ferment which it produces is sufficient to destroy the ferments in the stomach incident to disease, on the same principle that yeast may be useful in diphtheria and fermentive dyspepsia, or for cleansing a foul ulcer; but a summary of the experience of that veteran clinician, Dr. Benjamin Ward Richardson, will be sufficient to "point a moral and adorn a tale." Within the past few months there appeared in the medical journals extracts from a paper published in the Æsclepiad by Dr. Richardson in which he dwelt at some length upon the subject of "Oatmeal Pyrosis." An elderly gentleman consulted him for pyrosis, (suffering to such an extent that he could readily fill his mouth with water from the stomach), and after being under his treatment for a time, this patient consulted other doctors, but without benefit. Finally he returned, quite as bad as before, and it was learned that oatmeal was used freely as a food. With the prohibition of oat-meal, almost without medicine, the disorder was promptly arrested, and then Dr. Richardson, thinking it might have been a mere coincidence, adopted the plan with other patients, and with the happiest results. He then concluded that he would make a test of the matter personally, as he was loath to believe that such harmful results could arise from the ingestion of a little oat-meal. The result of his experiment was that in a short time he also suffered from pyrosis as badly as his first patient. When he recovered from this mishap, it occurred to him that perhaps barley-water, which with many physicians was the sheet-anchor, so to speak, might be quite as bad as oat-meal, since there was but little difference between the two cereals, and in due time there followed from the use of barley-water a full-fledged pyrosis. As a consequence, he felt impelled to draw attention to this insidious disease-breeder, and if any member of the profession has any doubt about the truth of these statements, it can easily be settled by giving careful attention to the diet of some of his patients who have long been complaining of disorders of digestion. The writer recalls the case of an able-bodied man who had been under constant treatment for a period of two long years, and had been informed that he would be compelled to change his business, who recovered promptly and has been entirely free from symptoms of pyrosis for now two years, by simply discontinuing the use of oatmeal for breakfast.

The lateness of the season is rather against the prompt test of these recommendations, at least so far as the babies are concerned, but those who read these lines, if they will ponder upon the suggestions put forward, will find, when the summer returns, and with it intestinal dis-
turbances, that the interdiction of barley-water will prove an important factor in lowering the mortality rates, especially in the large cities. In the light of these facts, it seems criminal to further perpetuate a method of practice which leads to but one end, and that end death. There is but one redeeming feature in the routine practice of giving barley-water to babies: it has a tendency to enrich the physician's exchequer, and the question is, Shall we continue to look with favor upon this and like methods for this purpose?

Correspondence.

TREATMENT FOR HEMATURIA.
To the Editor:

Sir: I enclose treatment for the case of hematuria, reported in September number of the American Therapist. I have had two such cases recently, which yielded promptly to this treatment:

For the torpidity of the liver, which I think is present in nearly all such cases, I would recommend fluid extract chionanthus in teaspoonful doses before meals; if this should loosen the bowels too much, the dose may be decreased.

For the hematuria and polyuria the fluid extract of rhus aromatica in doses of from five to ten minims every four hours is a specific. For the urethral irritation and probable enlargement of the prostate, a combination of santal and saw palmetto. In all cases reliable preparations must be used.

Sam. G. Todd, M.D.

Woodland, Indiana.

TOXIC ACTION OF POTASSIUM BICHROMATE.
To the Editor:

Sir: I have just read with interest an article from the Brooklyn Medical Journal, by Dr. Jos. H. Hunt, on the medicinal uses of potassium bichromate; also an editorial in your excellent journal on the same subject.

This salt has never received sufficient attention, though it was at one time found fairly successful in the treatment of syphilitic sore throat, iritis, and catarrh, and as a general alterative and expectorant, in small doses. In excess it naturally acts as an irritant (for it contains nearly 36 per cent. of chromium); and in this connection I wish to refer to an instance of accidental poisoning by its use, as such cases have been rarely recorded. A photographer drank of a strong solution of the bichromate, having mistaken the pitcher for another which contained beer. I found him prostrated, suffering severely in the abdomen, and sweating most profusely. The pupils were widely dilated, the pulse weak and fluttering, and there were peculiar greenish-yellow evacuations, but he did not vomit. Sulphate of zinc in free solution soon emptied the stomach, and I then fed him with olive oil; but the stomach remained highly irritable, and rejected solid food. He made a tedious recovery, and ever since "looked not upon the wine when it was red," nor the beer either.

Louis Lewis, M.D.

36 North 19th St., Philadelphia.

PLEA FOR A STATE BOARD OF MEDICAL EXAMINERS.
To the Editor:

For nearly a century the honest practitioners of medicine within the State of Pennsylvania have been trying to defend the citizens of their commonwealth from imposition by the unprincipled charlatan. In order to gain this point they have been proud to support within the State some of the most thorough schools of medicine on this side of the Atlantic. They insisted upon these schools being of high order, because they felt that, if the rising generation of medical men were properly trained, the average of ability would be raised so high that the profession would stand clearly defined from their imitators. Then, to insure the success of their plan, they asked for and were granted a law which required that in order to secure
license to practice medicine the applicant must hold a diploma from an institution chartered by the State, conferring upon him the degree of Doctor of Medicine.

The plan was good, but, alas! the State authorities were not empowered to dictate to those institutions asking for charters, the standard of excellence they must require of their students. Soon it appeared that charters had been granted to men who so disregarded the true welfare of their fellow-beings as to establish schools at which a degree of Doctor of Medicine could be obtained with but six months' of study, and that, too, without any previous special training. A young man would have to serve longer than that at a carpenter's bench before he would be allowed to plan the meanest piece of work; and are human lives of less account than a few sticks of wood?

To remedy these defects, the profession decided to invoke the aid of the law for the purpose of instituting an Examining Board, which should determine upon the fitness of all those desirous of practicing medicine, by requiring them to show a certain degree of ability before granting the license to practice.

That such a law is practical is proved by the evidence of physicians in states in which Boards of Examiners have been instituted. It is further proved by the fact that, although Pennsylvania boasts of the excellent schools of medicine located on her soil, she, in her present condition, is forced to receive all those whom her neighbor States refuse. As a result, those who "lawfully" practice medicine within her boundaries are but a motley throng. This has become so marked that Pennsylvania has been termed the dumping ground of the Middle States for the refuse, would-be-doctors.

Are the medical men so far behind in energy and capacity here in our State as to quietly sit by and see our neighbors pass us in the race? No, to the honor of the Medical Society of the State of Pennsylvania, it must be said that that organi-

zation has been endeavoring to bring our legislators to a sense of their responsibility in this matter; but so far the bill they propose has been used as a measure for political trading, and as an issue of no consequence. Another effort is to be made; a committee from the State Society has framed a bill, which has been heartily endorsed by most of the members of the faculties of our leading medical colleges, which in its parts is thoroughly free from all matters which could be termed sectarian. The bill is non-sectarian because the committee feel that, if the applicant is thoroughly grounded in the principles underlying the practice of medicine, he cannot be a danger to the public, as he must realize that in confining himself to any sect he is narrowing his sphere of usefulness. Therefore in the composition of the Examining Board the only conditions imposed are, that those appointed shall be men of sufficient experience to be well grounded in their knowledge of medical science; that the question of local prejudices be overcome by no two members of the Board coming from the same county; that the Board be as free as possible from a leniency to any medical school by forbidding the appointing of anyone connected with a school of medicine. The subjects upon which the applicant is to be examined cover all those sciences which lie at the root of the art. To prevent the applicant from being imposed upon, the law directs that his papers shall go before the Board accompanied only by a number, so that his identity will be unknown to those passing upon the papers. Moreover, the papers, together with the grades assigned, are to be open to the public for the period of five years after the examination.

The object of this bill is to protect the public against incompetents who essay to practice medicine and surgery. Feeling assured that in so protecting the public from incompetency our beloved profession will be advanced in honor and dignity, as well as usefulness, we call upon every
practitioner of medicine to impress the representative from his district with the importance of this proposed law, and to use every honorable means in his power for its adoption and subsequent impartial execution.  

ALEX. CRAIG, M. D.,  
Columbia, Pa.

Recent Medicaments.

SALOPHEN.

Salophen occurs in the form of whitish, crystalline scales, free from odor and taste, and almost insoluble in water, although ether, alcohol and alkalis take it up freely. It is quickly dissolved in the saliva. It is a product closely allied to salol, contains 50.9 per cent. of salicylic acid, and melts at 187° to 188° C. When introduced into the system elimination takes place principally through the kidneys in the form of salicyluric acid and acetyl-p-amido-phenol compounds, and according to SEIBEL, it is non-toxic. The dose for an adult is a drachm three times a day (GUTTMANN), but in a series of six cases reported by Dr. W. H. FLINT (N. Y. Med. Jour., July 30, 1892), the dosage did not exceed fifteen grains every three hours, the remedy being given dry upon the tongue and swallowed with a little cool water.

In these six cases of acute rheumatism, Dr. FLINT says, with the exception of a single case, the pains were quite relieved, the redness dispelled, and the temperature reduced to the normal point on the second or third day of treatment. He also notes that in none of the cases was the heart's action at all weakened, nor the digestion impaired, and that the urine was unaffected, observations which are certainly very favorable to the remedy.

Its great value in rheumatic infections would naturally be inferred when the fact is recalled that the drug is split up in the intestine, and becomes at once a powerful antiseptic; but further, elimination taking place largely by the kidneys in the form of salicyluric acid, enhances its value, while no harm results to the stomach, since the drug is insoluble in acid media. In order, however, to obtain good results from its use, the need for the employment of alkalis should be impressed upon the practitioner, as we are so familiar with the markedly acid condition of the urine in this disease; hence the importance of exhibiting alkalis for the purpose of maintaining an alkaline reaction of the intestinal contents. In Dr. FLINT's cases, a dose of ten grains of sodium bicarbonate was given three times daily, but cases will occur in which a drachm of the chemically pure salt will be required. The bicarbonate should be given at alternate intervals with the salophen, say a dose of each every four hours, which would make the regular intervals for administration two hours.

TRIONAL AND TETRONAL.

These two drugs are classed by HELDING (Modern Materia Medica, 3d ed.) with the "derivatives and allied compounds" of sulphonal, and from this work the following is quoted:

Trional differs from sulphonal only in the substitution of an ethyl for a methyl group, so that its systematic name is di-ethyl-sulphon-methyl-ethyl-methane. It forms lustrous, tabular, bitter crystals, melting at 76° C., requiring 320 parts of cold water for solution, but readily soluble in alcohol and ether. This compound was expected to be a more powerful hypnotic than sulphonal, from the physiological experiments performed upon animals; but BARTH and RUMPHEL found that though evidently indicated in certain nervous diseases where sulphonal did not answer, the dose had to be quite as large (60 grains daily). It seems to be less liable to produce ill-effects than sulphonal. The same is said to be true of the closely allied tetronal.

Tetronal (di-ethyl-sulphon-di-ethyl-methane) occurs in lustrous crystals and plates, melting at 85° C. It is soluble in 450 parts of cold water, readily so in alcohol, and fairly in ether. The taste is camphoraceous and bitter. The name, of
course, like "trional," which it physiologically and therapeutically resembles, has reference to the number of ethyl groups present.

Comparative experiments with these two allied compounds tend to show that, in general, trional is more active than tetronal, while at the same time the latter not infrequently produces vomiting. Further, trional has extraordinarily few unpleasant by-effects (Schultze). The dose adopted is 30 grains, two or three times a day.

**Benzo-Naphthol (β-Naphthol Benzoate).**

Benzo-naphthol, lately recommended as an intestinal antiseptic, is a product similar to betol (beta-naphthol salicylate), and is formed by the action of benzoyl chloride on beta-naphthol. When pure, it occurs in the form of a white crystalline powder, free from taste and odor, melting at 110°C.; it is insoluble in water at ordinary temperatures. Taken into the system it is split up into its constituents, the naphthol being excreted in the usual manner—through the intestinal tract and the kidneys, while the benzoic acid is partly converted into hippuric acid and eliminated with the urine. The dose is given variously at five to ten grains every three or four hours.

When first brought to the attention of the profession, this was supposed—from its physical character—to be an ideal remedy, being an active intestinal antiseptic, and moreover rendering the urine much less poisonous than when naphthol was given alone; but it has not yet proved all that was claimed for it, a number of unfavorable reports having appeared. Intestinal colic and diarrhea have followed its administration, but promptly disappeared when the remedy was discontinued.

Although the remedy is not readily soluble in ordinary media, the probabilities are that it is readily dissolved in the stomach and intestinal juices, and the difficulty heretofore has been doubtless due to the fact that the dose was too large. Those who have taken small doses of beta-naph-
Book Notices.

Epitome of Mental Diseases. By James Shaw, M.D., Queen University, Ireland. Cloth, 8 vo., pp. 345. New York: E. B. Treat, 1892. (Price, $2.75).

The general practitioner has, up to this time, not compromised himself in any great degree by acknowledging his almost absolute knowledge of psychological medicine, but with works like the present being offered him, that day must soon pass. Dr. Shaw has succeeded in classifying and condensing the existing practical knowledge in a great department of medicine in such a way as to make it highly available. In one chapter the somatic and psychic symptoms are collated in alphabetical order with the mental diseases in which they occur; in another the diseases are indexed with their synonyms and symptoms; still another deals with etiology. Diagnosis is given full attention, and methods of examination are well elaborated. Prognosis, treatment, and pathology have each separate chapters. The book should be on the shelves of every physician, and will serve well for daily reference.

S. W.


As a compilation of the literature of cerebral meningitis Dr. Barr's brochure may be looked upon as an interesting evidence of industrious application to literary research. The author, while advancing nothing new, has shown himself an adept in collating, and has exhibited an unusual degree of perseverance and unflaging interest in pursuing his self-imposed task. When this is said, however, all is said that can be, as the work has not been carried to completion. While all attainable material has been accumulated, no effort is made to expunge that which is valueless or to accentuate the truly valuable. Errors have been overlooked in phraseology, and by the failure to note recent medical teachings, the reader is left to draw his own conclusions as to the etiology, diagnosis, and treatment of the various diseased conditions from the statements made. Notably in dealing with the tubercular form of meningitis has the author failed to keep abreast with the times. He finds in summing up the etiology of that disease, that "the hereditary transmission of miliary tubercle is in reality the only cause." The researches of the most advanced investigators of the present day have proven conclusively that heredity plays but a minor rôle at the most in the dissemination of the disease, and the old theory of hereditary transmission has at length become obsolete.

As a symposium on the subject of meningitis the book has merit, but as a guide in teaching its value is doubtful.

D.


This is one of the new series of Manuals for medical students, issued by the well-known publishing firm of P. Blakiston, Son & Co. of Philadelphia.

The opening pages are occupied with definitions and brief but useful information on the subjects of pharmacy, pharmacology, dosage; prescription writing, etc. Then follows a grouping of drugs, according to the parts on which they act, as, upon the blood, the cardiac mechanism, the skin, the bodily heat, the nervous and muscular systems, etc. For example, the narcotics, including the general anesthetics, are arranged in a group, and their general physiological and therapeutic ef-
fected together. The same drugs appear again in subsequent groupings, filling up the body of the book, and they are here discussed individually. This arrangement seems at first somewhat confusing, and of necessity leads to a division of the subject, its relegation to a different part of the book, and unavoidably to some repetition.

The advantages of a book of this kind are to be found in its brevity and condensation; qualities which will not fail to commend it to the student, for whom it is specially designed. The defects of such a book unfortunately arise, in part at least, from the very qualities which commend it; since in regard to leading medicinal agents, only their principal uses are indicated, while to what may be regarded as drugs of a secondary class, a mere cursory allusion is permitted, which fails to do justice to their therapeutic value.

Unfortunately, too, as in most of our text-books, there is too much compilation and too little independent thought and expression. The ideal book on materia medica and kindred subjects has yet to be written; but owing to the divergence of opinion as to the clinical uses of medicinal agents, the successful accomplishment of the task would present almost insuperable difficulties.

The trend of recent therapeutics is to lessen the dose and administer at more frequent intervals; a desideratum to which the work before us does not contribute.

The author adheres closely to the physiological teaching of the day; but opinions differ, here and there, as to his clinical teaching, which might be modified in some particulars and widely extended in others.

Still, the book contains a great deal of useful information, in the various departments of which it treats, and will be found useful to the student of physiological therapeutics. The appearance of the book does credit to the enterprising publishers, who will doubtless find for it an extensive sale.


The most exacting critic could but comment favorably upon this latest contribution in the field of ophthalmology. The book is admirable in every feature; its plan is comprehensive and at the same time not too explicit; its diction is forcible and to the point; and the method of dealing with the subject matter agreeable and impressive. The author's remarkably rich experience, drawn from a large private clientele and extensive hospital practice, together with a persistent application to, a lively appreciation of, and a sincere interest in his subject, supplemented by an extensive knowledge of the literature, have eminently fitted him for undertaking the work now presented to the profession.

The book is intended to make clear the numerous details connected with the study of the eye—methods of examination, the symptoms of disease and means of diagnosis of the same, the plans of treatment, general optical principles, and the use of ophthalmological instruments—especially to the student and beginner, rather than to pass as a complete treatise upon the subject. To this end the efforts of the author have been ably seconded by the contributions of Dr. James Wallace, Chief of the Eye Dispensary of the University Hospital, and Dr. Edward Jackson, Professor of Ophthalmology in the Philadelphia Polyclinic. The former treats of general optical principles, the theory of the ophthalmoscope and the subjects of reflection and refraction, while Dr. Jackson has written the section on Retinoscopy, and both have performed their allotted tasks in an instructive and very satisfactory manner. Dr. De Schweinitz has covered the remainder of the ground in his usual taking and easy style, and in so
doing has converted a subject difficult to understand into one of remarkable clearness.

The illustrations throughout have been carefully selected as most definitely showing that for which they were intended, and many of them are now for the first time presented to the profession. In fact, the volume contains much that is new and valuable arranged in an accessible form, and it is well worth perusal if only because of this special feature.

It is proper to add that our only regret on carefully reading over this truly excellent book is, that more attention has not been given to the use of remedies. While the pages are exceptionally rich in the description of operative procedures, there is a notable deficiency in therapeusis. In this respect, however, the book is in full accord with the spirit of the times, when surgery seems to have more than offset medication, and the knife to have supplanted the use of drugs; but notwithstanding this defect, we do not doubt that as a guide and text-book upon the eye, Dr. de Schweinitz's work must take rank among the very best.


The advantages to the recent graduate of being able to meet emergencies is so important an item that it ought not to be overlooked, as it not infrequently happens that the successful treatment of a single case of this nature may prove the entering wedge to the favorable notice of desirable patients and the subsequent control of a lucrative practice. During the first few years, when waiting for practice to come along, he will find that the instructions given him by his teachers in regard to fractures, minor surgery, emergency cases, like hemorrhage, etc., will gradu-ally fade from his mind, so that when called upon, he is at first at a loss to know just what to do. It is during these years that he must prepare himself for such cases, and in no better way can this be accomplished than by the study of such works as the one before us. It contains very complete information as to what should be done in the case of hemorrhage, gives full information as to the application of bandages and splints, numerous illustrations of the methods of applying support in the case of fractures, directions for the treatment of wounds, ulcers, burns, etc. The work is divided into ten sections, each of which is complete with full illustrations, and in addition there is an appendix containing formulary for lotions, ointments, liniments, caustics, dusting powders, suppositories, hypodermatic injections, enemata, fomentations, sprays, and the whole is completed by a copious index. A very practical idea, which is probably English in origin, is the use of marginal references, which greatly facilitate reference and thus saves a consultant considerable valuable time by enabling him at once to put his finger on the exact item for which he is looking.

The work is practically a vade mecum for the surgeon, and should have a large circulation.

PUBLICATIONS RECEIVED.


How to Avoid Contracting Tuberculosis (Consumption). Published for gratuitous distribution by the Pennsylvania Society for the Prevention of Tuberculosis. Tract No. 1.

A Plea for the Medical Expert. By L. Harrison Mettler, M.D., of Chicago. Reprint, 1892.


Miscellany.

ARISTOL FOR HEMORRHOIDS.—Aristol is an excellent local application for piles as they occur in elderly people. Such persons often suffer from prolapsus ani and more or less irritation about the rectum, even when the bowels appear to be regular. In these cases, an ointment composed of aristol, twenty to thirty grains to the ounce of lanolin, with sufficient olive oil, will prove very efficacious.

BLENNORRAGIA.—Prof. Reverdin (Prov. Med., Jour., Aug. 1, 1892) endorses the use of a 1 to 5,000 solution of potassium permanganate in the treatment of blennorrhagia, and says a cure can be effected usually in a week’s time or less, without internal medication. A catheter is introduced down to the bulb and the urethra irrigated twice a day with a quart of the solution at a temperature of 100° F.

ERYSIPelas VS. CANCER.—Inoculation seems to be the order of the day. Within the past two years attempts have been made in both France and Germany to arrest the progress of cancer by introducing the poison of erysipelas into the affected area, in the belief that the materies morbi of erysipelas would be fatal to the germ or micro-organism associated with cancer. Quite recently, Drs. Bull and Coley, of the New York Cancer Hospital, after considerable preliminary experimentation, have prepared cultures of the erysipelas germ, which they have used hypodermically in the case of a woman suffering from cancer of the breast, but sufficient time has not yet elapsed to enable them to say positively just what the effects will be upon the cancerous affection.

INOCULATION AGAINST CHOLERA.—It has just been announced in dispatches from Paris that M. Pasteur has recently been making some important investigations with a view to discover a remedy that, when used by inoculation, will prove destructive to the cholera virus, and it is said the remedy has been used successfully in the case of dogs. Prince Damrong, of Siam, has invited the eminent savant to make some experiments upon his subjects, and it is hoped the results will be of such a satisfactory character that the enthusiastic Prince will feel warranted in making a slight change in his name.

OPERATION SUGGESTED FOR SCiatICA.—It has recently been discovered that cases of obstinate sciatica are occasionally due to adherence of the vein to the nerve, and that the excruciating pain may be relieved by separating the one from the other by dissection. There is some question, however, whether such a formidable operation is necessary, as we are now so familiar with the therapeutic properties of remedial agents that extreme measures may frequently be avoided. This observation is made because of the good results which have followed the use of mercury biniodiode in a few cases that had long resisted other treatment. This remedy would be especially indicated in syphilitic cases; but even in the absence of this complication the results are sometimes remarkably brilliant.

NON-BACILLARY FIBROID PHTHISIS.—Sir Andrew Clark, of London, is credited with the following remarks in regard to three cases of fibroid phthisis which he had at the time, several years ago, under his care in the hospital wards: “I invited two or three of my most distinguished contemporaries to examine these cases, and to demonstrate the existence of tubercle bacillus in them. They failed, and, justifying their failure, said: ‘These are quite exceptional cases, and do not break down our generalization.’ But, gentlemen, it is just the exceptional cases of this kind that demand the most careful consideration, for although they do not bear immediately or greatly upon our practical clinical teaching, they bear sufficiently upon it to justify me in calling your attention to it at this time.”

INOCULATIONS AGAINST YELLOW FEVER.—There appeared in the Lancet not long ago an account of the experience of Drs. Findlay and Delgrado, of Havana, Cuba, who had made some extended observations as to the antitodal action of mosquitoes in yellow fever. It is stated that the method consists in the inoculation of persons who desire protection with a product obtained from mosquitoes that have been previously contaminated with the specific disease by stinging yellow-fever patients. While the protection is not absolute, it is claimed that the mortality rates do not exceed two per cent. among those subsequently attacked with the disease, and that immunity will last for several years, at least. Of sixty-five monks who arrived from time to time in Havana, where they all lived under similar circumstances, but thirty-three were inoculated. Only two of these contracted the disease in well-marked form, and neither case resulted fatally, while of the thirty-two not inoculated, eleven of them had severe attacks and five died. This report, if true, conveys an important fact that might be utilized in the treatment of the disease. It would first be necessary to learn the special character of the poison of the mosquito with which the contaminated blood of the yellow-fever patient comes into contact, which is probably similar to fornic acid; it could then be prepared on a large scale, and the percentage of the remedy required to disinfect yellow-fever blood determined by experimentation upon animals.
The American Therapist.
A MONTHLY RECORD OF MODERN THERAPEUTICS,
WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

Vol. I. NEW YORK, NOVEMBER 15th, 1892. No. 5.

Original Articles.

CODEINE IN THE TREATMENT OF THE MORPHINE DISEASE.

By J. B. Mattison, M.D.
Medical Director Brooklyn Home for Habitues, Member American Medical Association, American Association for the Cure of Inebriety, New York Academy of Medicine, New York Medical-Legal Society, Brooklyn Neurological Society, Medical Society of the County of Kings.

Codeine is a remedy of value in the treatment of opium inebriety. This paper pertains to its use in the most common form of that toxic neurosis, but it serves a good purpose in every phase. In the writer's hands during the last two years, it has largely revolutionized the therapeutics of this disease, so that at no time in his experience of more than two decades has it been so near the "high water mark" as now. — Vide "The Mattison Method in Morphinism."

This good has been secured with less complex treatment, with more freedom from unsatisfactory—sometimes — symptoms and sequelae, and with a general result greatly gratifying to patient and physician alike.

While codeine may have been used before—irregularly as to time and amount—the first regular plan of which we know was in 1883, by Lindenberger, of California, who reported, in a letter to the Medical News, 22nd August, 1885, that during two years he had cured twenty-four cases with it, after a method original with himself. His plan was to begin with two-grain doses of codiene, three times daily, and gradually increase this amount while the morphine was withdrawn, till the former quite replaced the latter. Then the codeine was daily lessened—he asserting "its use can be dispensed with in a very short time." During this, tonics are given if needed, and an aloin laxative if required.

In 1889 Dr. Constantin Schmidt, of Wiesbaden, in a somewhat elaborate paper, commended codeine for the cure of morphinism. His plan was to decrease the usual opiate during several months, and when it had been reduced "to a very small dose" substitute codeine till the quitting was complete.

He wrote: "As regards the choice of place to carry out rational treatment, the lunatic asylum is not the most preferable. It is the proper place for only an extremely small proportion of the morphine patients, and only for those who are really insane. Furthermore, the quiet of private institutions and the peace among their inmates should not be disturbed by the noisy morphine habitué. The only suitable place is the house of a specialist, or, rather, an institution equipped for the purpose, and for the exclusive care of such patients. Here only can the patient benefit by a truly humane, non-compulsory treatment on the part of a skilled physician, who devotes his entire ability to this noble work."

To combat the symptoms of withdrawal, he said, "We have sought for substitutes. At first opium was tried for this purpose, but was soon given up, because, containing morphine as its most active ingredient, it necessarily prolonged the tortures of abstinence in spite of producing transient alleviation, and consequently led back to morphine again. The last and most novel alkaloid of the series, cocaine, has, instead of affording the promised cure for morphine, produced a new and more dangerous craving, cocainism. In contrast with these successful results, I have re-
cently—partly through numerous experiments on my own person, and partly through permanent and methodical utilization on my morphine patients, discovered a remedy which possesses all the requisite characteristics. It moderates the symptoms incident to withdrawal even to the point of tolerance; as it contains no morphine it cannot prolong the duration of treatment; it causes the morphine craving to vanish permanently; and the disagreeable, collateral effects, which develop with the increase in the dose, prevent the misusage of this narcotic as a remedy. It is codeine, the twin of the morphine—that is to say, it was discovered at the same time—and, secondly, meco-narceine, which was but recently produced in France. With the aid of these medicaments I have succeeded in effecting a real cure of the morphine disease. After reducing the morphine to a very small dose by progressive withdrawal, I resort to the substitution of codeine. I employ for this purpose only exactly as much as seems necessary to relieve the symptoms of withdrawal. As the latter grow weaker, and gradually vanish, the codeine is reduced proportionally, until the last traces of the symptoms of abstinence, as well as the excitable nervous debility, disappear."

We have used Schmidt's method, somewhat changed, and with success. The main change has been in not taking so long a time—months—for the morphine disusing, but to lessen it rapidly—within a fortnight, if possible—to one-half grain, or less, for a dose. Then we substitute codeine, using treble the former amount of morphine, and giving four doses daily, morning, noon, night and bed-time. These doses are continued for a week, or till the system settles down to the new order of things, and then the noon dose is omitted. In three or four days the night dose; then the morning one, and, last of all, the bed-hour portion. All the time a tonic is employed, our favorite being phosphorus, strychnine, arsenic and quinine combined, with which the codeine can be given, and thus the better permit its quitting unknown to the patient. If minor reflex symptoms present, they are controlled as required. Narceine we have not used in these cases. It is mainly hypnotic, but for this need we have given sulfonal, paraldehyde, or chloralamid, according to case and condition.

Anent codeine and narceine, the reader's attention is invited to a paper by the writer: "The Prevention of Morphinism. A therapeutic revolution: Codeine and Narceine vice Morphine," read before the American Medical Association, Washington, May 6th, 1891.

The cases in which we have used codeine after this fashion have been those of moderate addiction—time and amount—and it has served us well. It is also specially adapted to patients greatly enfeebled from large or lengthy taking, and in whom a prolonged tonic course, both before and after the morphine quitting, is essential, and with whom the pernicious effect of the drug should be ended early as possible, and the codeine continued for several weeks, if required.

Our largest use of codeine has been in connection with the writer's special method of treatment—before referred to—and which, as is now well known, consists in a rapid—eight or ten days—withdrawal of the habitual opiate, and meanwhile securing a certain sedation by bromide of sodium.

Tersely told—for details vide "The Mattison Method, etc." This plan is a gradual withdrawal of the habitual narcotic during ten days—avoiding the pain—cruel and inexcusable—of abrupt disuse, and the tiresome delay of prolonged decrease, and, meantime, securing a sedative effect on the spinal system by bromide of sodium, beginning with 30 grain doses, twice daily, and increasing the dose 10 grains each day—that is to say, 30, 40, 50 grains—till a maximum dose of 100 grains is reached on the eighth day. On the ninth and tenth days a 5 scruple even-
ing dose only is given. Thereafter, whatever reflex symptoms may present are met mainly by codeine.

As a rule, it is not needed before the eleventh day. Exceptionally, a dose or two may be required in the latter part of the ninth or tenth. When its active use is begun, it is given every two to four hours, in doses of 1 to 3 grains, by mouth or subcutaneously, and this continued, gradually decreasing the dose, or increasing the interval, till no longer required. Meantime other measures are used, as the case seems to demand—see paper referred to—but the main “spoke” in the “wheel” of treatment is codeine.

Pure codeine is not suited to subdermic use. It dissolves in acid, and may be given by mouth. Six salts are regularly in use: they are, with the percentage of codeine:

- Muriate ....................... 80 %
- Sulphate ....................... 76 %
- Phosphate ....................... 70 %
- Nitrate ......................... 82 %
- Hydro-bromate .................. 72 %
- Hydro-iodate .................... 67 %

The first three are eligible for hypodermic use. They are soluble as follows:

- Phosphate, 1 part boiling water; 4 parts cold.
- Muriate, I “ “ “ 20 “ “
- Sulphate, 8 “ “ “ 40 “ “

The nitrate is soluble in 20 parts of cold water, and 5 parts of boiling—but precipitates on cooling.

Codeine is one-third the strength of mor- phine. BARTHOLOW, in his Materia Medica, says one-fourth, and in the last edition of his Hypodermatic Medication, says one-half. FISCHER, who among foreign physicians has written most on codeine, makes the proportion one to three. We follow Fischer. It will be noted that the salts vary from 67 to 82 per cent. This may account, in part, for the different estimate. Still more, if pure codeine be given.

In using codeine, it is best to begin with a minimum dose—say one-half grain hypodermically, or double that by mouth,—as we have had patients in whom its untoward effects have been unpleasant. These—intense itching, often first and most, on the head: marked redness of the skin, with swelling of the face and hands—were noted in the Medical News, 1892. They are not frequent, but they disturb and distress, and can be avoided if care be taken. En passant, it may be said that witch-hazel most eases the itching.

In commending codeine, we distinctly insist that it be used with discretion. Doctors, who fill so largely the ranks of opium inebriates, had best not use it in self-treatment. While the risk of ill-result is not comparable to that with cocaine—which has wrecked so many, more than the world will ever know—see paper by the writer, “Cocainism,” Medical Record, 22d October, 1892—yet, on general principles, it is not wise to be both patient and physician; and in these narcotic neuroses the psychical factor is so largely prominent that most good is gained by treatment not self-directed.

In the paper before noted—“The Prevention of Morphinism”—FISCHER’s statement that “tolerance with codeine is not established,” is cited. We are not ready to go quite so far—to say there is no risk of codeinism. History repeats itself along narcotic lines, and recent nosologic additions—paraldehydeism, sulfonalism—prove the list of toxic neuroses not yet complete.

It is best to be cautious. With proper care, the risk is vastly less than with morphine. Codeine lacks that subtle, snareful psychosial power, so strongly marked in morphine, that takes many so soon captive, and it is this special lack that commends it to the careful physician as the safer drug in many cases where an opiate anodyne is required.

Summing up the situation as regards codeine for the cure of morphinism, we feel bound to say that a large and enlarging experience warrants an assertion that, with it, the acme of treatment in this neurosis was never so near as now.

Brooklyn Avenue, Brooklyn, N. Y.
BROMOFORM.

By W. Blair Stewart, A.M., M.D.,
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Philadelphia.

Synonyms.—Tribromo-methane; dibromomethyl bromide; methenyl bromide; formyl bromide.

Preparation.—Bromoform is made by passing purified bromine gas through a cold solution of potassium hydrate in methyl alcohol until the liquid begins to be colored. It is then rectified over calcium chloride, washed and distilled. Chemically speaking, bromoform is made by substituting three atoms of bromine (Br₃) for three atoms of hydrogen in methane (CH₄), giving a formula of CHBr₃.

Physical Properties.—An unofficial preparation, of an oily consistence; perfectly clear and colorless; very volatile; has a sweet, pungent odor and taste, like chloroform; specific gravity of 2.830 at 0°C.; boils at 150°C.; solidifies at about 9°C. It is neutral in reaction. Bromoform mixes freely with alcohol, ether, or two parts of alcohol and one part of water. It will not mix with water alone, but a small quantity can be held in suspension for a short period, if well shaken.

Bromoform is not a stable preparation unless handled with the greatest precautions. If exposed to the air it volatilizes; when exposed to heat or light, it is gradually decomposed, free bromine is liberated, and the natural clear color is replaced by a brownish-red. One specimen, exposed to the sun-light in my office for two weeks, changed to a deep brownish-red color and gave the characteristic reactions of bromine when tested. Another specimen, taken from the original bottle, and kept in a well-stoppered bottle in a dark closet, underwent no change of any description in six months. Bromoform should always be kept in tightly corked bottles made of non-actinic glass, and should never be exposed to direct sunlight or high temperature. Always specify a colored bottle when prescribing it.

Physiological Action.—Bromoform, in its physiological action, is similar to chloroform. When applied to the skin it is first cooling, then irritant, rubefacient and vesicant. Internally it is heating and burning, exerting a sedative, carminative and antispasmodic action. When inhaled it is anesthetic, rather irritating to the mucous membrane, and not as desirable as chloroform. Its primary action is that of a diffusible stimulant, and if pushed, it soon depresses the nervous system and heart. It is eliminated from the system by the respiratory mucous membrane and kidneys, and is productive of irritation in those organs if large doses are administered. Its effect upon the nervous system is antispasmodic, for which purpose it is applied therapeutically. The small percentage of bromine in the combination adds to its antispasmodic virtues. Bromoform is also antiseptic.

Toxic Action.—When a toxic dose of a pure or impure preparation of bromoform is taken, there is a temporary stimulation and exaltation of feeling which is rapidly replaced by unconsciousness so deep that the patient cannot be roused; respiration is very shallow; pulse is very weak; pupils are contracted to mere points; there is general muscular relaxation; no convulsions; no cyanosis; cold skin, and odor of bromoform on the breath.

In such cases, artificial respiration may be necessary; galvanism. Apply heat to the body and cold to the head; rub the extremities from the periphery toward the body; stimulate freely with hot, diffusible stimulants or hypodermatics of strychnine, or, in some cases, morphine and atropine. When toxic action occurs in anesthesia, treat as in chloroform narcosis.

Therapeutical Applications.—Up to the present time bromoform has been used almost exclusively in the treatment of whooping cough, and most encouraging reports are recorded in favor of its universal adoption, as the remedy for this disease. It has been administered in doses of one to five drops for children, three or
four times daily, given in a teaspoonful of water—care being taken to see that the bromoform does not remain on the spoon, as it will not mix with water. Always begin with the minimum dose and increase it as necessary. It is the general experience of those who have used it, that whooping cough can be shortened in its course to three or four weeks. On the second or third day it is noticeable that the number of daily paroxysms has decreased; their severity and duration have been lessened; expectoration is favored; vomiting is lessened or entirely disappears.

Bromoform is a very uncertain remedy for patients to drop, as they are liable to get too much or too little. In my practice the following combination has been found preferable to the pure drug, and also increases greater accuracy of dose:

<table>
<thead>
<tr>
<th>R Bromoform</th>
<th>m xvj</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>f3 ij</td>
</tr>
<tr>
<td>Glycerin</td>
<td>f3 xij</td>
</tr>
<tr>
<td>Tr. cardamoni comp.</td>
<td>ad...f3 ij</td>
</tr>
<tr>
<td>Misc.</td>
<td>ad...f3 ij</td>
</tr>
</tbody>
</table>

Sig.—One teaspoonful every four hours.

Six cases of typical whooping cough were treated by this method recently, in my own private practice, with an average duration of twenty-five days. The bromoform was given for about three weeks, as indicated, and followed for one week with malt-o-verbine, thrice daily. No complications or sequela occurred in these cases.

Loewenthal gives a report of 100 cases of whooping cough (Berlin klin. Wochensch. No. 23, 1890) treated with bromoform, two to five drops, three times daily, in water, with the very best results, and claims that in bromoform he has found "almost a specific action."

A number of cases are reviewed in the New York Medical Journal (Vol. LI, 1890, p. 157) in which the author reports very encouraging results from the use of bromoform, claiming to cut short the duration and severity of whooping cough.

But the application of bromoform does not improve itself to the treatment of whooping cough alone. Small doses of the above combination may be used every half hour or hour, for one, two or three doses, to check stomachic pains and colic; also to relieve severe cough accompanying laryngitis, pharyngitis and bronchitis. If to the above combination you add one grain of antimonii et potassæ tartras, or one-half drachm of wine of antimony, you have an expectorant for a dry, tickling, hacking cough in an incipient cold.

Bromoform will never replace chloroform as an anesthetic, for it is more dangerous and irritating in its effects and results.

What can we say about the objections raised by those who claim that the drug is dangerous and poisonous?

A number of cases of bromoform poisoning have been reported in our journals during the past two years, and from a general study of them it would appear that:
1. an impure preparation had been used;
2. too much liberty had been exercised in giving irregular doses by inexperienced persons;
3. too large doses had been given by those who were entirely ignorant of the physiological and toxicological action of the drug. Untoward symptoms will never result if a pure preparation is used with a moderate amount of conservatism, and the clinical experience of many who have used bromoform confirms this.

Conclusions.—No preparation of bromoform should be used unless it is absolutely clear and colorless; unless it is obtained from competent pharmacists; unless it is kept in non-actinic bottles in a cool place.

Bromoform should be given in combination rather than in its purity, to insure uniformity of dose and to avoid mistakes by patients dropping it from a bottle.

Bromoform finds its most extended application in the treatment of whooping cough, in which disease it exerts almost a specific action, greatly diminishing severity of symptoms and shortening its course.

Bromoform may be applied to the treatment of nearly every condition where chloroform is indicated, but will probably never replace the latter as an anesthetic.

Bromoform must be used with caution; must not be placed indiscriminately in the hands of the laity; must be administered with certain restrictions, already indicated; and untoward symptoms will never result.

Bryn Mawr, Penn.
FOOD AND STIMULUS.

By Samuel Wolfe, M.D.
Professor of Physiology, and Clinical Professor of Nervous Diseases, Medico-Chirurgical College, Philadelphia.

It was late on Sunday night; I was sitting in my office alone. I became aware of a stillness, unusual for even that quiet hour. I turned to the old grandfather's clock in the corner of the room, an heirloom and highly-prized, by the way. On opening the panel door in the case, I found the pendulum still swaying regularly from side to side, but not with its full range. The second-hand on the face rocked to and fro with perfect regularity, but did not advance over its usual circular course. The great weights had sunk as far as the fully unwound cord would admit. I had neglected to wind the clock the night before, the accustomed time for performing that weekly duty, and the faithful old servant had exhausted—almost exhausted—the last vestige of force stored there more than a week before. The food material had been all used up. I thought, will the winding restore the swing of the pendulum to its full degree? Will it bring back the tick and movement of the works and hands? I tried it, and waited. The pendulum and second-hand continued their weak, purposeless movements, but they gained no power. They became even fainter. There was the force, ready to act, in the suspended weights—enough of it to run the machinery for eight days. The weak, dying patient had been fed to repletion, but nothing had been gained. I gave the pendulum a slight push; the familiar tick was heard, the oscillating hand advanced; the clock was off for a week's run. I had given a stimulus.

1624 Diamond St., Philadelphia.

HYSTERO-EPILEPSY.

By R. B. McCall, M.D.

The symptoms of hystero-epilepsy may be catalogued as follows: Pain in vertex, clavus hystericus, hyperesthesia of one ovary, hyperesthesia of one or the other sub-clavian region, numbness and tremor of corresponding right or left upper extremity. In the grand paroxysm there is always opisthotonus with violent retraction of head, rigidity of spine, trunk resting on its side, one leg across the other, foot extended, toes pointing, forearms extended at (or nearly) right angles, hands firmly clenched. Under writer's observation early seizures have been single, but in every instance the status hystero-epilepticus has been rapidly developed, events recurring at short intervals, making an almost uninterrupted series. As compared with each other successive series will be found of varying intensity.

From one attack patient emerges apparently little worse for the experience, plunges into another with a like result, and thus on through all the grand tragedy, lasting for many hours or days in some instances. In hystero-epilepsy certain symptoms may always be looked for—numbness and tremor of an upper extremity, clavus hystericus, thoracic and ovarian hyperesthesia, opisthotonus, crossing and extension of lower extremities.

In the way of diagnosis, it may be noticed—firstly, where previous history is obscure and where there are extreme opisthotonus and rigidity, absence of the characteristically frightful facial grimace will exclude tetanus; and secondly, contrasted with epilepsy—it lacks the warning cry and falling, the biting of tongue, and furnishes the further fact that recurring attacks do not materially or appreciably impair mental health and activity. Where-as the epileptic ere long becomes a picture of mental hebetude.

In the absence of organic complications, pulse-rate and temperature are normal, facts it would be well to remember when the case is that of a female who may be in utero-gestation. Writer's observation has been enriched by two recent cases, both of distinct neurotic type. On September 16th, was called to Mrs. L., who had two convulsions previous to arrival.
Symptoms were vertical headache, exquisite circumscribed pain and tenderness of right sub-clavicular spot and right ovary, tremor and numbness of right arm, succeeded by tetanization of trunk and extremities. Pulse and temperature were normal. Between paroxysms patient complained of muscular fatigue, but strength seemed to be little diminished, and return to consciousness was perfect. To the question, whether she knew what was transpiring, the answer was she could not tell anything. No attempt was made to excite a recurrence of attack by pressure to ovary or tender spot in thorax.

Chloroform will usually, if not always, cut short the paroxysm. It should be inhaled from a handkerchief or sponge, held near nose, permitting a few inhalations and then withdrawn. Whether this agent can do more than temporarily break this chain of morbid events by its relaxing influence, is perhaps unknown. It may be understood, however, that if each recurring attack is jugulated, as it were, the force of the diseased action as a whole may be broken, and so the remedy would be curative.

Amyl nitrite will arrest the fit, but its behavior is not so satisfactory; under its influence face becomes more congested and dark, and like engorgement of brain may be increased. Chloroform beyond doubt possesses definite palliative, if not curative power. In Mrs. L.’s case nitrite of amyl was contrasted with chloroform in its effects, showing the superiority of latter.

Bromide of potassium alone or with chloral hydrate, as in the following, should be faithfully tried:

| R | Kali brom………………… 3 v½ |
|   | Chloral hydr.……… ½ |
|   | Aqueae menth. pip… f v

M. et ft. Sol. Sig.—Teaspoonful doses every half hour or hour till sleep is induced, and then every two or three hours, or often enough to maintain sedation.

In above described case, this combination, given as directed, had a most gratifying effect. After a few doses she dropped into a refreshing slumber of an hour’s length, interrupted, of course, by a convolution somewhat milder than the previous ones, which in time was succeeded by sleep, and thus continued until nature became tranquilized. This result corroborated the expressed opinion of Dujardin-Beaumetz, and established the diagnosis. As stated, amendment began with the use of the bromide, yet black cohosh was early introduced.

Let the following be given:

R Cimicifugae racemosa… f ½ ij
Sig.—Twenty-five drops in water ter in die.

Cimicifuga unquestionably exercise a sedative and tonic influence, and if practicable should be exhibited at the commencement of the attack, and continued for an indefinite period. By its judicious employment, coupled with small quantities of phosphate of iron and arseniate of strychnine in another preparation, much may be done to build up the nervous system and fortify it against those causes that are calculated to disturb its balance. Freedom from cares that disquiet the mind, out-door exercise with suitable employment, travel, hope and an aim in life, must have a place in the therapy of this malady.

Hamersville, O.

PERISCOPE OF THERAPEUTICS.

By J. Lindsay Porteous, M.D., F.R.C.S. Ed.

Beta-Naphthol.

This coal-tar derivative has a faint storax-like odor; when sublimed, is a white, shining, laminar crystalline substance, soluble in alcohol, ether, chloroform and benzene; sparingly soluble in hot water, but soluble 1 in 8 of olive oil and lard, and 1 in 80 of vaseline.

Dr. G. A. Gibson, of Edinburgh, Scotland, found it very useful in pernicious anemia, and also in simple anemia. He gave it in a pill containing two grains, three times daily. It rapidly increased the red blood-corpuscles; at the same time the weight of patient marvellously increased.
Aristol.

Aristol in post-nasal catarrh and hay-fever has acted well in my hands. After thoroughly douching the nasal and post-nasal passages, also the pharynx, with some antiseptic lotion, I apply to all available parts the powder. In no case have I seen failure.

Salicyrin in Rheumatism.

A. L. Tretchenberg has used the drug in eleven successive cases of acute rheumatism with the best results. Dose, one gramme (gr. xv) five times daily.

Salophen.

We have used this remedy with the most encouraging results in rheumatic neuralgia. Frohlich (Wien. Med. Woch., July 9, 1892), mentions having used it in thirty cases of acute articular rheumatism without a single failure. Large joint effusions were not influenced.

He prefers it to the salicylates for the following reasons: (1) Because being decomposed in the intestine, it does not irritate the stomach; (2) It can be given in large doses and for a long period without unpleasant effect; (3) It is tasteless.

Calcium Salts.

Sée, after showing the great value of calcium in the body, as in the formation of bones and teeth, and in the maintenance of the alkalinity of various tissues and liquids, concludes that the preparations of potassium and sodium are uncertain, and are slowly absorbed and equally slowly eliminated. The iodide and bromide of calcium, on the other hand, when we want to exercise the effect of the bromide and iodide upon the body, are particularly useful. The bromide and chloride of calcium are also applicable in a large number of dyspepsias and stomach disorders, not producing the gastric disturbances of potassium and other salts.

Ipecacuanha in Uterine Inertia.

We have found this drug useful in simple atony of the uterus, and have frequently used it in preference to Ergot Draps (Der Frauenarzt, March, 1892) has experimented with it, and likewise found its usefulness, in producing uterine contractions in the first and second stages of labor. He gives it in ten or fifteen drop doses of the tincture every ten minutes, for three doses.

Testicle Juice.

Testicle juice, used for the cure of cancer by hypodermatic injection, is the latest outcome of Brown-Sequard’s researches. In the Sem. Med., September 7th, 1892, after referring to the previous reports on the value of the remedy as a tonic and stimulant to the nervous centres, he gives an account of a case communicated to him by Dr. Labrosse, of Muslapha, Algeria, who had treated by injections of testicle juice (rabbit’s) a woman with cancer of the womb beyond operation. After twelve injections the patient, who was in the cachectic stage and was so weak that she could not leave her room, was able to walk about and go out driving; also that the discharge, which had been very profuse and offensive, ceased altogether.

Saprol—a New Disinfectant.

Laser (August 18th, 1892), gives an account of investigations made by him into the properties of this drug. It is a dark brown, oily substance, which lies upon the surface of fluids to which it is added, and these extract from it its disinfecting properties—phenol, creasol and other products of coal-tar, which are soluble in water. Urine and feces impregnated with micro-organisms—st. pyogenes, bacilli of cholera and typhoid, etc., can be effectively sterilized by saprol in the proportion of one per cent., and it is likely to prove of value in the disinfection of the dejecta and of fluids on a large scale, as in barracks, prisons, schools, workhouses, etc. Sewage treated with saprol is said to retain its manurial value.

Male Fern.

Katayama and Okamoto call attention to a number of cases of temporary or permanent amblyopia caused by the vermifuge. Five out of twenty-five cases mentioned have occurred in Japan, and it is also worth recording that no case of visual disturbance was noticed till within the last ten years. It is suggested that the dose now given is larger than was formerly deemed necessary.

83 Warburton Ave., Yonkers, N. Y.
THE BASIS OF SCIENTIFIC THERAPEUTICS.

A Preliminary Paper.

By John Aulde, M.D.

A preliminary paper discussing the questions likely to come up in an effort to determine the true basis of scientific therapeutics, owing to the limited space at command, must necessarily be brief; but it is hoped that a number of readers will be sufficiently interested in the matter to warrant a more extended examination of the subject. The present position of therapeutics may be likened to an ornate but incomplete architectural design supported by an immense tripod, the three pillars being respectively empiricism, bacteriology and applied science. Empiricism is here placed first, because in the early history of medicine the superstructure rested upon this alone. The shifting, as will presently be shown, has been towards applied science. The physiological basis of many empirical measures is now understood, and as a consequence we are learning to look upon them, not as obsolete methods, but as clinical facts which await a scientific demonstration of their value. In other words, physicians are gradually advancing the recommendations of bygone days to the position demanded by modern science. Nothing better illustrates this conspicuous change than the recent endorsement of acids in the treatment of cholera; and the hypodermatic use of saline solutions, employed so successfully in the last epidemic of this disease, is a further example of the value of the same plan of treatment, as it has already been pointed out in these columns that the lactic acid in the system combines with the chlorine of the sodium chloride to form hydrochloric acid, the normal acid of the gastric juice.

Bacteriology has been advanced to such a prominent place as a factor in deciding methods of treatment that it is now enti-
tinction between scientific and clinical facts. There was also published in the same number an elaborate article from the pen of Dr. Sims-Woodhead, which dealt with the scientific questions connected with the practical applications of the principles underlying that branch of medical science known as bacteriology, in which it was demonstrated that definite information looking to the advancement of therapeutics was within our reach only by obtaining positive knowledge concerning the influence of bacteria and bacterial products upon the living cell. In addition to this, however, it was shown that our future triumphs in the treatment of specific disease must be determined by our knowledge of the effect of therapeutic agents, organic and inorganic, upon the protoplasm of the cells of the living body and upon cell-activity. In previous publications, I have called attention to the fact that physicians take cognizance of the gross characteristics of disease rather than of the influence of disease upon cell-life, and have advocated certain changes with a view to adapt our medication to the restoration of cell-activity, a plan which I have ventured to designate cellular-therapy.

As there is some danger that the abstract character of these remarks may prove unintelligible to my readers, I deem it advisable to digress briefly in order to give them a practical turn. For example, empirical therapeutics is based wholly on a collection of recorded clinical facts. Whenever our investigations enable us to demonstrate the modus operandi of any special drug in relieving disease, the use of the remedy ceases to be empirical; the method of treatment is shifted to a scientific basis and its position recorded as a scientific fact. Thus, the value of quinine in malaria has long been recognized as a clinical fact. When the antagonism of the drug to the *plasmodium malariae*, the animal parasite found in the blood in this disease, was shown, its empirical character disappeared, and the method of treatment shifted to the domain of scientific facts. But, even with this information at hand, we are not in possession of the exact pathological changes taking place during the progress of the disease by which its peculiar characteristics are manifested. Admitting the conservative processes of Nature dependent upon the antiseptic influence of the blood-serum and phagocytosis is not, in my opinion, a sufficient demonstration; in studies of this character, where there are liable to be present so many complications, there should at least be some attention given to the influence of the nervous system upon functional derangements, if for no other reason than that disorders of this class frequently disappear without medication. We should also have some definite ideas concerning the influence of the parasite directly upon cell-life, or indirectly upon the nervous system, and this question, it seems, properly belongs to the histologist and to the chemist, although I shall take occasion to refer to it again in connection with the doctrine of cellular-therapy.

This brings us to a consideration of the present methods of physiological investigation, which are substantially the same as taught in 1755 by von Haller, the nestor of modern physiological therapeutics. The directions given by von Haller are as follows: "In the first place, the remedy is to be tried on the healthy body, without any foreign substance mixed with it; having been examined as to its odor and taste, a small dose is to be taken, and the attention directed to all effects which thereupon occur, such as upon the pulse, the temperature, the respiration, the excretions. Having thereby adduced their obvious phenomena in health, you may pass on to experiment upon the sick body."

Exception is taken to the foregoing advice, for the reason that no mention is made of studying the effect of the remedy upon the nervous system, although this is implied in the instructions. The principal difficulty at present is, that the action of drugs upon the nervous system has not been fully or fairly considered. The effect
of a drug may be determined in accordance with the directions of Haller, that is, upon the pulse, the temperature, the respiration and the excretions, when given to animals, but we obtain none of the desirable and necessary facts as to the action of the remedy upon the nervous system.

Modern scientific research deals principally with the mechanical results following medication to the exclusion of the psychical effects, and the natural outcome of such a plan is visible to the most superficial observer from the frequent reports of sudden and unexpected death among persons suffering from apparently slight ailments. Narcotics, hypnotics, anti-spasmodics, antipyretics, cardiac stimulants and depressants, and other nerve-destroyers undoubtedly exert a hurtful influence upon the nervous system, and ultimately disturb the functions of cell-life to an extent that is irreparable. The mechanical theory, while it meets the demands of medical science as now taught, is far from satisfactory, inasmuch as it does not meet the requirements of vegetable life; on the contrary, it destroys it by striking a death-blow at the very foundations—the functions of the living cell.

Some years ago I had a practical illustration of the necessity for taking into consideration the psychic effects of a remedy when administering medicine, and the utter failure of this action to manifest itself when employed under strict physiological methods. A physician of large experience, with a decided leaning towards physiological medication, undertook a series of experiments upon dogs to show that the small dose of cannabis indica advocated could have no influence in controlling or arresting migraine. My patient had recovered in the space of an hour from a most painful attack of migraine which had lasted several weeks, but the same dose administered to dogs for a period of two hours had no influence whatever upon the pulse, the temperature, or the respiration. There can be no doubt, however, that the small dose will have some effect upon certain cerebral structures, and in the case of a disease such as migraine, where we are warranted in assuming that these tissues are affected, a small dose may very easily so modify them that pain will disappear. The evidence is quite clear that the drug affects the nerve-cells, and as it is well known that diseased nerves as a rule, are more sensitive than when in the normal condition, there is but one conclusion, namely, that they will be more susceptible, therefore, to medicaments which specially affect them in health. In addition to this, however, we ought to know something about the influence of the drug upon the protoplasm of the cerebral cells whose vitality is thus modified, but space forbids my going into that discussion.

The manifold uses and well-known therapeutic properties of potassium iodide, perhaps will afford a more practical demonstration of the need for studying the influence of drugs upon cell-activity and upon cell-life. Potassium iodide is used very generally when it is desired to rid the system of excrementitious products, and is too often employed as a mere routine practice, but being promptly eliminated, it does no serious harm to the organism, such as follows the exhibition of the potassium chlorate, and such as may often attend the injudicious use of alkaloidal drugs. It is of decided benefit in the treatment of boils and carbuncles; it is also of signal value in the treatment of humid asthma and coryza; it is likewise employed with benefit in certain forms of cardiac and hepatic affections; but no one who has considered the matter from its various bearings would, for a moment assert that potassium cures the different affections mentioned. Its function is principally that of an eliminant, and acting through the different channels, the irritating factors are removed from the system, when boils and carbuncles get well of their own accord; humid asthma and coryza disappear because the objectionable materials eliminated vicariously
by the pulmonary structures and mucous membranes of the nasal fossa have been diverted; and the deranged cardiac action and hepatic torpor cease when elimination has carried off the extra load placed upon them by disease. This explanation appears to me to be in strict conformity with physiological deductions, and in perfect harmony with the ideas that are now entertained in regard to cell-life and cell-activity, and supported by other convincing evidence of like character, it is believed the doctrine of cellular-therapy as the basis of scientific therapeutics, will meet with a favorable reception at the hands of the profession.


Clinical Record.

THE USE OF ARSENITE OF COPPER IN CHRONIC DIARRHEA.

The therapeutic value of arsenite of copper in the treatment of diarrhea has, through clinical experience, become well established.

I have always been an advocate of small doses, and for that reason had some tablet triturates of arsenite of copper, grain \( \frac{1}{2} \) \text{grs.}, made by my druggist. These are unobjectionable to the most fastidious tastes, and can readily be permitted to dissolve slowly in the mouth without inconvenience, although swallowing them as a pill I have found preferable.

Much has been written in favor of this drug, but so far very little matter in its disfavor has appeared in the columns of the journals. It is in the chronic diarrhea of those well advanced in years, that this remedy has proved so efficacious in my hands; as illustrations, the following two cases will demonstrate its value.

Case 1. Mrs. A. B., aged sixty-eight, a Southerner, had been a sufferer with chronic diarrhea for a long period, which had resisted all treatment, although she had been under the care of good men in the South.

She consulted me on October 12th, 1891, for a diarrhea which had persisted for some time; the discharges were watery and profuse, occurring every hour or so.

I ordered her the tablet triturates of arsenite of copper, grain \( \frac{1}{2} \) \text{grs.}, every hour, careful directions as to diet being insisted upon.

On the following day the diarrhea was checked, the passages had become normal in appearance, but as a precaution she was urged to continue the tablets every four hours for a few days until all danger of a relapse had passed.

On the 15th she expressed herself as feeling better than she had for years past, and there was no recurrence of the trouble.

Case 2. Mrs. B., aged sixty-five, consulted me on the evening of September 3d, 1892, for a chronic diarrhea from which she had suffered for a long time. She had been under the care of a homeopathic practitioner, but without obtaining any apparent relief. When I saw her, she was much prostrated by this continuous drain upon her system, and to make matters worse, the little nourishment that she was able to take, passed through her but little changed. The discharges were constant, very watery in character, and filled with undigested food and mucus.

I at once put her on arsenite of copper, grain \( \frac{1}{2} \) \text{grs.} every hour; diet to consist of milk and light broths. I saw her again on the morning of the 4th, about ten o’clock; she had had a good night, not having been disturbed by a bowel movement. The same treatment was continued for that day.

On the 5th the improvement continued, the feces were well formed and normal in quantity. She was allowed gradually to return to her usual diet, and one triturate to be taken immediately after meals and at bed-time. With this treatment the patient made a speedy recovery. She was much pleased with the agreeable taste of the tablets, and astonished at their efficacy.
In the August number of the American Therapist, Dr. F. M. Morgan describes a case of acute dysentery in a patient aged eighty-five years, who recovered in forty-eight hours by the administration of arsenite of copper; truly, "a very remarkable case."

I have used this remedy in a large number of cases with satisfactory results, but the two I have just recorded were severe, chronic cases, in which all other medication had failed, and will therefore better serve to demonstrate the full therapeutic value of arsenite of copper.

T. Hewson Bradford, M.D.
125 S. 18th St., Philadelphia, Pa.

AN OVARIAN TUMOR PRESENTING SOME UNUSUAL FEATURES PRIOR TO REMOVAL.

(DR. WILLIAM PIERSON'S CASE.)

Miss R. H.—Act. 63. American. Began to menstruate when 16 years old. She was regular as to time, but had a great deal of pain. Painful menstruation continued till she was 35 years old. From 35 to 40 years of age she had absolutely no physical disturbance. At that time she weighed 145 lbs., and had a prominent abdomen. The menopause began at 40, ceased at 42. During these two years she had profuse leucorrhea, abscesses in her groin, and occasional pain in the lower part of her abdomen. When menstruation had entirely ceased (42) leucorrhea, abscesses and pain disappeared, and she enjoyed excellent health till 59 years old. She then began to lose her appetite, "grow thin," "feel miserable all over," and have pain, intermittent in character, in the uterine and ovarian regions. She lost flesh rapidly, but her abdomen remained as prominent as when she was fleshy. During the 60th, 61st and 62nd years, she admits that her abdomen gradually enlarged, and was at times painful. She also had a "heavy weight" in the lower part of her abdomen during that period.

A few weeks ago she went to Dr. Pierson's office, was examined, and told she had an abdominal tumor. The tumor occupied mainly the right half of the abdominal cavity, extending from a point about 2 inches below the free border of the liver to the pubic arch, and from the right side of the abdomen (axillary line) to a point about 3 or 4 inches to the left of the median line. The tumor could be outlined along its upper border—which was hard and edge-like to the touch. It was kidney-shaped, and complicated with what appeared to be a double hernial protrusion. It was quite impossible, however, to outline its lower or lateral borders with accuracy. It was, in its entirety, non-fluctuating and hard. The intestines rolled up over the upper and anterior border of the tumor. In consequence of the existence of the tumor within the abdomen, the ovaries could not be felt. The bowels were constipated; the urine normal in quantity and character.

The patient at this juncture was seen by Drs. E. J. Ill, of Newark, Wm. J. Chandler, of South Orange, and myself, by Dr. Pierson's invitation.

As the tumor was situated far back in the lumbar region, it was thought by Dr. Ill it might be a tumor of the kidney. On account of its attachment to the right broad ligament, he thought it might be an ovarian tumor. Dr. Pierson thought it was probably a renal tumor because of its kidney-like shape, because it extended far back toward the region of the kidney, also because of the presence of the intestines in front of the tumor and the existence of an apparent double inguinal hernia. Dr. Chandler did not think it was ovarian or uterine in origin. I thought it was in connection with the ovary or uterus.

Dr. Pierson, however, decided that an explorative incision ought to be made to determine the true character of the tumor, and as some of those who saw the case concurred with him in this opinion, he operated October 18th.
Without commenting upon the various steps of the operation, I will simply state that it was done with every antiseptic precaution, and with the skill which the operator always exercises on such occasions. The tumor proved to be one of the right ovary. Just prior to removal it was tapped, and a small quantity of semi-gelatinous fluid removed. Immediately after removal, the tumor was found to weigh 5 lbs. 2 oz. Its smallest circumference was 28 inches; its largest 35 inches. It had a firm capsule, flesh-colored, and so thin at two or three points as to show the color of the small nodular masses within. There were within the common capsule fourteen cysts about as large as a hen's egg. Three contained a gelatinous fluid, the remainder a semi-gelatinous fluid. There were six thin-walled cysts, containing a clear, watery fluid. The other masses when opened were found to be solid, their interior being made up of a cheesy-like material. The common capsule had at some points many blood vessels, but as a whole it was not vascular. There was no point of ulceration on the capsular surface.

When examined microscopically it was found to be a proliferating cystoma of the ovary.

I remark here that Dr. Pierson did not regard the inguinal prominences as a double hernia, as he could not get any impulse when the patient coughed; others regarded it as a hernia.

It was discovered subsequently that some of the fluid which was in the abdominal cavity caused the bulging, by flowing into the canals. The tumor had an unusually long pedicle, and was tied in three separate parts.

Attention is called to this case because the tumor presented some features which led some of the gentlemen to think it was renal in origin, and advised against an operation. Had this advice been acted upon the patient would have died of exhaustion, and been forced to bear unnecessary pain till relieved by death.

Jos. Wm. Stickler, M.S., M.D.
Orange, N. J.

BILIOUSNESS.

Some weeks ago I was consulted by a gentleman, past fifty, who had long suffered from indigestion. He had consulted various physicians, and besides, had followed the advices of friends. His first attendant had failed to afford him any relief; a second had prescribed ergot for "dizziness," and with apparent benefit for a time. On his own responsibility he had deluged his stomach with the different digestive ferments, in combination and singly; and at the time I saw him, he was taking pancreatin about three hours after meals, and said he had derived more benefit from it than from any other medication; but he often had restless nights, with some nausea and lack of appetite in the morning. The tongue was dry, and covered with a thick, brown fur; the skin sallow, conjunctive discolored and injected; no pain was noticeable in the hepatic region, but there was a sense of fulness about the waist, and quite frequently a dull pain manifested itself in the region of the umbilicus, and the bowels were constipated. The patient is plethoric, a good liver, but not gouty, lithemic or rheumatic, and presents a typical picture of "biliousness" as we now understand it.

As a preliminary to treatment, it was found that no instructions in regard to diet were necessary, as the patient had learned from experience that carbohydrates were productive of discomfort, and his habits were unexceptionable. There was wanting only exercise to enable him to regain a healthy condition of the digestive apparatus, more especially the hepatic function. Treatment consisted in the administration of mercury biniodide, gr. 1/100, dissolved in about two ounces of water, just before meals. When seen a week later, he said he had fully recovered, but that after a few days the action of the medicine had been unfavorable, since it had given him severe abdominal pain, quite different from that which had usually troubled him, and the bowels had been decidedly relaxed. Fearing
that bad results would follow this action, he had taken some laxative mineral (sulphur) water and discontinued the medicine, and all symptoms of indigestion had disappeared.

A word in explanation may be added to the effect that the biniodide in this case had an excellent opportunity of producing its two-fold action, viz: that of an antiseptic and a hepatic stimulant, and as a result the discharge of bile into the intestine—perhaps somewhat irregularly—had caused a moving or fluctuating pain with increased action of the bowels, but the final effect had been beneficial. The secret in the successful treatment of this class of cases lies in striking directly at the cause, by stimulating the function of the hepatic cell by the exhibition of small doses; and the foregoing case will serve to illustrate the practical working basis of cellular-therapy.

Catarrahal Croup.

In catarrahal croup we have evidence of a relaxed condition of the circulation, or perhaps it would be better to say, a disordered condition of the arterial blood-supply. The best results usually follow a preliminary treatment which has for its object the restoration of arterial pressure to normal. Quinine is an excellent remedy for this purpose, and in addition it possesses valuable antiseptic properties, thus making it especially useful in case the cattarrhal should develop into membranous croup, so closely allied to diphtheria.

Quite recently I was requested to prescribe for a child three years of age, and a record of the conditions present and the treatment adopted may prove interesting. The father said the child had been croupy for two days, and the night before they had been compelled to keep awake the greater part of the time to give cough medicines; but, he said, as evening again came on, the child seemed to be suffering more than ever. It was then six o'clock p.m., a rather unfavorable time to begin fighting croup, but I gave him a two-grain pill of quinine hydrochlorate for the child, to be taken at once, and promised to call and see him an hour later. At seven o'clock, the child appeared to be more comfortable, the parents said, but breathing was difficult, expirations prolonged and inspirations very husky, the supraventricular spaces being regularly depressed at each inspiration.

The routine treatment, by emetics, calomel and local applications, would have required several days or a week, and in the end would have left the patient suffering from the effects of medication as much as from the disease; and as a rule, convalescence is remarkably slow. Moreover, these little patients treated on the plan outlined are subject to recurring attacks on the slightest exposure, doubtless from the devitalizing action of the remedies employed. The further treatment of the case was conducted as follows:

R Atropine sulphas........ gr. 1/100
Potass. bichrom........... gr. 1/10
Aqua...................... f 3 iv.
Sach. alb., q.s.

M. Sig. Give one teaspoonful every ten minutes for an hour; then at hourly intervals while awake.

The disease promptly responded to treatment; the child had a comfortable night, requiring no attention on the part of his attendants. The medicine was continued at hourly intervals during the day following, but there were no more symptoms of croup, and on the third day the child was able to go out, and has had no relapse from the exposure.

The basis of treatment in this case rests upon the well-known influence of atropine upon the throat structures, the effect of a small dose being that of a stimulant acting through the medium of the nervous system; and still, it demonstrates the desirability of avoiding the manifestations of toxic action, generally referred to as the physiological effects. Substantially the same holds true in regard to the potassium bichromate, although there is a slight difference, inasmuch as elimination of the
latter is effected through the mechanism of the epithelial cells of the diseased tissues, by which process we are warranted in assuming the effect to be that of a stimulant in the line of cellular-therapy.

Tonsillitis.

Tonsillitis, in the early stages, is readily amenable to mild treatment. For example, I have a patient, a young lady, who suffers from spasmotic asthma, the attacks being frequently brought on by indiscretions in diet, followed or not by exposure to inclement weather. She is given to wearing thin-soled shoes and light weight clothing, and has occasional attacks of sore throat, which have generally developed into tonsillitis. Now, however, these attacks can be promptly arrested by the exhibition of a solution containing mercury biniidode, gr. 1/25, and atropine sulphate, gr. 1/600, to four ounces of water, taken in teaspoonful doses at intervals of ten minutes during the first hour and at hourly intervals thereafter. Fever, increased pulse-rate, or chest-pains, would of course call for other medication, such as aconite, gelsemium, or bryonia; a rheumatic diathesis would indicate the employment of the salicylates, and a malarial cachexia, quinine; while in the later stage of the disease, under either condition assumed, calcium sulphide would prove most beneficial.

John Aulde, M.D.


Recent Medicaments.

Anticholerin—Klebs.

The distinguished clinician who improved Koch’s tuberculin and then produced tuberculoidin (described in our September issue), is the author of a similar lymph for the destruction of the cholera bacillus. Prof. Klebs has made successful trials with anticholerin in Hamburg, reported in the Frankf. Zeitung, but a final and conclusive report will probably not be rendered, owing to the waning of the epidemic and consequent insufficient clinical material, until after further extensive trials next year in localities where the pest may again appear. The preliminary report claims that the lymph directly attacks and destroys the bacilli, restoring the affected organs to their normal condition and functions, and thus aborting the disease. In some very severe cases under treatment at Hamburg, complete cures were effected within three days. Further reports are promised as material is adduced.

Dulcin.

According to the Pharmaceutische Zeitung, 1892, No. 87, p. 674, a new product, designated by the manufacturer as Dulcin, has just been introduced, which promises to prove an equal competitor for saccharine. The product has been known as para-phenetol-carbamid, a definite chemical product first produced in 1883, but neglected until now, owing to the excessive cost of manufacturing.

A cheaper process having been discovered the utilization has become possible, and the product is now being thoroughly tested preparatory to introducing it for general use in medicine and technically. The publication of clinical reports will undoubtedly arouse considerable interest, as did the first publications regarding saccharine a few years ago.

Myrrholin.

Dr. Kahn, in the Muenchener Med. Wochenschr., No. 31, contributes a clinical report on a new antiseptic reducing agent, Myrrholin. The product is described as a mixture of 1 part myrrh and 1 part oil, the combination being effected by a special process. This announcement is not so clear as we are accustomed to receive them with new introductions from German sources, and it leaves the suspicion that the product is a secret proprietary preparation. A companion product is Ungt. Myrrhol, a combination by the same “special process” of 1 part myrrh and
10 parts of a mixture of wax and fatty oil. This ointment is of soft consistence, yellow color, and possesses an agreeable odor. The ointment is recommended especially for eczema of the nasal orifices, and is said to produce quick relief and healing. Dr. Kahn also speaks of administering capsules of 0.3 grm. creasote with 0.2 grm. myrrholin, but furnishes no details as to indications or results.

Losophan.

The manufacturers of sulfonal, phena
cetin, etc., have produced a new dermatological remedy, which is chemically described as Tri-iodide-cresol; it contains 80 per cent. of iodine, occurs in white needle-shaped crystals, melts at 121.5° C. (250.7° F.), is difficultly soluble in alcohol, readily soluble in ether, benzol, and chloroform; at 60° C. (140° F.) it will also readily dissolve in fatty oils.

Dr. Edmund Saalfeld has furnished the first clinical report on the use of losophan, in the Therap. Monatshefte, 1892, No. 10, p. 544. He employed the product in a large number of skin affections, notably mycosis tonsurans, herpes tonsurans, sycosis parasitaria, etc., all with favorable results; in eczema he found the action too strong, and accompanied by undesirable irritating effect.

The applications were made in form of a 1 per cent. solution in water (¼) and alcohol (¼), by means of a camels-hair brush; for eczema he preferred a salve of 1 or 2 per cent., using petrolatum, or lanolin with 20 per cent. petrolatum, as a base. The report is generally favorable, and we are therefore assured of another iodoform substitute.

Chromic Acid.

Pure chromic acid (CrO₃) is obtained by the action of sulphuric acid upon potas
sium chromate, and occurs in the form of crimson-colored, needle-shaped crystals, slightly deliquescent and easily soluble in water. It should not be brought into con-
tact with alcohol, glycerin or ether and other readily oxidizable substances, owing to the fact that chemical changes take place, resulting in decomposition.

Chromic acid is only employed locally as an escharotic, but in this capacity it enacts the rôle of a deodorizer and disinfectant, and may therefore be classed with the antiseptics. When applied to unhealthy tissues, oxidation takes place, albumen is coagulated and organic matter destroyed, and although it penetrates deeply, its action is comparatively slow and much less painful than that of nitric acid.

The attention of the profession has recently been directed to the value of this remedy as a caustic for the removal of syphilitic ulcerations appearing in the mouth and elsewhere, in which it may be applied in various ways. It can be used with caution in the form of a simple paste prepared with water; a twenty per cent. solution in distilled water may be used instead of the paste to destroy condyloma, syphilitic warts, lupoid ulcerations, but the surrounding tissues should be protected by the use of cotton wool saturated with some alkaline solution. A two and a half per cent. solution may be em-
ployed in non-syphilitic cases to destroy unhealthy granulations, to be followed by a solution of peroxide of hydrogen. This remedy is especially serviceable in nasal ulcerations, where it will be found advis-
able to have it prepared in the form of a five per cent. powder with dextrin, since the latter possesses adhesive properties and rapidly takes up moisture, thus per-
mitting the drug to act upon the diseased area, while it prevents any extension of the escharotic action. This powder will also be found available occasionally in uterine ulcerations and erosions, and in hemorrhoids, but when used in cavities where the drainage is imperfect, care must be taken to prevent absorption of the debris following its action, and no-
thing so well does this as the liberal use of a solution of hydrogen dioxide.
FUNCTION OF THE CELL.

The Metschnikovian theory of phagocytosis opened up a new field for investigation, and although it may demonstrate as true something which it was expected to refute, the results of farther investigation will be looked forward to with more than usual interest on the part of progressive physicians. Listerism, as originally taught by its talented inventor, is not now practiced, but the theory has been the means of accomplishing marvellous results in the reformation of surgery; the principle of Listerism remains, but the practice has been discontinued. It is not beyond the range of possibilities that a closer study of phagocytosis may, like the study of Listerism, lead to as thorough a revolution in medical practice as the Listerian principle has in surgery. Indeed, there is reason to believe that a closer study of the function of the cell in the human economy will serve to broaden our views of the complex relations and inter-dependencies of the organism as a whole, and at the same time enable us to exhibit remedies with more precision and with far better success than has attended our efforts in years gone by.

Notwithstanding the elaborate physiological investigations which have been conducted of late years to determine the therapeutic application of drugs, without a proper interpretation from a clinical standpoint the entire accumulation of testimony, covering years of labor, might be consigned to the waste-basket as a worthless mass of rubbish. The results thus obtained do not furnish satisfactory evidence for the basis of scientific therapeutics. They do possess intrinsic value, however, inasmuch as we are thereby made familiar with the toxic action of the drugs studied, which affords useful information in regard to their peculiarities from a physical or physiological point of view. But this knowledge is of little practical value without some reliable and definite information concerning the action of the drug in medicinal doses upon the nervous system and on the mental make-up, and this knowledge, unfortunately, physiological experiment does not give. Sufficient evidence will be forthcoming in succeeding issues of the Therapist to prove beyond question that this position is well taken; in truth, the careful reader of the present number will observe certain clinical observations that go far, very far, towards establishing the claims here put forward, while current literature bears testimony to the fact that practical physicians of an investigating turn of mind are even now looking for a more reasonable solution of the questions relating to the administration of medicines, and are naturally directing their attention to the functions of the cell.

In this connection it will be appropriate to quote from an excellent paper by Professor William T. Corlett (American Journal of the Medical Sciences, June, 1892, p. 633), of Cleveland, Ohio, discussing the neurotic element in diseases of the skin, as follows:

"In the life of the animal cell, two essential factors are encountered, upon which the well-being of the cell depends. The first is the presence of sufficient pabulum to maintain the various processes which constitute the phenomena of life. The second is that influence derived from the nerve-centres, which regulates and gives character to these vital manifestations."

Vol. I. NOVEMBER 15th, 1892. No. 5.
DIPHTHERIA IN PHILADELPHIA.

In view of the marked advances which have been made in therapeutics within the past few years, largely owing to a better knowledge of the causation of disease, it will appear strange, to say the least, that diphtheria has lately made such havoc in Philadelphia. During the first nine months of the present year no less than 3,685 cases were reported to the Board of Health, and of these 1,095 died, making the rate of mortality approximately 30 per cent. The authorities assign various causes for this sad state of affairs, one of which is rather far-fetched, namely, that the recent street-parades are responsible. The official records show, however, that 188 deaths occurred in October, a period when street-parades were most numerous, and 189 deaths in January last, when street-parades were out of fashion. Again, it is claimed that the spread of the disease is due to climatic influences. So far, no one has intimated that political excitement might possibly have a direct bearing upon the gravity of the situation.

It appears that the most strict measures have been adopted by the Board to prevent the spread of the disease, the sick being isolated, and all houses where it exists quarantined, as many as sixty special guards being employed for the purpose.

The most serious obstacle to health in this city at present arises from the unsanitary condition of the streets, a considerable number of them having been for months in an almost impassable condition, owing to the delays incident to making extensive repairs and perfecting the system of sewerage. We have been in much the same condition as the city of Munich, before its adoption of a thorough sewage system, about twelve or fifteen years ago, when the sewers could be traced on the map by dots showing the typhoid fever cases brought to the hospitals for treatment. During the past sum-

EDITORIAL NOTES.

Credit Omitted.—In the materia medica section of the St. Louis Clinique for October, edited by Professor George H. Thompson, there appeared a number of extracts from the paper of Prof. Samuel Wolfe, published in the American Therapist for July, 1892, for which credit was given to Dr. Hartige in L’Union Medicale. This, however, is an exceptional case, and may have been an oversight on the part of the compiler.

Correction.—Through an oversight, the name of the author, Dr. Charles Denison, of Denver, Colorado, was omitted in copying the extract from his interesting and suggestive paper entitled “Tuberculin and the Living Cell,” which appeared in the American Therapist for October. The article in question contains some very pertinent suggestions, worthy the careful attention of thoughtful practitioners.

Prospects of the Therapist.—Through the active co-operation and endorsement of energetic and discriminating physicians who desire a clean, independent, scientific and practical Journal, THE AMERICAN THERAPIST has already entered upon a successful career, and to all who have so cordially given it moral and financial support, the editor extends his sincere thanks. An increase of four extra pages this month, all of exceptional interest, indicates a remarkably “healthy” condition so early in the campaign.
Correspondence.

"THE THERAPEUTIC VALUE OF ARTERIAL RELAXANTS."

To the Editor:

Sir: I have read the article by Dr. Andrew H. Smith, in the July issue of the Therapist, four different times, each time with renewed interest, only to find that the more I study the vaso-motor system the less I understand it.

Since reading the article I was called to a case of congestion of the bowels, associated with remittent fever, the patient being a woman aged 40.

The cause of the congestion I traced to an overdose of mandrake pills which she had taken before I was called, the congestion aggravated doubtless by the fevered condition of the patient. I found her very restless, not having slept thirty-six hours, and suffering intense pain over the whole extent of the abdomen. Temperature 102° F., pulse rapid, small and wiry; tongue broad, flat, and slightly coated. She had suffered with great nausea, trying constantly to vomit. The pills taken thirty-six hours before had produced a great many alvine evacuations, accompanied with great straining, and at the time of my visit she was passing with pain a bloody, serous-looking fluid, while she was growing weaker at each stool.

Sitting by the bedside, I asked myself, What are the pathological conditions to be overcome?—as Dr. Smith correctly puts it, "the mechanical conditions." Here are pain, nausea, weakness, fever, congestion, with no brain symptoms. She therefore needs a stimulant, a sedative, and something to overcome pain. Opium possesses all these properties. I have in my pocket-case some pellets of opium and camphor, 1/4 grain of opium in each. Counting out eight of these I administered one, and gave instructions to repeat every two hours until relieved, or until all should be taken. As an additional vascular sedative I dropped into a glass tum-
THE DOSE OF POTASSIUM BICHROMATE.

To the Editor:

Sir: In your editorial columns, pp. 58-59, September issue, you state that the dose of potassium bichromate for children is from \( \frac{1}{50} \) to \( \frac{1}{25} \) grain dissolved in four ounces of water, a teaspoonful of the solution to be given every ten minutes for the first hour or two, and afterwards at hourly intervals. In the same issue, in an article by Dr. Jos. H. Hunt, from the Brooklyn Medical Journal, pp. 61-62, the dose for children given is \( \frac{1}{25} \) of a grain. There seems to be such a discrepancy between the size of the dose that a reconciliation is desirable.

Very truly yours,

J. F. Griffin, M.D.

Illawara, La.

Reply.

In reply to the foregoing it should be mentioned that honest differences of opinion may exist in regard to dosage. In making extracts from papers published, no liberties are taken with the facts stated in the text, although editorial comments are sometimes intended to put the clinical facts noted in a different light; and the object in view in recommending the smaller dosage was for the purpose of directing attention to the scientific facts upon which the employment of the remedy is based. If potassium bichromate is of any value at all in the treatment of the class of cases referred to,—capillary bronchitis,—its favorable influence is doubtless due to the action of the remedy upon the cells concerned in the elimination of poisons associated with the disease. When the drug is used in such amount as to produce nausea, it has a tendency to destroy the physical equilibrium, and will consequently delay any beneficial action that would naturally follow its employment in smaller dosage. Under such conditions, nature would make the effort to rid the system of the disease and the drug together, thereby causing the very thing to happen which we wish to avoid, namely, an increased secretion from the mucous structures. This might be relieved by the use of emetics, but the writer finds the best results to follow milder measures, by which the depressing action of emetics may be wholly avoided. The object of medical treatment is to restore function, not to exhaust the vitality of the patient, and when physicians base their methods upon this idea, we shall hear less about collapse and heart-failure.

—Ed.

Current Literature.

The Metshnikovian Theory of Vital Resistance.—Upon what grounds can we explain the feature of persistence or chronicity of a disease? If the proteids are set free in the organism, as before described, in all germ diseases, why is it that the cells in chronic disease are never carried up to a condition of resistance which would enable them to successfully antagonize and protect themselves against future encroachments from their etiological agents? If the microorganisms are continually destroying the cells, and thereby setting free their constituents (as we know from the periodical fever and constitutional disturbances), which in turn cause the surviving cells to exercise their highest and best means of defence, how is it possible that they should ever become chronic, as in malaria, rheumatism, and other diseases? Why do the cells, when brought into direct contact with the microorganisms, never achieve an immunity, but succumb time after time? Manifestly, to discover the causes for this failure, to accomplish immunity, we must understand the negative phase of the subject. As a fact, experience shows that every germ-disease selects and locates upon some particular seat or tissue, from which it lives, flourishes, and proceeds to produce its deleterious effects upon the organism attacked. Another noticeable fact is, that the type,
nature, and duration of a disorder are always influenced and controlled by the tissues attacked. This is true in so far that all germ-diseases may be divided into those which occupy the solid tissues and those which occupy the fluid tissue—the blood. Among those of the first class we find the exanthemata, such as measles, small-pox, whooping-cough, and others. In the second we have malaria, rheumatism, dengue, relapsing fever, erysipelas and influenza. Following this division still further, we find that the disorders of the first are all, or nearly all, acute or self-limited and immunizing, while those of the second class are chronic and non-immunizing in character. Guided by these distinctions, we find that there is an anatomical and a physiological cause and basis for these discrepancies as to duration and consequence in germ-diseases. With these facts before us, we are warranted in assuming that these features are in some degree dependent upon the peculiarities of anatomical seat. It is necessary, however, that we shall be able to refer this assumption to some standard of appeal, in order to show that it has other grounds than those of mere analogy or active imagination. Let us turn again to the life-history of the cell, endeavor to trace its genesis as an element in the blood, and to ascertain if it be possible to explain why a blood-disease has no power of limiting disease, or of conferring immunity, because the foregoing factors, as described, in the conditions necessary for adaptation, retention, and transmission of impressions, are absent or imperfect in their use. To do this will be to establish the theory of Metschnikoff both positively and negatively, and to demonstrate its authenticity to be almost certain.

Physiology teaches that the white-blood cells, the amoeboid, leucocyte, or phagocyte cells, have their origin severally in the spleen, the lymphatic structure, and the marrow of the long bones. It is from these sources that they arise, enter the current of the circulation, and finally pass out, under a number of circumstances, to become fixed cell-elements in the solid tissue. This being true, it is evident that the white-blood cell has an anomalous origin in that it is the product of a tissue histologically different, and possessing no morphological or physiological resemblance to it. In this respect it occupies a position analogous to that of the ovum and the ovary, and to the spermatozoon and the testicle. In the illustrations given in the history, environment, and destiny of the cell, when capable of taking on modifications from influences in its media, we saw that certain conditions were necessary for its accomplishment, and that heredity or transmission depended upon certain conditions. In the chronic diseases the specific agents have been demonstrated in a number of instances to occupy the blood exclusively, and clinical history corroborates this. It is here that they exist, flourish, and produce their peculiar poisons which affect the organism. This being true, the only resisting or bacteriological agents or agencies, with which they are brought in contact, would be the white-blood cells and the blood-serum. Now, it is a fact that while the white-blood cells do multiply prodigiously and fight vigorously, as is evidenced by the chills, fevers, sweats, and general disturbance of the organism, still the germs multiply and persist, the disease becomes chronic, and phagocytosis is unavailing. The cells or leucocytes multiply and destroy myriads and myriads of microorganisms, and yet the disease persists. How are we to reconcile this process with Metschnikoff's theory of phagocytosis and vital resistance being one and the same? It is because the second and essential factor of all superiority and permanent exemption is absent. The heredity and acclimating influences are absent in the white-blood cell as such. Its existence in the blood is of an ephemeral nature and it originates de novo, having neither pride of ancestry nor hope of posterity as a resisting or
bactericidal agent in the blood. It can never inherit, acquire, or transmit a superiority, since the conditions of existence upon which these depend are entirely absent in its case. They live, flourish, and destroy as leucocytes in the blood; but in this transitory character they do not remain, but pass out into the solid tissue when they and their past experiences could never be of any possible service to those who come after them in the blood. The blood is to them now a foreign and remote locality, and under the conditions of their new environment has no possible influence upon them, or they upon it. The blood-cell has the power of phagocytosis, but in a medium when everything is of a fleeting and transitory character, no accommodation can take place when the source of the supply is unlimited and the means of defence momentary in effects. Hence, the conditions of blood-diseases are such that no immunity can ever ensue, and the disease will persist unless the causes are all destroyed, or avoided, or artificial aid employed.

Having in this manner shown that it is the cells which acquire, retain, and transmit a superiority, and wherein they fail to do so, and the reason why, we may assume that a new quota of data has been added to the theory of phagocytosis. Thus, the entire series of facts and their interpretation are in keeping with the laws of development, evolution, and heredity, and the phenomena and philosophy of immunity are apparently explicable through them. Life, which seeks its own continuance, tends to repair itself without our help. It mends its spider's web when it has been torn; it reinstates in us the conditions of health, and itself heals the injuries inflicted upon it. The wisest part of us is that which is unconscious of itself, and what is most reasonable in man are those elements in him which do not reason.

J. Wellington Beyers, M. D.
(The Climatologist, July, 1892.)

The Study of Hypnotism.—To those interested in hypnotism, Dr. Benj. F. Westbrook, of Brooklyn, New York, presents the following questions for consideration:

1st. The question of utility. Is it certain or probable that hypnotism is, or may be made, of any service in the practice of the healing art?

If so, will it have any advantages over other therapeutic measures?

To what extent is it already used, unconsciously, or without being recognized?

2d. The question of its nature. What is the hypnotic state? Or, are there several allied conditions included under the same general term?

3d. Is hypnosis a normal or a pathological condition? Or, may it merge from one into the other?

The answer to this question involves the discussion of the definition of hypnosis, which—as it is about as difficult as that of insanity—will not be very fully dwelt upon.

4th. If pathological, does it necessarily follow that it is to be condemned as a therapeutic measure? For instance, is it any more to be avoided, on this account, than the pathological condition resulting from amputations, the administration of anaesthetics, etc.?

5th. The technique. The methods of inducing hypnosis. The methods of utilizing it for therapeutic purposes, after it is induced. The methods of arousing the subject—with especial regard to his subsequent safety.

On the Therapy of Cholera.—Author opens his paper with an interesting and eloquent description of the causes, indications and nature of the disease, and then proceeds to therapeutic suggestions:

There are two points to keep in view, therefore: The treatment of the primarily diseased organ, the intestines, and the therapy of the other secondarily affected organs. To first elucidate the last-named point, we may briefly summarize: It has.
been so far impossible to neutralize or otherwise directly destroy with antidotes the disease-poison which circulates with the blood. Our sole object can only be to maintain the impregnability of the organs as long as possible. Excitants are here indicated. Camphor and sparkling wines have heretofore been found reliable for this purpose. I consider it totally wrong, in conditions of collapse, as occurring in cholera, to inject camphor subcutaneous-ly. What form is taken by the absorption of the subcutaneous cellular tissue, or, with deeper injection, of the muscular tissue, in a disease like cholera, so powerfully affecting the vital functions? We do not know, and there is neither time nor opportunity for experiments here. The administration per os is certainly, based on experience, to be preferred, and it is most advisable to give the spirituous solution, spiritus camphoratus, in drop doses in water.

** The treatment of the primarily diseased organ, the intestine, is however of greatest importance. ** There are two remedies which have been tried and judged successful, but not being in accord with the prevailing tendency in therapeutics, have remained unnoticed lately: Veratrum and Arsenic.

Author then quotes in detail the records of veratrum application, citing separately from reports of Markbreiter (1856), Hubeny (1857), Koehler (1868), Bloedau (1864), Weber, and his own, made in conjunction with his colleague, Grawitz. The average form of prescribing is:

- Tinct. veratum ............ 1 drop.
- Distilled water ............ 2 ounces.

Dose: A teaspoonful to a tablespoonful, according to age, every 15 minutes at first, to every half, one, or two hours, as improvement takes place.

He continues: Regarding Arsenic, I reported in 1890 and 1891 *) in reviewing the extended investigation of its practical application undertaken by Aulde, of Philadelphia. Aulde employed arsenite of copper in a great number of cases of acute intestinal affections, among them quite a number of cholera nostras and Asiatica. Professional disbelievers may say that the quoted cases of cholera Asiatica could not be recognised as such unless the characteristic bacilli had been proved present. But I think, that our American colleagues direct their chief attention in cholera cases to the symptoms of the diseases which are present, just as our physicians must also. For therapy it is immaterial whether, during a cholera epidemic, a case of cholera nostras, which proved fatal, was diagnosed as asiatica, or a cured case of Asiatica is declared to have been cholera nostras. Therapy looks only to the success of the treatment.

Meanwhile I have learned that the arsenite of copper, because not readily soluble, offers difficulty in preparing the form recommended by Aulde. He prescribes:

- Cupr. arsenitis ............ 0,0005
- Aq. destillatae ............ 120,0 to 180,0

In teaspoonful doses.

As arsenic, the powerful stimulant for the tissues, and particularly for the intestines, must be the important factor in Aulde’s remedy, I would recommend a more readily soluble product in the place of his formula; i. e.:

- Acidi arsenicosi ............ 0,0005
- Aq. destillatae ............ 200,0

In teaspoonful doses.

or perhaps,

- Sol. Kalii arsenicosi ........ 0,05
- Aq. destillatae ............ 500,0

In teaspoonful doses.

The single doses would have to be administered at brief intervals, at first every 15 to 30 minutes, then at longer intervals according to necessity. There will be no danger of poisoning,—as the small proportion in the doses will demonstrate.

Both remedies, veratrum and arsenic, are typical intestinal remedies, and both are backed up by the success achieved in practice. These facts have induced me to make this contribution to cholera therapeutics. Neither of these remedies are specifics,—we have no absolute specifics for any disease,—and therefore occasional failures will have to occur. But it will be a sufficient success if through their use a number of lives can be saved which might not have been possible for medical science without them.

Prof. Dr. Hugo Schulz,

of the University at Greifswald.

*) Deutsch. Medic. Wochenschr., No. 18, 1890; No. 10, 1891.
THE USES OF WATER IN MODERN MEDICINE.


If Dr. Baruch had done nothing more in his book than call attention to the wonderful results attained in typhoid fever from the use of water according to Brand's method, the work would have proved a boon to humanity. To the general practitioner, unfamiliar with the records, but too well acquainted with the results of his own feeble efforts in this trying disease, the statement that in 2,150 consecutive cases of typhoid fever—omitting those placed under treatment after the fifth day—not a single death occurred, may seem almost improbable, but the records are quite convincing. Physicians on this side of the Atlantic, who wish to adopt the plan in private practice, will find it necessary to educate their patients, but in time, the reviewer is of opinion that important changes will be effected in this as well as in other diseases of like character, and water will doubtless occupy a more prominent position than it does to-day.

The work under consideration not only gives the results in the case of typhoid fever, but full and explicit directions are given for the employment of water in this and other diseases, the physiological action of the remedy being critically studied, just as we aim to study the action of drugs in the treatment of diseased conditions. Clinical illustrations are cited showing the value of hydro-therapy in fevers generally, in pneumonia, scarlatina, gout, rheumatism, anemia and chlorosis, reports being selected from numerous authors. Special praise is awarded to Winternitz, who has exerted a powerful influence in bringing the methods to perfection.

Above all, should be mentioned the care taken by the author in regard to the technique, full instructions being presented, together with suggestive remarks concerning the objects sought for in conducting the various forms of baths, such as the full bath, the sitz-bath, the wet pack, the douche, and along with this will be found advice in relation to the use of hot-air baths and vapor baths. It might be said with truth that Dr. Baruch has re-discovered the therapeutic utility of water, and we trust that the seed thus sown will not fall on stony ground. A complete index would enhance the value of the work.

THE PRINCIPLES AND PRACTICE OF BANDAGING.

By Gwilym G. Davis, M.D., Assistant Demonstrator of Surgery, University of Pennsylvania, etc. Cloth, 8 vo, pp. 61. (172 illustrations). Detroit, Mich.: Geo. S. Davis, 1892. (Price, $3.00).

Taking it as a whole, the style of the book, the character of the instructions, the perfection of detail in the wood cuts employed, this is perhaps the best book that we have in this country on the subject of bandaging, one of the most important branches for the recent graduate to master. There is but one thing lacking to make it even better than as now offered, and that is a comprehensive index.

The work is divided into three parts, viz.: Roller bandages, tailed bandages or slings, and handkerchief bandages, and under these divisions are illustrated bandages for the extremities, for the head and for the trunk, the whole being prefaced by some appropriate remarks on the preparation and application of bandages. The writer ventures the suggestion that on the appearance of a second edition the price of the book can be brought within the means of many who are deserving, and who would be benefited by its study.

CONTRIBUTIONS OF PHYSICIANS TO ENGLISH AND AMERICAN LITERATURE.


The little book by Dr. Kenner is well calculated to be of service to the active practitioner when he has half an hour for
rest and recreation, and none will spend that much time on it without rising to the belief that the "old doctors" really knew more than they get credit for. Selections are made from the writings of such authors as Smollett, Locke, Lever, Keats, Holmes, Goldsmith, Draper, Darwin and others, mostly of a poetical character. In view of the acrid discussions which occur from time to time among those given to the upholding of peculiar tenets in medicine, the following extract from the works of John Locke, on the "Causes of Weakness in Men's Understanding," will be of some value. Locke says, "there are three miscarriages that men are guilty of in reference to their reason, whereby this faculty is hindered in them from that service it might do and was designed for." In the first category he includes those who seldom reason at all, but do and think according to the example of others. In the second class he places those who put passion in the place of reason, and neither use their own, nor hearken to other people's reason any further than it suits their humor, interest or party. Locke says:

"The third sort is of those who readily and sincerely follow reason, but for want of having that which one may call large, sound, round-about sense, have not a full view of all that relates to the question and may be of moment to decide it. We are all short-sighted, and very often see but one side of a matter; our views are not extended to all that has a connection with it. From this defect, I think no man is free. We see but in part, and we know but in part, and therefore it is no wonder that we conclude not right from our partial views. This might instruct the proudest esteemer of his own parts how useful it is to talk and consult with others, even such as came short with him in capacity, quickness and penetration; for, since no one sees all, and we generally have different prospects of the same thing, according to our different, as I may say, positions to it, it is not incongruous to think, nor beneath any man to try, whether another may not have notions of things which may have escaped him, and which his reason would make use of if they came into his mind. The faculty of reasoning seldom or never deceives those who trust to it; its consequences from what it builds on are evident and certain; but that which it oftener, if not only, misleads us in, is, that the principles from which we conclude, the ground upon which we bottom our reasoning, are but a part; something is left out which should go into the reckoning to make it just and exact."


At the request of the students of the college, Prof. Chapman has arranged his lectures on medical jurisprudence, delivered during the winter of 1891-92, in book form, and they constitute an interesting and instructive series, since they cover those points about which the recent graduate is most concerned. Like all our author's work, these lectures show the careful student and thoughtful counsellor, and we bespeak for the book a large circulation, believing that it will be of direct benefit to the physician, and indirectly tend to lessen law-suits and contentions in the community. An experience of six years as Coroner's physician in the city of Philadelphia, has given the author exceptional opportunities for studies in this line, and as a consequence the book is of a decidedly practical character.

Handbook of Emergencies and Common Ailments: Explaining the latest approved treatment of injuries, sudden and painful attacks, poisoning and many common diseases. By E. F. Bradford, A. B., M. D., Member of the American Medical Association, etc., and Louis Lewis, M. D., Member of the Royal College of Surgeons, England, etc. Cloth, 8 vo., pp. 448. Boston: B. B. Russell, 1892. (Sold by subscription only.

A book for the household which gives suitable directions for domestic treatment in an intelligible form will prove a blessing, because, with a better knowledge of the causes of disease, the laity will begin to discredit quack recommendations. The instructions found in the book before us are well calculated to teach the public many practical lessons which will prove of incalculable benefit, and will restrain the present tendency to buy "cure-alls." A good index makes it convenient for reference.

Dr. Lydston's essay will prove more interesting to the general practitioner than to the specialist and bacteriologist, from the fact that the author is not fully in accord with the modern doctrine of infection as deduced from experimental investigation. His evolutionary theory of the disease is described in the following words (p. 42): "To sum up: I hold the view that, as a consequence of the peculiar tendency to decomposition of uterine and vaginal discharges, and the existence of the circumstances of heat, moisture and imperfect ventilation—which, as is well known, constitute a favorable environment for the development of micro-organisms—there are cultivated in the vagina, bacteria of as yet indeterminate forms. The parent stock of these bacteria consists of primarily innocuous micro-organisms derived from the atmospheric air, or present in normal secretions of mucous membranes. By successive cultures of these germs there is finally evolved a form of micro-organism which is possessed of very virulent properties, and which, later on, under almost all circumstances produces in a healthy and susceptible mucous membrane the so-called specific inflammation."

A note is added to the effect that these micro-organisms may act through the medium of their chemical products.

This solution of the question is quite different from that presented by the bacteriologists, and should it be proven that our author is right in his conclusions, would put a different phase on our ideas of the causation and treatment of a number of diseases which are now regarded as of specific origin, and in which antiseptic treatment constitutes the most important portion of medication. Diphtheria, whooping-cough, typhoid fever, and perhaps cholera and yellow fever, would be entitled to come under this category, since, although it has been demonstrated fully and conclusively that all these diseases are associated with a specific micro-organism, just as the gonococcus is associated with gonorrhea, it has not been absolutely demonstrated that any of these diseases cannot result in the absence of direct contagion. Perhaps Dr. Lydston will find an illustration of his theory in the cases of sporadic cholera occurring in this country during the past autumn.

**PUBLICATIONS RECEIVED.**


The Preferable Climate for Consumption; or the Comparative Importance of Different Climate Attributes in the Arrest of Chronic Pulmonary Disease. By Charles Denison, A.M., M.D., of Denver, Colo. Reprinted by order of the Legislature of Colorado.


Can Croupous Pneumonia be Aborted? By Thomas J. Mays, M.D., of Philadelphia. Reprint, 1892.

**Miscellany.**

MANUFACTURE OF OZONE.—To make ozone, use a saturated solution of oxalic acid upon peroxide of manganese.

POISONING FROM SANGUINARIA.—From the daily papers we learn that an eminent dentist of Detroit, Michigan, lately met his death from the use of tincture of sanguinaria which he was taking to cure a cold.

TOBACCO SMOKE AND CHOLERA BACILLI.—Des. Runners and Vernicke, of Hamburg, who have been experimenting to see if cholera germs can be transmitted to tobacco, claim to have demonstrated that tobacco smoke is sure death to the bacilli.—*New York World.*

BLOOD-PRESSURE UNDER CHLOROFORM.—The decrease of blood-pressure in animals under the influence of chloroform is due, according to Surgeon Major Laurie, of the English army, to the action of the anesthetic on the brain, and not on the heart. When the blood containing chloroform is allowed to reach the brain only anesthesia takes place; but when such blood is conveyed to the other parts of the body, and not to the brain, neither the depressing effects of chloroform nor anesthesia follow.
Liquifaction of Oxygen.—Professor Dewar, whose recent lecture and demonstrations on the liquefaction of oxygen attracted attention all over the world, says that while oxygen when liquefied is strongly magnetic it is a poor conductor of electricity. In other words, oxygen presents the curious paradox of a non-conducting magnet.

Differentiation Between Epilepsy and Eclampsia.—The generally accepted idea that epilepsy could be readily distinguished from eclampsia by an examination of the urine in suspected cases, will have to be modified, since Drs. Voisin and Peron (Archiv. de Neur., May 18, 1892) have observed albumin in the urine of nearly fifty per cent. of the epileptics. They further noted that when an attack was unusually severe, indicated by marked cyanosis, the percentage of albumin was considerably increased.

Infectious Diseases.—The relative danger of the most fatal infectious diseases common to this country is shown by the following diagram, taken from a report by Dr. Henry B. Baker, secretary of the Michigan State Board of Health. It represents the deaths from these diseases in Michigan for ten years, and is fairly representative of the fatality of these diseases in other States, especially those east of the Mississippi River.

Ratio of mortality for ten years from

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<th>Disease</th>
<th>Deaths</th>
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<tr>
<td>Smallpox</td>
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<tr>
<td>Typhoid Fever</td>
<td>3,000</td>
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<td>Scarlet Fever</td>
<td>10,000</td>
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<td>Whooping Cough</td>
<td>21,000</td>
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<td>Measles</td>
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<td>Smallpox</td>
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Agnosticism.—Agnosticism is an assumption of omniscience on a basis of ignorance. For in order to know that anything is unknowable, you must know everything that is knowable, and to know all that is knowable is to be omniscient. If anything which is knowable is unknown to you, you cannot know that the knowing of it might not throw an intelligible light on that unknown which you now call unknowable. Agnosticism is, furthermore, not only a tacit assumption of omniscience, but it is also a direct self-contradiction. You cannot assert that anything is unknowable without presupposing that it is, and that it is in relation with your intelligence. And these two presuppositions constitute a partial knowledge of it. No one, except an atheist, can be justified in denying our theoretic ability to perfect that partial knowledge; since all correct knowledge on the part of a creature is a participation in the knowledge of the Creator, who can at pleasure exalt it through every degree up to His own omniscience.

Eugenol.—Acetamide is a new anesthetic, which will be unique in its class on account of its form of a dry, micro-crystalline powder; it is claimed that the application causes perfect anesthesia of the mucous membrane of the tongue, and the action is free from irritating by-effects.

Tetanus.—Drs. Villiard and Ronget, in a report of their recent observations upon tetanus, *Annales de l' Institut Pasteur*, June, 1892, state that pus taken from the original injury in tetanus always contains numerous microbes in addition to the bacilli of tetanus which act by attracting leucocytes. Inoculation of tetanus from animal to animal soon fails completely, owing to the ease with which the auxiliary bacilli lose their power of developing in the tissues. This would account for the difficulty with which the affection spreads. So-called idiopathic tetanus is due to a previous infective injury. Spores may be introduced, and though engulfed by leucocytes, may escape rapid destruction, and any departure from health (such as a bruise, chill, etc.) turns the scale in favor of the spore. Large wounds are less often followed by tetanus than small ones, probably because they are more carefully and rapidly treated with antiseptics.—*Medical Times*.

Therapeutic Retrogression.—There is a general agreement that electricity has a curative effect on many forms of neuralgia, and a sedative and helpful effect on many kinds of spasmodic troubles. Electricity, however, has been supplanted by the analgesics in the treatment of acute attacks. Great confidence is expressed by the French school in the use of faradism in Base- dow's disease; and all agree that in neurasthenic and hysterical conditions electricity is of value. Whether its action is "suggestive," or mechanical, or biological, does not much matter, except as a question of pure science.

The Franklin electricity has been found to have a specific effect on metabolism, increasing it more than is done by other forms.

The effect of such discussions as were had at the Frankfort congress should be to make the physician more cautious in using electricity, but more confident and intelligent when he does apply it.

It would be a most unfortunate thing if some of our numerous medical congresses were to take up and study critically others of our apparently well established remedies. Would cod-liver oil stand the test, or the hypophosphites? And that superiorly wonderful tincture of the chloride of iron, would it really prove better than iron rust? The question might be asked whether invalid humanity would not be better without strychnia, or alcohol, or Fowler's solution.

We trust some day to see the medical profession enter upon a phase of therapeutic regression.—*Medical Record*. 

120 THE AMERICAN THERAPIST.
Original Articles.

THE VASO-MOTOR SYSTEM.

By Andrew H. Smith, M. D.

Professor Clinical Medicine in N. Y. Post-Graduate Medical School; Physician to the Presbyterian Hospital, etc.

In the limits allowed to this paper only an outline can be given of the subject on which I am requested to write.

The vaso-motor system of nerves cannot be demonstrated in the cadaver, as the fibres composing it are not distinguishable from the fibres of the cerebro-spinal and sympathetic systems with which they are associated. Indeed, the existence of this system is proven rather by observing its function in the living body than by actual anatomical demonstration.

If we divide the sympathetic nerve in the neck of a rabbit, the ear on that side immediately becomes congested, the vessels being visibly increased in diameter. If, now, we galvanize the cephalic end of the nerve, the vessels contract to their former size, or even to the extent of apparent obliteration, leaving the ear pale and bloodless; and these conditions of alternate hyperemia and anemia can be produced at will by an intermittent application of the current.

This is but a rude imitation of the action of the vaso-motor centre, which experiment has located in the floor of the fourth ventricle, and which actuates the vaso-motor system. The fibres of this system, forming a part of the cerebro-spinal and sympathetic nerves, are distributed to the muscular coat of the vessels, and by the intervention of local accessory centres cause dilatation as well as contraction of the vessels is affected, and provision is made for the varying local demands for blood. Thus, when there is food in the stomach the vessels of the secreting structures dilate, and when digestion is accomplished they again contract. A muscle when in action receives a larger supply of blood than when at rest. The vessels of the brain dilate during mental effort.

Emotional influences affect the calibre of the vessels, as witness the cold hands and feet of anxious expection, the flush of anger or the pallor of fear. The maintenance of the body at an even temperature also depends largely on this function. Whenever an impression of cold is made upon the surface the cutaneous vessels contract, and the blood is driven into the interior where it is warmed; if the contrary impression is produced the peripheral vessels dilate, and the blood comes to the surface to be cooled by contact with the atmosphere. In febrile conditions with great depression this interchange of blood between the surface and the interior may be partially suspended, and while the buccal or the axillary temperature is normal, or even sub-normal, the thermometer in the rectum may indicate a temperature of 104 or 106°. This is an extremely grave condition, as it indicates a profound disturbance of a function very necessary to life.

The opposite action of the vaso-motor system under different circumstances is explained by assuming the existence of two sets of fibres, vaso-constrictor and vaso-dilator. Some nerves contain only one set, some only the other, and some both sets. Most, if not all, arteries receive vaso-motor fibres from some one or other of the neighboring nerves.
The vaso-motor system is acted upon by drugs to a remarkable degree, some causing general constriction of the vessels, and others dilatation. Of the former, ergot, digitalis, caffein, belladonna, hydrastis, are prominent examples; of the latter, the nitrites, especially the amyl nitrite, nitroglycerin, aconite, pilocarpine, veratrum viride, spirit of nitrous ether, alcohol, are the most active and available. In fact, nearly all remedies which act upon the nervous system, modify in a greater or less degree the calibre of the arteries, through the influence of the vaso-motor nerves.

This modification may be general through the centre in the medulla, or local through accessory centres. The local action of a drug in one part may be the reverse of that in another part. For example, opium increases the supply of blood to the glandular structures of the skin, while it diminishes the supply to those of the digestive tract, thus promoting perspiration in one case, and "locking up the secretions" in the other. Doubtless in all cases in which a medicine affects the action of a gland the vaso-motor nerves have a share in producing the result. The subject has a range almost as great as that of therapeutics itself, and presents an unlimited field for further investigation.

22 East 42d Street, New York.

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**TREATMENT OF CYSTITIS.**

By Hal C. Wyman, M. Sc., M. D.,
Professor of Surgery in the Michigan College of Medicine and Surgery, Detroit.

Probably no disease more severely taxes the skill and therapeutical resources of the physician than the complicated condition of human affairs described under the term "cytitis." It is a disease of various causes—in one sense, and in another, of a comparatively limited number of causes. Doubtless every case of cystitis can be traced to microbic origin. This may have occurred through the use, in the bladder, of instruments which have not been thoroughly sterilized before using; through the presence of a calculus or other foreign body in the bladder, which, by its mere presence and the irritation it causes, brings about conditions favorable for the growth of micro-organisms, the organisms gaining access to the organ with the urine; and, third, micro-organisms planted there by the disease known as gonorrhoea.

In treating any case of cystitis it is necessary to know which one of these several conditions is to blame for the presence of the micro-organisms in the bladder, but it is of much more importance to know what to do with the micro-organisms. In case a stone or other foreign body is present it should be removed. In case a specific disease, like gonorrhoea, is present, it should likewise be removed. But the mere presence of micro-organisms in the bladder, multiplying in the superabundant mucus which that organ contains when irritated by any cause, is the real source of the distressing symptoms which lead surgeons to look upon cystitis as a serious disease and one difficult to cure.

The first indication in the treatment of a case of cystitis in which no foreign body is present, and in which the symptoms are kept up merely by the presence of micro-organisms, is to render the urine as bland as possible; the second indication is to give such medicines as will diminish the irritability of the bladder and likewise prevent the excessive secretion of mucus, the third is to use such drugs as are inimical to the growth of micro-organisms. For the first indication the use of balsams of buchu, of cubebs, of kava kava, of pichi, of thuja occidentalis, and of ether and chloral hydrate, is to be commended. No drug with which I am acquainted is more useful for the purpose of rendering the urine bland and unirritating than balsam of copaiba, if properly given. But very often the use of this drug is abused. It is given without any reference to its action upon the stomach or other digestive or
gans, and sometimes it disturbs the digestive process, and the urine in consequence becomes laden with objectionable substances—products of mal-digestion—which are the source of great irritation to the sensitive, inflamed bladder. If combined with an alkali in the form of carbonate of potassium or carbonate of sodium, it will, in many cases, agree well with the digestive functions.

Another drug which is entitled to great respect for this purpose is pichi. This well known Chilian remedy should be given in the form of fluid extract, in ten to twenty drop doses, combined with an alkaline carbonate or citrate. Citrate of potassium is a valuable adjuvant to all of the medicines that may be used for the purpose of diminishing the irritating qualities of the urine.

Kava kava and thuja occidentalis—drugs containing a great deal of resinous matter, which is probably separated in the process of digestion and converted into agents which are, in solution, eliminated with the urine, and which otherwise would render that fluid irritating—should be given in doses of ten to twenty drops. In administering medicines of this class the surgeon should have in mind the fact that they are oftentimes quickly eliminated, and that their effects are quite transient, and in order to get beneficial results it is necessary to repeat the medicine at intervals of at least three hours. One frequent cause of non-success in the treatment of cystitis is the fact that drugs are given at too infrequent intervals. In my experience, no material advantage can be obtained with medicines given three times a day; they should be given at least every three hours, and in some cases every two hours, during sixteen of the twenty-four hours.

To further aid in rendering the urine bland, copious drinks should be given. The use of distilled water in one-half pint doses every four hours is one of the best remedies. The use of distilled water, perfectly sterilized, increases the volume of the urine materially, and aids in the elimination of the products of digestion and waste thrown out by the kidneys, and diminishes the sufferings of the patient afflicted with cystitis.

Then, to diminish directly the irritability of the bladder, one-eighth grain doses of morphine, given at intervals of three or four hours, in combination with the above treatment, is sometimes particularly useful in overcoming tenesmus, which is one symptom in cystitis that causes the patient much distress. Opium combined with camphor, in doses of one grain of the former to two grains of the latter, by suppository per rectum or vagina, ameliorates the distress. These suppositories should be used at least once in six hours. The effect of opium or morphine contained in a suppository is more prolonged than when given by mouth, and this method of applying medicine is therefore to be recommended.

Now, for the removal and destruction of micro-organisms in the bladder, which keep up mischief, and which threaten, in many cases, to continue and to extend their baneful influence beyond the bladder into the ureter and the kidney, thereby seriously threatening life, it is necessary to introduce into the cavity of the bladder something that will check their multiplication. If we diminish the quantity of mucus by the treatment already advised, we in a measure limit the multiplication of the micro-organisms, because without the presence of mucus they would not thrive.

We have in the drug known as peroxide of hydrogen a remedy which may be used inside the bladder, providing it is used in a proper manner, and has power to destroy the materials upon which the micro-organisms thrive, and to destroy the micro-organisms themselves. Peroxide of hydrogen should never be used in the bladder unless a large catheter has first been introduced, and unless the catheter has a number of openings which insure the ready escape from the bladder of the de-
tritus resulting from the action of the peroxide upon the pus, mucus, and micro-organisms which the bladder contains. A fifteen-volume solution should be diluted one half, and, previous to its introduction, the bladder should be washed out with a quantity of warm solution made by dissolving a teaspoonful of common salt and one-half teaspoonful of bicarbonate of soda in one quart of water.

Injections of strong solution of nitrate of silver, in cases of chronic cystitis, have sometimes given very flattering results. No doubt these results are due to the antiseptic properties of the solution, since weak solutions are of little or no avail. Solutions of less than five grains per ounce have not given good results, while solutions of twenty grains per ounce are generally recommended.

In the use of peroxide of hydrogen for the purpose of thoroughly cleansing the bladder of organisms which, by their multiplicity in it, keep up cystitis, we are employing a drug that causes none of the dangers which a strong solution of nitrate of silver might produce; therefore, I do not think it necessary to recommend the use of strong solutions of nitrate of silver, or any other of the solutions of antiseptics that have been resorted to heretofore in the treatment of this disease.

To summarize, I would state the principles upon which the treatment of cystitis should be based in the following terms: (1) thorough drainage of the bladder; (2) rendering of the urine bland by food, medicine, and the liberal use of sterilized distilled water; (3) the relief of tenesmus by anodyne suppositories in the rectum or vagina; (4) the destruction of micro-organisms in the bladder by washing it out with solutions of peroxide of hydrogen; and (5) the removal of all foreign bodies from the bladder.

46 Adams Ave., W., Detroit, Mich.

Jefferson Medical College.—At a recent meeting of the Board of Trustees Dr. G. E. de Schweinitz was elected Clinical Professor of Ophthalmology in the Jefferson Medical College.

PAPAYOTIN SOLUTION IN THE TREATMENT OF MEMBRANOUS RHINITIS.

By George B. Hope, M.D., Surgeon Metropolitan Throat Hospital, New York.

The recurring reports of acute rhinitis with membranous exudation, together with the more or less indefinite suggestions relating to its treatment, prompt me to place before your readers the results obtained by the use of Papayotin—a drug comparatively little recognized for its admirable solvent effect on inflammatory exudations of this type.

The term, membranous rhinitis, naturally implies a simple non-diphtheritic inflammation, and with symptoms of purely a local character. If presenting some features of a constitutional disturbance, they may yet be regarded as owing to an occasional high degree of intra-nasal inflammation, or other causes of an accidental nature. The only confusion in the diagnosis could arise from an exaggeration on the part of the observer of conditions that under other circumstances would receive their proper value, rather than from a failure to appreciate the more positive signs of diphtheria. This statement is made advisedly, notwithstanding the disposition to question the duality of this and other exhibitions of inflammatory exudations of the mucous membrane.

The natural duration of this disease must give an extremely variable average. One case, allowed to pass to its full term under simple emollient applications, ran a period of twenty days, while three other cases, equally severe in extent and density of the membranous formation, treated by a papayotin solution, were reported cured in from three to five days. Peroxide of hydrogen exerts no appreciable effect, as in diphtheria, on the surface of exudation, and astringent or stimulating alternatives can in no way be considered as indicated. The same is emphasized with regard to the forcible removal of the membranes,
which, however strange it may seem, is ever the popular impulse, without consideration for present or ultimate disadvantages.

A非-irritant solvent such as pepsin or papayotin meets at least a conservative view, and deserves an appropriate place in the therapeutic field. A five grain solution of papayotin (peptonizing 200 parts of blood-fibrin), made up with half a drachm each of glycerin and distilled water, was employed in these cases, repeatedly instilled into the nostrils by saturating a layer of absorbent cotton introduced between the surfaces affected. In this simple manner fresh solutions may be kept in constant contact with the exudation, and without the harmful effect of undue friction or irritation. It may be added incidentally, as giving force to the clinical service of papayotin, that a considerable intra-nasal cast spontaneously discharged in the instance of the first case observed, was altogether liquified in the course of a few hours when immersed in the solution referred to.

The rational objective effect of the proposed treatment should look to a gradual reduction of density and surface of the exudation, and coincident with this, a diminution of the turgescence of the sub-mucous tissues.

34 West Fifty-first St., New York.

THE CARBON COMPOUNDS, WITH SPECIAL REFERENCE TO THE USE OF CINCHONIDIA.

By J. F. Griffin, M.D.

Beyond a doubt, the fact has been established by Dr. S. K. Jackson, of Norfolk, Va., that the greater number of atoms of carbon which an agent contains the more powerful is its germicidal, and therefore its antipyretic effect.

There are certain microbic organisms whose function it is to produce fermentative processes, by which there is an exhalation of carbonic acid, and as no organism can live in its own excreta, so these organisms die when there is an excess of carbon.

Sulphate of quinine contains twenty atoms of carbon \( (C_{2}H_{4}N_{3}O_{3}H_{2}O) \), and is regarded as one of the most powerful agents for the destruction of the malarial microbe.

For the last ten years I have used the sulphate of cinchonidia in the place of quinine sulphate in malarial fevers, and find it equal, if not superior to the latter salt.

If we look at it from a chemical point of view, there is apparently no reason why it should not be therapeutically of equal value, taking into consideration the number of atoms of carbon entering into its composition.

Cinchonine, or cinchonia, contains the same number of carbon atoms that sulphate of quinine does. Now cinchonidia is isomeric with cinchonia, hence it contains the same number of atoms, and clinical experience has convinced me that therapeutically its value as a destructive agent to malarial organisms is equal to sulphate of quinine, and in some respects of greater value, as it certainly does not produce the cerebral excitement that is produced by the latter.

Picrate of ammonia, I have found to be efficient in breaking up the intermittent character of malarial fevers. It contains, however, only six atoms of carbon, and is about equal to carbolic acid, which contains also six atoms \( (C_{6}H_{5}OH) \).

I have been asked, if the therapeutic value of agents used in intermittent fevers is due to the number of atoms of carbon contained in it, why then does not carbonic acid gas itself cure? The answer is, that in a free state the gas does not reach the microbes.

It is an error to speak of these organisms which are said to produce malarial fevers as micrococi or as bacteria. Strictly speaking; they are hematozoa, and if they do not cause the malarial condition they certainly always accompany
it in the blood, and are never found elsewhere, except in the blood of those who suffer from *malarium*, (Laveran, as quoted by Jackson), and they always disappear upon the administration of the cinchona salts. As the sulphate of cinchonidine, or cinchonidia (as it is more frequently called), does not cost more than about one-tenth the price of quinine, and being of equal therapeutic value, I recommend it to those who have never tried it.

Illawara, La.

**THREE USEFUL MEDICINES.**

By Ernest B. Sangree, A.M., M.D.,
Demonstrator of Histology in the Medico-Chirurgical College of Philadelphia.

**TINCTURE OF CINNAMON.**

Some time ago a druggist told me that he had a prescription brought him of which one of the ingredients was tincture of cinnamon. He had no tincture of cinnamon, and thinking it was only for flavoring purposes, unwittingly substituted something else. He was afterwards considerably surprised at the annoyance of the physician, who told him that the cinnamon was put in with a special object. That object was one for which I have used this palatable drug to a considerable extent; namely, for the purpose of preventing the formation of gas in the intestines. One case especially I recall, that of a young woman in her first pregnancy. She was greatly troubled with flatulence, and at my suggestion she kept near at hand a bottle of the tincture of cinnamon, from which she took a teaspoonful when needed. It generally acted at once, bringing up the gas in the form of eructations, and for the time being prevented its further formation.

**TINCTURE OF NUX VOMICA.**

Tincture of nux vomica is by no means a new medicine. In fact it is so old that we rarely meet with any mention of it in current medical observations. The thousand-and-one new products receive all the attention. For this very reason, I think, some of our old standard remedies run risk of being neglected. I wish merely to call attention to one of the various uses of this sterling remedy: the good results gotten from it in the subacute and chronic gastro-intestinal catarrhs of infants and children. In such cases there is usually constipation, alternating with diarrhea; a peevish and irritable disposition, sallow color and fickleness in appetite. I generally give drop doses of the tincture of nux vomica three times a day. Unless there is some serious concomitant organic trouble, my experience has been that this course gives almost uniformly good results. A number of the cases in which I have used this treatment have been dispensary patients, in whom proper dietetic and hygienic conditions could not be observed; yet despite this fact, the results in these cases also have been most gratifying.

**STRONGER WATER OF AMMONIA.**

In this substance we have an efficient and easily controllable counter-irritant, and one which, I think, is not often enough employed. Thimble blisters over small sensitive spots, or other places where a small blister is required, are easily made by dipping a pledget of cotton in ammonia fortior, putting this in a thimble, and applying the thimble to the affected spot. In from two to five minutes a blister will usually appear. If a larger area of irritation is required, as, for instance, for an attack of subacute lumbago, a good method is the following: A piece of brown paper of the size needed is moistened with the ammonia and applied; this is covered with several other pieces of paper to prevent evaporation, and the patient directed to lie on his back, so that the paper may be firmly pressed against the skin. In a few minutes a lively burning sensation is experienced. A blister can be drawn or not, at pleasure, by simply shortening or lengthening the time of application.

The following case may be cited to show the value of such treatment. I was called to
see a boy of eighteen, suffering from pains shooting along the course of the abdominal nerves. He was a short, stocky and stolid young fellow, and when the family told me that he walked the floor at night, crying aloud with its pain, I knew he was suffering severely. With regard to history, he informed me that some ten days previously he had fallen from a load of straw, landing violently on his feet. No ill effects were felt at first, but three days afterwards these pains began, and increased in severity so rapidly that on the fourth day he could no longer perform his work, and left in order to come to the city for treatment. At first he consulted their regular physician, who told the boy he had cramps in the bowels, and gave him some medicine, presumably a purgative, from what I was told. The pain, however, greatly increasing from day to day, I was sent for. After eliciting the history, I concluded that his pains probably came from the back instead of the abdomen, and accordingly thumped him smartly with my fist along the spine. When I reached the lumber region this shock to the spinal cord caused him considerable pain, and convinced me that a local congestion about the nerves at that point had been the result of this fall. After giving some morphine tablets for the immediate pain, I directed that ammonia fortior be applied twice daily over the sensitive region of his back just long enough to redden the skin and not blister. The next day he was better. In four days the pain was almost entirely removed, and in a week he was back at his work.

744 So. 15th Street, Philadelphia.

PERMANGANATE OF POTASH IN BLENNORRHAGIA.

—Professor Reverdin employs a 1 to 5,000 solution of permanganate of potash in blennorrhagia, introduced by means of a small catheter passed down to the bulb, and the urethra thoroughly irrigated by about a quart of the fluid, at the temperature of 100°F, twice daily. A cure can be effected, it is said, in from three days to two weeks, and usually in a week's time, without any internal medicine.—The Provincial Medical Journal, August 1, 1892.

HORSE-NETTLE (SOLANUM CAROLINENSE).

—By J. L. Napier, M. D.

About five years ago I became acquainted with the use of the above plant in convulsive disorders, especially epilepsy. A negro woman whom I had known from childhood, and knew to have been an epileptic, claimed to have been cured by the use of a preparation made by macerating the berries in whiskey. After taking the nettle her epilepsy quit, and she has remained free from it. I had never seen the nettle recommended, so concluded to try it in a very obstinate case I had. The case was that of a white woman about 35 years old, who had been having epileptic fits from her childhood. At her menstrual periods her seizures were very severe. I have seen her stay unconscious for hours, with convulsion after convulsion, and frothing at the mouth. She would generally have two or more seizures a week. She had gone the rounds of all the physicians in reach of her. All of them, myself included, had failed to give any relief. I went to see her, and persuaded her to try the nettle. She consented to do so, without one particle of faith in its beneficial effects. I had very little more faith than she had. I ordered her to take a gallon of the berries, and, after mashing them, to put them in a gallon jug, fill it with whisky, and allow it to stand two weeks. She was then to begin with a tablespoonful three times a day. About three months after she began the use of it her husband reported that she had not, with the exception of a slight drawing of the neck and hands, had a convulsion since she began the use of it. She continued taking the preparation made from the berries about three months. Her supply failing, and fearing a return of her old enemy, she gathered the roots, and prepared them as she had the berries. The effect, she said, was much the same as that of the berries. She has had no return of the disease up to
this time. I will say here that all parts of the plant are medicinal.

After seeing the effect in the case just detailed, I determined to try it in other convulsive disorders. About this time I had a case of Bright's disease in a pregnant woman, about the sixth month of gestation. Being very much swollen, and her kidneys acting very little, she was taken with convulsions. On an examination of the urine I found it very rank and highly charged with albumin. I tried various means for controlling the convulsions and starting the kidneys, but completely failed in my effort. I determined to try the nettle. I had about 4 oz. of a strong tincture on hand, which I put her on. I gave a teaspoonful every three hours. It completely controlled the convulsions, and I learned it had other virtues besides being an anodyne and an antispasmodic. It acted very freely on the kidneys. It is a very active diuretic. She went to full term, and was delivered of a living child. She died about two years after the above related circumstance with uremic coma.

If I ever have a case of tetanus I intend giving it a trial, and confidently expect to control the disease with it. I have treated quite a number of cases of epilepsy with the nettle, and have several cases under treatment now. I have seen it completely control the convulsions of traumatic epilepsy, and thereby make life bearable. I have seen it do what I never saw anything else do—cure epilepsy. I do not claim that it will cure all cases of epilepsy. I do claim that, if it is intelligently given, it will benefit all cases and cure a large percentage of them. Whenever the profession takes hold of it, and there is an active demand for it, the manufacturing chemist will find the active principle and isolate it; then we will have a drug of uniform strength with which to work.

I have seen twenty drops of a strong tincture completely control the convulsions in an adult, and again I have given, every three hours, a tablespoonful with the happiest effect. I have never seen any bad effect from use of it in large doses. My rule is, if I have a case that shows obstinacy, to keep on increasing the dose until I get complete control of the nervous system.

A tablespoonful given every three hours will produce dizziness and then stupor. I had a case in an adult male, who through mistake took a teaspoonful every three hours until he had taken eight ounces of a strong tincture. He has not had an epileptic attack since taking it, three years ago. He had been an epileptic eight years.

Dr. A. G. Selman has published two papers in the Medical Brief on the subject. After detailing a number of cases, he gives the case of a young German, nineteen years old, who had been an epileptic from early childhood. He had convulsions almost daily. Mentally, he was almost an idiot. He began the use of the tincture and steadily increased the dose until he gave him one-half ounce three times a day for a week, at the end of which time he was in a stupor. The stupor lasted a week. The lad could be easily aroused and made to take nourishment. From the time the stupor passed off up to the date of his paper, three months, there had been no return of the disease, and his mind was rapidly improving.

I have known people who had taken potassium bromide until they were almost mental wrecks; but I have never seen any deleterious effects from the nettle.

I was requested by a medical friend to try the nettle in a case of chorea about two years ago. The case was a twelve-year-old daughter of a preacher. The girl had been subject to attacks of chorea which lasted for weeks at a time, for several years. She had been thoroughly treated with the usual drugs by competent physicians, without relief. The nettle was tried as an experiment. I instructed her father, a very intelligent man, to begin with a teaspoonful every three
hours, and if necessary to increase or diminish the dose, according to the effect. He kept the dose at a teaspoonful until she had taken four ounces, then at longer intervals. Soon after she began the use of the medicine, the muscular twitchings subsided, and she has not had a return of the disease since. I saw him a few days ago and made inquiry about the case. He attributes the cure to the use of the nettle.

One great obstacle to the more extended use of the drug has been its high price. The berries soon spoil when kept in bulk, and make a very inferior preparation. The formula I use is to bruise one gallon of ripe, round berries, and add to them one gallon of diluted alcohol. Macerate for two weeks, and decant. Don’t filter. The tincture has the appearance of simple syrup, with a light amber color.

Blenheim, S. C.

THERAPEUTIC EFFECTS OF STIGMATA MAIDIS (CORN-SILK) ESPECIALLY IN ACUTE AFFECTIONS OF THE URINARY APPARATUS.

By E. Stuver, M.S., M.D.

Source and Preparations.—The Medicinal preparations of this remedy are obtained from the stigmata of Zea Mays, the green pistils, popularly known as corn-silk.

According to Dr. Vauthier (Arch. Med. Belges, Aug. 1880) its activity depends on Maizenic Acid. It may be given freely in infusion (two ounces of the fresh corn-silk to a pint of boiling water), but the most eligible, and if a reliable preparation is desired, the most satisfactory in my experience, is the fluid extract, which can be given in doses of from one half to two fluid drachms; but if frequently administered, say every two hours, the minimum dose will be found sufficient in nearly all cases.

Therapeutic Action.—In the Medical News (Vol. xliii, p. 372, Oct. 6, 1883) I contributed an article, entitled “Stigmata of Maize as a Demulcent, Anaesthetic Diuretic,” from which I quote the following, viz.: Prof. Castan at Montpelier first called attention to the remedy, and spoke highly of its beneficial effects in gravel and nephritic colic; in the latter disease its administration produced marked amelioration of the painful symptoms, from which he inferred that the stigmata acted less as a diuretic than as a local anaesthetic. Prof. Denneé, of Bordeaux, obtained most favorable results in vesical catarrh, the remedy appearing to possess an elective action on the mucous membrane of the bladder. These statements are corroborated by a number of other eminent practitioners, of whom Dr. Landrieux, from a considerable number of observations, has arrived at the following conclusions:

“1st. The various preparations of the stigmata of maize are of use in modifying the secretions of the urinary tract. They may also be considered to possess a distinctly diuretic action.

“2nd. Diuresis is rapidly produced and the increase of urine is very marked after three or four days.

“3rd. The diuretic effects are observed not only in diseases of the organs concerned in the urinary secretion, but also in the affections of the vascular system (diseases of the heart, bloodvessels, etc.).

“4th. The pulse is regular, the arterial tension is increased, while the venous pressure is diminished.

“5th. The remedy produces no disturbance of the digestive system. The tolerance of the drug is complete and absolute, while in chronic cases its administration may be continued for three to six months without inconvenience.”

In L’Union Médicale (April 6, 1880) Dr. Dassum summarizes a number of reported cases of chronic cystitis, dysuria and retention of urine of many years duration, requiring catheterization, in which after all the ordinary means, including washing out of the bladder, had been tried and failed, stigmata of maize was
used and produced prompt and permanent relief.

According Dr. H. C. Wood (Therapeutics, Materia Medica, etc., sixth Ed., page 546) corn-silk has been strongly recommended as a mild stimulant diuretic in both acute and chronic inflammations of the bladder and in uric acid and phosphatic gravel, and is much used by a number of surgeons in Philadelphia. In the article above referred to I reported a number of cases in which corn-silk produced very satisfactory results, relieving the frequent and painful micturition accompanying pregnancy and other vesical troubles. Since that time I have used this remedy in a large number of cases of irritated and inflammatory kidney and bladder troubles, and in the great majority of these cases the results have been most excellent; and during the last few years I have come to use corn-silk in preference to almost everything else. I frequently combine it with acetate of potassium, which appears to act as a synergist and increase its good effects.

Nor are these the only cases in which it has exerted a favorable influence. In the acute stage of gonorrhea it has yielded most gratifying results; the painful micturition, heat, burning and tension, are prevented or greatly relieved; the frequency of chordee is much lessened and the acute stage of the disease is materially shortened, and some cases are aborted in a few days.

In the Therapeutic Gazette (Vol. 2, p. 832, Nov., 1886) I called attention to the beneficial effects of corn-silk in the acute stage of gonorrhea, and reported an illustrative case. Since that time I have used it in a great many cases, and the results have fully justified my early expectations. I must say this regardless of the somewhat satirical criticism of my article by a certain doctor in Illinois (whose name I have forgotten), who designated corn-silk as worthless in this disease, and, as he supposed, consigned it to oblivion. The probabilities are that the results on which his conclusions were based followed the use of inert preparations. In my article referred to, I specifically insisted on the importance of using a fresh and reliable preparation of the drug, and stated that there was a great difference, both in physical properties and therapeutic effects, between the various manufactured products on the market.

I do not wish to be understood as claiming specific powers for corn-silk, but merely desire to call attention to its therapeutic effects, and believe that if given in properly selected cases its use will be followed by gratifying results both to physician and patient. I have used the remedy in all classes of cases, but the results have been better in acute inflammatory and irritated conditions than in more chronic cases.

In conclusion I present the following summary:

1st. Corn-silk has a decided, demulcent, anesthetic and diuretic effect.

2nd. Its most beneficial results are obtained in acute, irritated and inflammatory conditions. It has also a decided influence in the acute stage of gonorrhea.

3rd. Good results will only follow the use of a pure, fresh and active preparation.

Rawlins, Wyoming.

PERISCOPE OF THERAPEUTICS.

By J. Lindsay Porteous, M.D., F.R.C.S., Ed.

Methylene Blue.

Bourdillon describes the use of this drug in malaria, relating in detail three cases successfully treated with it. He also maintains that it is useful in neuralgia, gonorrhea, the febrile state in general, and tuberculosis in particular. Almost all writers agree that it is harmless. Methylene blue is best given in pills of 10 cg., of which 3 to 10 may be given in the twenty-four hours. It is eliminated in the urine, feces, and expectoration, but not in the saliva; mode of action unknown.
Antipyrin in Tetanus.

Several cases of tetanus successfully treated with antipyrin have recently been recorded. If this drug is not actually curative, it does good by enabling the patient to live through what otherwise would be the fatal course of the disease, while the toxine is being eliminated by the ordinary channels.

The Action of Some Antipyretics of the Aromatic Series on the Blood.

Schmitt has found that all the aromatic drugs used as antithermic remedies produce, in variable degree, changes in the blood, consisting in the conversion of oxyhemoglobin into methemoglobin, a diminution of the "respiratory capacity" of the blood, and even destruction of the red corpuscles. These changes vary in intensity with the nature and dose of the drug studied, but for each drug are directly proportional to the degree of reduction of temperature produced. They may be divided into the following groups: (1) Those which, with a medium dose only, fix the oxygen more firmly to the hemoglobin—antipyrin, phenacetin. (2) Those which in moderate doses produce simple intra-corpuscular methemoglobinemia—anisic acid, thallin, antithermin, kairin, exalgin, methacetin, acetylamidophenol. (3) Those which in moderate doses, especially if repeated a few times, produce methemoglobinemia with destruction of corpuscles—acetanilid, benzanilid, formanilid, methylformanilid, and pyrodim. The author, arguing from the above facts, concludes that save occasionally in cases of hyperpyrexia, for their temporary action in reducing temperature, the antipyretics should be very sparingly used. In patients with healthy blood-corpuscles they may be excellent analgesics, but their value as antipyretics is questioned on account of the risk of a toxic action on the blood.

We have in our practice frequently noticed the evil effects of some of the above mentioned antipyretics—such as fainting, or an inclination to, palor and nausea, coldness of extremities, with a clammy condition of the skin. These toxic appearances are most marked after taking antipyrin.

Action of Ox-Serum in Syphilis.

Some time ago Tommasoli, of Modena, made the very interesting announcement that he had had excellent results from injecting the serum of lamb's blood in cases of syphilis. Sartori, last August, brought forward four fresh cases in which results similar to those mentioned by Tommasoli were obtained, but in his cases he used ox-serum, as lamb's blood was not obtainable. Three of these cases were recent and one of ten months' duration. The injections were made into the buttock on alternate sides, the mean dose being 6 cc. The first case lost all appearance of his disease after the eleventh injection; the second, after the fifth injection, and was discharged after two more injections; in the third, eight injections were necessary; in the fourth and last case, only seven injections were required. Nothing alarming occurred after or during the injections, although slight symptoms of shock made their appearance on rare occasions.

Phosphorus in Ether for Cholera.

We read recently of a remedy largely used as a cure for cholera over fifty years ago, and said to be very successful. It consisted of one part of phosphorus to 450 parts of ether—a dose to be given every three or four hours.

Yonkers, N. Y.

Cresol-Lime.

This was a very popular new disinfectant employed by German authorities during the recent cholera epidemic. It is produced by dissolving 1 part lime in 4 parts water, and adding 5 parts of crude cresol gradually. It is readily soluble in water, and completely sterilizes sewage quicker than carbolic acid. Experiments have proved that it destroys typhoid and cholera cultures quickly and effectually.
Clinical Lectures.

THE TREATMENT AND MANAGEMENT OF ASTHMA*.

By Thomas J. Mays, M.D.,
Professor of Diseases of the Chest in the Philadelphia Polyclinic, and Visiting Physician to the Rush Hospital for Consumption, of Philadelphia.

Asthma is a paroxysmal disease of the pneumogastric nerves which throws the muscular fibres of the bronchial tubes into spasmotic contraction. Its prominent symptoms are itching of the head and neck, oppression and tightness of the chest, dyspnea, pain in the region of the diaphragm, cough, expectoration and fever. Its causes are predisposing and exciting. (1) It may be inherited as asthma, and it may appear in children who come from consumptive or nervous families. It seems as if there is a predisposition necessary before the disease can develop. (2) Among the exciting causes are the inhalation of dust, powdered ipecacuanha, pollen of grasses and of roses, odors of certain animals, as cats, sheep, etc. Reflex excitation coming from the nose, stomach, liver, intestines, uterus, etc. Its relation to hay-fever is very close. Practically there is no difference between the two. I find that that which relieves the one will also relieve the other.

Treatement resolves itself into that (1) which aims to give immediate relief from the paroxysm, and that (2) which aims to prevent a recurrence of the paroxysm. Those remedies which relieve the paroxysm may be classified as follows: (1) central narcotics, consisting of morphine, belladonna, stramonium, hyoscyamus, tobacco, chloroform, ether, ethyl bromide, etc.; (2) emetics, consisting of lobelia, ipecacuanha, sanguinaria, etc.; and (3) peripheral narcotics or relaxants, consisting of nitro-glycerin, amyl-nitrite, sodium nitrite, pilocarpine, etc. Now all our more or less powerful therapeutic agents are stimulants to the general or special bodily tissues which they affect, in small doses, while in large doses they paralyze the same. All the above named agents only relieve asthma when given in large or paralyzing doses, the central narcotics exerting their influence on the central nervous system; the emetics acting on the pneumogastric filaments; while the peripheral narcotics paralyze the vaso-motor or sympathetic nerves which supply the unstriped muscular fibres of the bronchial mucous membrane and blood-vessels. While all these agents relieve asthma, and indeed in some cases are indispensable, it is quite clear that in doing so they lower or depress the functions of the parts on which they act, and that they do not therefore come up to the ideal of an asthmatic remedy. The best among them are nitroglycerin, one or two minims of a one per cent. solution every three or four hours, by the mouth, and $\frac{1}{20}$ or $\frac{1}{10}$ of a grain of morphine hypodermatically once or twice a day.

What then is the remedy which may be given continuously for the alleviation of this disease, and without the undesirable effects of the above named classes? Which drug will relieve asthma in stimulant doses? Such a drug, I believe, we possess in strychnine. Of course we must bear in mind that all stimulants are only supplementary agents, which maintain the functions of the body without adding any direct material support to the same; but there is also good reason for believing that they cause the tissues to appropriate a larger amount of nutritive material than they would otherwise do, and in this way our stimulant drugs become tissue-builders. It has been shown that the power of strychnine in this respect is greater than that of any other stimulant. This drug has a special affinity for the nervous system, which action is especially accentuated on the pneumogastric nerves. In stimulant doses it gives a supporting influence to the respiratory movements, and unlike morphine, lobelia, belladonna or

*) An abstract of a lecture delivered to the class in the Philadelphia Polyclinic, November, 1892.
nitro-glycerin, it does not depress or narcotize the nervous system.

Asthma being a spasmodic disease, in what manner does strychnine bring relief? How does it act as an antispasmodic? The most probable theory of the spasmodic state is, that there is at the beginning of the paroxysm a suprabundant discharge of nerve force through the pneumogastric nerves, which throws the bronchial muscles into contraction. But whatever the intimate nature of this condition may be, it is evidence of degradation or nerve-weakness, and strychnine by elevating the tone of these nerves increases the controlling power of the same.

A stimulant dose of strychnine will depend on the age of the patient and the length of time during which the drug has been given, although asthmatics, as a rule, will bear larger doses of strychnine than most other patients. Begin, as a rule, with \( \frac{1}{100} \) of a grain and gradually increase to \( \frac{1}{20} \) or \( \frac{1}{10} \) of a grain, or more if necessary to impress the system with its full stimulant effects. Do not waste your time with small doses. To these amounts of strychnine small doses of from \( \frac{1}{400} \) to \( \frac{1}{800} \) of a grain of atropine may be added. It is best to administer these drugs in the evening, because asthma is nocturnal in its attacks, and your patient should be protected at night so he can sleep. Additionally to its hypodermic use, this drug may be given in the following combination:

<table>
<thead>
<tr>
<th>R Phenacetin</th>
<th>gr. xiv</th>
</tr>
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<tbody>
<tr>
<td>Quininae sulph</td>
<td>gr. xxxii</td>
</tr>
<tr>
<td>Ammon. muriatri</td>
<td>3 jss</td>
</tr>
<tr>
<td>Pulv. capsici</td>
<td>gr. iv</td>
</tr>
<tr>
<td>Strychninae sulph</td>
<td>gr. 1/2</td>
</tr>
</tbody>
</table>

M. Ft. capulas no. xxxii.
Sig. One capsule four times a day.

Or in the following:

<table>
<thead>
<tr>
<th>R Strychninae sulph</th>
<th>gr. 1/2</th>
</tr>
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<tbody>
<tr>
<td>Syr. acidi hydriodic</td>
<td></td>
</tr>
<tr>
<td>Syr. hypophosph</td>
<td>ãã fl. 3 ii</td>
</tr>
</tbody>
</table>

M. Sig: One teaspoonful four times daily.

In fact, light cases of asthma require no hypodermic injection, and do well enough when the above named preparations are given. In severe cases it is, of course, advisable to add morphine or nitro-glycerin to the strychnine and atropine treatment, especially at the beginning. This treatment will break up the paroxysms, but even after they are broken many old asthmatics still remain in the most abject misery. They may be compelled to sit up day and night panting for breath, and still labor under the impression that they are suffering from asthma. This is a mistake; it is not asthma. The respiratory movements as well as the whole nervous system are almost completely paralyzed. It is the disorder and chaos following the flood. The dyspnea is not paroxysmal as before, but is felt now on the slightest exertion. This stage of the disease is most important from a therapeutic standpoint. Nitroglycerin, lobelia, and other narcotics are of no use. Rest is most essential now. They must do absolutely nothing. Lie down if they can, or sit still. They should even be fed. I have known patients who were breathing comfortably bring on a most severe exhaustion—dyspnea—by merely undertaking to write a letter. During the rest treatment give food of the most nourishing character, such as freshly expressed beef-juice, a cupful a day, beef powder, beef, mutton, milk, oysters, clams, etc. In this stage strychnine is also of the greatest value. Massage is also to be used in desperate cases. Electricity is also of great service. So are rarefied air, and calisthenic exercises obtained in the pneumatic cabinet treatment. To procure sleep at night morphine may be added to the hypodermic injections of strychnine.

Success in treating asthma depends as much on the proper management of the individual as it does on the administration of drugs in the proper doses and at the proper time. Principles can only be carried out by paying attention to details, hence each patient must be under the complete control of his physician in regard to his food, medicines, exercise, and everything else. This pertains particularly to old asthmatics who are constant sufferers. If the instruction which is given this evening is closely followed there are very few
cases which will not yield to it; and as an illustration of what may be done in desperate cases, I will conclude by relating the condensed histories of the two following examples, the second of which is still under occasional observation:

Case I.—A., aged 46, a sufferer from asthma for thirty-five years—the attacks becoming more frequent and severe during the last three years. For four weeks before coming under observation he had been unable to lie down on account of his disease. The injection of strychnine, gr. 1/30, and morphine, gr. 1/100, gave him almost immediate temporary relief. The morphine was discontinued after the second day, and one minim of a one-per-cent. solution of nitro-glycerin every four hours was substituted. The strychnine was gradually increased, and the nitro-glycerine omitted in the course of a week. Additionally he was kept quiet, received nourishing food, and strychnine by the mouth. In three days he was able to lie down, and in ten days more the asthma had ceased.

Case II.—B., aged 50, an asthmatic for twenty-five years. Daily attacks for one year, during which time he had been unable to lie down, day or night. Came under observation six weeks ago, and received about the same treatment as the previous case. The relief was prompt after each injection, but this had to be continued nightly for five weeks to keep the stubborn disease in abeyance. In two weeks he was able to lie down, and is now practically well.

Recent Medicaments.

Asaprol.

Asaprol is a derivative of beta-naphthol (beta-naphthol-alpha-mono-sulphonate of calcium) introduced by Stackler and Dulief, of Paris, as an antiseptic, antithermic and antirheumatic. It occurs in the form of a white powder, soluble in one-and-a-half parts of distilled water and three parts of alcohol, and is supposed to be prepared by heating one part of betanaphthol with two parts of sulphuric acid at a temperature of 100° C., with the subsequent conversion of the free acid thus produced into the calcium salt. Investigations in the laboratory of Dujardin-Beaumetz show that this compound has marked influence over various forms of bacteria, and some tentative observations on man indicate that it will prove useful in the treatment of gout and rheumatism, and cases of its prompt curative action in acute articular rheumatism are now on record. It is also recommended in typhoid fever and influenza.

Methyl-benzoyl-ecgonin

is the name employed by a prominent physician and medical college professor in a Western city when prescribing pure coca in. It prevents the patient from knowing the ingredient in his order on the pharmacist; it also stagers the uninitiated pharmacist occasionally, unless he is well up in the literature and synonyms of new remedies. A similar use is made of oxydimethylchlinsin by a New York practitioner who wishes to prevent his patients from knowing that he prescribes antipyrin for them.

Tolypyrin and Tolysal.

Many attempts have been variously made of late by chemists to obtain a therapeutically utilizable body through the introduction of some group into the phenyl residue of phenyldimethylpyrazolon (antipyrin), which would be likely to possess some advantages in one or the other way over antipyrin. Success seems to have crowned the efforts of Riedel, of Berlin, in this direction, and he announces the introduction of two new products: Tolypyrin, or para-tolymethylpyrazolon, and Tolysal, or p-tolymethylpyrazolon salicylate. Both are definite chemical compounds, and clinical reports on therapeutic applications are promised in an early issue of a Berlin medical journal. Advance reports describe tolysal as occurring in colorless crystals, melting at 100 to 102° C., almost insoluble in water, but readily dissolved in alcohol. This product will probably find first and best use in medicine.
PATHOLOGICAL CONDITIONS INCIDENT TO SPASMODIC ASTHMA.

In order to arrive at reliable conclusions as to the most suitable methods of treatment in spasmodic asthma we must have definite conceptions as to the pathological conditions incident to the disease. Certain clinical facts have been observed which go to show that quite a number of drugs modify the severity of the seizures, while some of them possess what may be termed curative properties up to a certain point, although slight information has been gathered looking toward the establishment of any method of treatment based upon scientific investigation. Relying upon certain well-known physical appearances, brought about by disordered function, physicians have hitherto contented themselves with clinical facts, instead of endeavoring to fathom the mysteries associated with the disease by an investigation of the scientific facts relating thereto.

 Entirely too much stress has been laid upon the functional changes occurring in the bronchial tubes, which are evidently due to the influence of their muscular layer, together with the associated hyper-
blood which produces certain well-defined symptoms. The flow of blood through the capillaries becomes irregular or intermittent, and this constitutes the essential pathological condition incident to an attack of spasmodic asthma.

While admitting the correctness of the premises outlined, the reader will perhaps inquire how it happens that patients often apparently recover without treatment, and come to look upon asthma as a trivial disease; but this question must necessarily be deferred until we come to study "the hypothesis of interference" and the scientific facts connected with the function of nerve-cells in modifying metabolism. There will also be those who would like to know what influence, if any, may be exerted by Settschenow's centres in producing the disease, since a considerable number of patients are liable to attacks when exposed to certain odors; but this also must be passed in order to give the present article a practical turn from a therapeutical standpoint.

Treatment should be conducted with a view to re-establish a healthy condition of the pulmonary circulation, although temporary expedients may be demanded for the emergency. It avails but little to exhibit arterial relaxants unless something be done to restore the disordered condition of the vaso-motors controlling the calibre of pulmonary blood-vessels—unless we can remedy this defect by the exhibition of agents acting upon Settschenow's centre, or directly upon the air-cells. The most successful treatment is based upon the hypothesis of interference, using remedies which least derange the functions of vegetative life, the object being to re-establish both anabolism and katabolism on a normal basis.

**THE SPHERE OF A MEDICAL JOURNAL.**

At the expiration of the first six months of its existence, the editor of the American Therapist feels impelled to say a word in regard to the proper sphere of a medical journal. He is prompted in this matter by reason of the favorable reception accorded his effort to promote the welfare of therapeutics from a scientific standpoint, although no definite promises were made at the beginning. Now that the journal has been successfully launched upon the sea of medical literature, and is in charge of a squad of active, intelligent, thoughtful and progressive men, who have at heart the best interests of the profession and the public, it will be appropriate to take our bearings. A single ship, however, with but a small crew, will at first create nothing more than a slight ripple on the surface, which scarcely attracts the attention of those who are on the lookout for a tidal wave; but like the ebb and flow of the tide, the silent, persistent and practical character of the work already done will eventually produce the desired effect—an effect, too, quite different from the tidal waves which have recently so devastated therapeutic shores.

The proper sphere of the American Therapist is to disseminate useful information concerning the best methods of preventing and treating diseases, with a view to the prolongation of life and conservation of health, thereby adding materially to our national wealth. The questions of policy, so liable to cause friction in mercantile ventures of this nature, find here no suitable place for lodgement, since the editorial and publishing interests are identical and free from complications of the kind. The policy of the American Therapist is practically automatic and regulates itself; like a healthy man who consults his digestive apparatus in selecting his food, and requires no artificial stomachic stimulant, the editor trusts that the journal may never experience the pangs of remorse which arise from the necessity of leading a dual life, by carrying water on both shoulders. "Good wine needs no bush" is a trite maxim which may be applied to the conduct of this journal, and the extent and character of its advertising patronage may be taken as evidence that the straightfor-
ward course adopted meets with approval. A better argument, indicating its appreciation, however, is the rapidly increasing subscription list.

From the inauguration of the American Therapist the editor anticipated that more could be accomplished than the mere conduct of a first-class independent, scientific and practical journal, and these anticipations, he is happy to say, are in due course of fulfillment, as shown by the flattering commendatory letters received from intelligent physicians throughout the country. This work is now under way, and has formed a portion of each of the preceding numbers, its object being to instil in the minds of practitioners more definite views regarding the pharmacology of remedial agents, in the hope that, with a better knowledge of their occult properties, therapeutics should ultimately rest upon a more substantial foundation. Using the simile employed in the beginning of this article, it is believed that in time, instead of a squad of men with a single ship, we shall have an entire fleet and an army with banners.

EDITORIAL NOTES.

Topics for Discussion.—There are now quite a large number of regular readers of the American Therapist, both in this country and abroad, and with a view to increasing the value of the journal, the editor takes the liberty of suggesting a number of topics for discussion. The season of the year would naturally bring out reports on pneumonia, pleurisy, bronchitis, catarrhal conditions of the upper air-passages, diphtheria, croup, hepatic affections and disorders of the alimentary tract, in all of which there is ample room for improvement, owing to our knowledge both of the causation of disease and therapeutic properties of remedial agents.

It would also be policy to exchange views respecting the physiological and therapeutic properties of a large class of remedies, both new and old, with the hope that additional clinical evidence would be forthcoming to indicate more clearly their appropriate spheres in the treatment of disease. For example, it would be interesting to make a re-study of cannabis indica in nervous affections, iodine as an alterative, mercury in disorders of the digestive tract, arsenic in skin diseases, and quinine in malaria.

Should this policy meet with favor, our journal will be enlarged to meet any reasonable demands upon its columns, and the editor will gladly cooperate in the work.

Fel Bo vis.—Our issue for January, 1893, will contain several contributions on the use of ox-gall, a remedy which has again come to the front, together with a collection of approved formulæ for its administration, and to the end that this subject may be presented as fully as possible, subscribers are invited to send formulæ for publication, with such clinical notes as they deem proper.

Cellular-Therapy.—In response to a number of inquiries in regard to cellular-therapy, the Editor begs to say that this subject will be studied systematically during the coming year. It is not, as some might suppose, an innovation, merely a step in advance, and runs in lines parallel with the most recent physiological investigation. A definition having been desired, the following is submitted: Cellular-therapy is the name applied to the method in therapeutics of exhibiting properly selected medicaments with a view to restoration of cell-function, and is in line with the conservative processes of Nature as evidenced by clinical facts observed in the treatment of diseased conditions. Just as cellular-pathology is concerned in the study of retrograde metaphysics, so cellular-therapy aims to apply scientifically those remedies which experience has shown to possess special curative properties in the restoration of disordered functions. An experience of several years with this sub-
ject in the foreground has furnished abundant evidence of its clinical importance, and the number of remedies to which it can be applied is daily increasing. Its appropriate sphere will readily suggest itself to those who have become familiar with the function of the living cell, and it will prove a revelation to all who deliberately and conscientiously study its bearings.

SANITARY CONDITION OF SAINT AUGUSTINE HOTELS.

Report of Dr. J. S. Billings.

Inasmuch as there are so many physicians interested, both directly and indirectly, in the sanitary condition of the Florida health resorts, we take pleasure in reproducing herewith the second report of Dr. Billings.

* * * * * I have this day completed an examination of the hotels "Ponce de Leon," "Alcazzar" and "Cordova," in St. Augustine, and certify that they are in excellent sanitary condition throughout. In each of these hotels the plumbing is in good order, the soil-pipes are properly ventilated and trapped off from the sewers. All fixtures are of good quality, properly trapped, and the traps are ventilated. The pipes are of excellent quality and well put together with tight joints. All waste from the ice-boxes, refrigerators, and safes are entirely disconnected from the soil-pipes and sewers, and discharge on the surface. Each sewer from the hotels has at its upper end an automatic flush-tank, which at intervals of two hours discharges 1,400 gallons of water rapidly into the pipe, thus securing a scouring flush which washes the contents into the river.

I do not think that there is any risk of the escape of sewer-air or soil-pipe air into any part of either of these hotels. All water-closets, bath-rooms and sink-rooms, including those for the servants, as well as those for the guests, are clean and in good order. I have been beneath each of the buildings, and have examined the surface of the soil and the pipes lying beneath the floors. All the pipes are tight—there are no signs of any leaky or defective joints, and no odors. The surface of the ground is covered with clean, dry, shelly sand. The space beneath the floor of the kitchen of the "Cordova" is now entirely free from nuisance of any kind, and all openings in the kitchen floor have been closed.

There is no reason to suppose that the water supply of the hotel has at any time been contaminated—both that furnished from the artesian wells and that from the rain-water cisterns are free from danger so far as contamination with disease germs is concerned. In my opinion there is nothing about the hotels at the present time which can be considered as dangerous to the health of the inmates.

(Signed) J. S. BILLINGS, M. D.,
Director of the Laboratory of Hygiene,
University of Pennsylvania.

ST. AUGUSTINE, Fla., Oct. 29, 1892.

Current Literature.

CHLORATE OF POTASSIUM.—Dr. Coghill in a paper read at the Ninth International Medical Congress confirmed the results of Wöhler that chlorate of potassium is excreted in the urine unchanged and in the full amount ingested, and hence does not give off oxygen to the tissues. Nevertheless, besides its local uses, he finds it of value in preventing abortion, in all cases of pulmonary insufficiency, as phthisis, chronic pneumonia, and bronchitis, in anemia, and general malnutrition. In addition, it has an antiseptic action in diseases of the genito-urinary tract where there is suppuration or purulent or phosphatic urine.—British Medical Journal.

CARBOLIC ACID AND IODINE IN WHOOPING-COUGH.—Dr. Rothe, having met with some unfortunate cases of whooping-cough,
treated with antipyrin, turned his attention to a combination of iodine with carboxylic acid in the treatment of this affection, and with this combination he has obtained remarkable results. He has, he says, treated hundreds of cases, and cannot remember one in which the affection lasted longer than four weeks, besides which no fatal case occurred. The mixture he employs is as follows: acid. carbol. 14 gr.; sp. vin., 15 gr.; tinct. iod., 10 gtt.; tinct. bellad., 30 gr.; aq. menth. pip., 2 oz.; syr. opiat., 150 gr. A teaspoonful of this is given to children over two years of age every two hours. When this treatment was carried out from the commencement of the complaint the severity was never great, and even when it was only begun in cases that had been going on for six or seven weeks it soon cut them short.

Treatment of Epilepsy.—M. Cornet (Jour. de Med.) reports the results of experimentation in the use of bromide of gold, bromide of camphor, and picrotoxin in the treatment of epilepsy. The bromide of gold seems to exert some favorable action in certain cases, although its action is inferior to that of bromide of potassium. No physiological difficulty is experienced in administering 3 centigr. per diem. The remedy is eliminated by the kidneys and the bromine is found in the urine very soon after its ingestion; it disappears slowly. The gold accumulates in the system, its presence having been discovered in the liver; it does not appear in the urine until it has been administered for a long time.

The bromide of camphor, the action of which in epilepsy is still disputed, does certainly possess a favorable action upon the vertigo of epilepsy, which is lessened or even made to disappear. The bromide of camphor is eliminated in the urine, the bromine in the state of bromide of sodium, and the camphor in the form of derivatives.

The Phenate of Cocaine.—Phenic acid, from the point of view of its local action, presents certain analogies with cocaine; like the latter, it produces ischemia and insensibility of the tissues. We would, therefore, expect that a combination of the two substances, under the form of phenate of cocaine, would have therapeutic properties superior to those of the muriate of cocaine. This has been found to be the case by a Bavarian physician, Dr. von Oeefe, who has for some time past employed the phenate of cocaine exclusively in the place of the muriate.

He has found that the phenic salt exercises an analgesic action much more persistent than that of the muriate, while the chances of producing toxic effects are much less. Glück was accustomed to add carboxylic acid to his solutions of cocaine for the purpose of diminishing the chances of producing disagreeable results. These properties and advantages are explained by the fact that the phenic salt is almost entirely insoluble in water. Not being dissolved by the juices of the organism, the phenate of cocaine, employed as a local application, is absorbed but little or not at all; whence the absence of intoxication and the persistence of the analgesic action, which may last as long as thirty-six hours. Phenate of cocaine may be given internally as well as in hypodermic injection.—La Semaine Médicale.

Therapeutics of Uric Acid Gravel.—Sir William Roberts, in a series of lectures on the chemistry and therapeutics of uric acid gravel and gout, says the treatment of calculous disorders must be in the main preventive. The chemical force which is requisite to prevent the precipitation of uric acid in the urinary channels is almost infinitely small as compared with the force which is requisite to re-dissolve a concretion already formed. Uric acid gravel is constantly seen existing per se, in persons who are in all other respects perfectly healthy. From a therapeutic point it is a mischievous notion that uric
acid gravel and gout are substantially the same disease. Gravel should be regarded as a primary vice of the urinary function, and the urine the proper field for its investigation and treatment. The author’s experiments point strongly to the suggestion that subjects of gravel should be advised to take as much culinary salts as their palates will tolerate. The most reliable investigations indicate that fat, sugar and starchy matters have not the slightest influence on the production and excretion of uric acid, nor has any proof been given that albuminoid substances of vegetable origin differ in this respect from albuminoid substances of animal origin. He believes that the free use of farinaceous articles, salads, fruit, and garden vegetables, all comparatively poor in albuminoid constituents, should be advised. All other schemes of treatment sink into insignificance in comparison with that of diminishing the acidity of the urine. It is chemically impossible for uric acid to be deposited from an alkaline urine, and as we have the means of harmlessly reducing the acidity at will, we have in our hands, in principle at least, the absolute power of preventing uric acid gravel. The risk in gravel is almost confined to precipitations which take place within the precincts of the kidneys, and the author has found that the most risk of precipitation in the kidneys is during the time of sleep. Therefore, a single dose of citrate or bicarbonate of potash or soda (forty-five to sixty grains dissolved in three or four ounces of water), taken at bed-time, suffices for the milder cases. In others a second dose can be taken in the night when the patient has a call to empty the bladder. The precipitation can thus be postponed until the urine reaches the bladder, whence it is swept away, as a rule, before it has a chance to do harm.—Lancet, June 25, 1892.

HYDROGEN PEROXIDE IN DIPHTHERIA.—Dr. Benjamin Ward Richardson writes to the Medical Press and Circular for November 9th a note on this subject. He confirms the statements of Dr. F. H. Williams, of Boston, as to the value of a thirty-volume solution of the peroxide in the local treatment of diphtheria. Dr. Williams had pointed out, in the Boston Medical and Surgical Journal, that many who used the peroxide employed solutions of insufficient strength to obtain the greatest degree of success in the treatment of diphtheria. As much as a 32% solution has been employed by Dr. Williams with gratifying success, both in the form of spray to the diseased throat and in the form of submucous injection in the same region.

Dr. Richardson states that when he began, in 1857, the medical employment of the peroxide, it was one of the rarest of chemical curiosities. He began by using it in the strengths of four and five volumes; then he moved up to twenty and thirty volumes, but he soon learned that with these higher volumes the oxidation was so rapid, in the presence of pus and similar disturbing substances, as to be “practically explosive in character.” On one occasion a case of antral abscess came under observation, and he injected a drachm of a thirty-volume solution through an opening into the cavity made by the extraction of a tooth. He witnessed a reaction which for a few moments alarmed him, owing to the gush of purulent froth that followed. Diphtheria may be treated with the higher volumes, in localities where the surface is open, without the danger of creating excessive tension, or laceration of the parts. The same indications, he states, may be held to apply to the cutaneous surface when it is the seat of senile gangrene, phagedena, or syphilitic ulceration. The thirty-volume solution may, he says, be the right one to be employed, but during the thirty years that have elapsed since his publication, made to the Medical Society of London, he has regarded the ten-volume solution as more suitable for general adoption.

At the close of his note Dr. Richardson states that he has seen pus-cavities and
fistulae heal satisfactorily under the use of the ten-volume solution, used frequently and in small quantities, and he thinks that in the treatment of fistula in an toe the peroxide, applied by means of a pledget of lint on a probe, ought to supplant the operation with the knife in many cases.—


**Successful Suture of Severed Finger-tips after Seven Hours.**—The case I present to-night is of some interest. The history is as follows: On January 2, 1890, nearly three years ago, this man came into the hospital about half-past twelve o'clock p.m. He was a machinist by trade and worked in a tin-shop. He went on duty that morning, he says, at five o'clock, and shortly afterward, while handling machinery, something dropped, and in stooping down to pick it up the fingers of his left hand accidentally slipped beneath the knife of a machine used for cutting blocks of tin. The ends of the ring and middle fingers were cut cleanly off. The middle finger was cut off just below the last joint, directly through the last phalanx. The ring finger was cut off just at the root of the nail. I asked him, as a matter of curiosity, where the fingers were; he said he had picked them up, wrapped them in a piece of newspaper and put them in his pocket. At my request he produced them. I thought it hardly worth while to attempt to save them, but still made the attempt. I placed the ends of the fingers in a basin of warm water with no antiseptic whatever. The fingers were soaked for a while in about a 1:2000 hot bichloride solution. Then, having freshened the edges of both the portions of finger which had been cut off, and the fingers themselves, I proceeded very carefully to adjust the two ends and replace them. This consumed over half an hour before they were replaced and the dressing applied, making in all seven hours. I put in four sutures in each case through the skin, one on each side, one on the dorsal and one on the palmar sur-

tace. Then I took narrow strips of crepe lisse and brought them over the ends of the fingers on the back, front and sides. These were held in place by flexible collodion, and kept the ends in perfect apposition. Then the two fingers were bound together and placed on a palmar splint, and a large antiseptic dressing applied. He was told to report in a week. At the end of a week's time he returned, and the fingers, to my surprise, looked remarkably well. He declared that sensation was present in the ends of the fingers, but this was very doubtful. I did not see him again thereafter, on account of absence from the city for several weeks, and Dr. Brockway dressed him on his second return. He reported that at that time the wound had entirely healed by first intention. The man did not return. I endeavored to find him, but could not, and he disappeared entirely from view for nearly three years. The other day he came into the dispensary with his right hand injured. I recognized him at once, and asked him why he had not returned as he promised. He replied that he had moved out of the city immediately after the accident, and came back just a week ago. He is here to-night, and you can see the result. He has perfect motion and perfect sensation, and there is only the slightest deformity in the ring finger to indicate the point of union. It is difficult to detect even the slightest scar in the middle finger.

I avoided using any antiseptic solution in his case, because bichloride of mercury and carbolic acid solutions make a thin layer of coagulation necrosis, which might prevent union.

J. M. T. Pinney, M. D.

(Bulletin Johns Hopkins Hospital.)

**Mercury Subcutaneously in Infantile Syphilis.**—Moncorvo and Ferreira report a large number of cases of syphilis in young children, treated by hypodermatic injections of various salts of mercury. Of the soluble salts, corrosive sublimate was the best tolerated and most efficient.
It offers a method to which we may turn with confidence if other methods fail. The following conclusions are drawn:

1. The value of the hypodermatic method of treatment must be admitted.

2. Of the various salts, the corrosive chloride gave the best results as observed in forty-seven children who received two hundred and fifty-nine injections.

3. The tolerance of this salt by very young children is perfect, and the effects are marked.

4. The injections should always be made with the most scrupulous antiseptic precautions. They may in some instances be repeated every four days.

5. The results obtained by means of mercurial injections are generally favorable, and the efficiency of the process does not seem to be inferior to that of other methods of administration.

6. The cutaneous lesions are more quickly influenced than the glandular.

7. As a rule, mercurials by hypodermatic injections are well tolerated by young children, there being little tendency to salivation, stomatitis and intestinal symptoms.—N. Y. Med. Journ.

Biologic Therapeutics.—Medicine has entered upon a new era in therapeutics, which may appropriately be designated biologic. The scientific world greeted with cordial admiration the synthetic products of the chemist's skill, but we stand to-day on the threshold of developments the magnitude of which is beyond comprehension. Since the birth of the young science of bacteriology practical minds have assumed an expectant attitude. Skepticism has largely given way to confidence, and the excessive enthusiasm to a calmer judgment. It soon became apparent, in a manner and to a degree in which it had never been before, that many diseases carried with them the elements of their own cure. Of course, it had been recognized that certain diseases are self-limited, and the phenomena of natural and acquired immunity were duly appreciated; but it required the knowledge gained by the advances in bacteriology to afford a rational explanation of these various phenomena. There is yet much to learn. The beginning has but been made. Enough, however, has been seen to teach that disease has its chemistry, and that the treatment of the future will depend upon a knowledge of this fact and the application of chemic laws. It is not too much to hope that the treatment of the future will largely be specific, that is, in the employment of a definite remedy in the treatment of a given affection, just as mercury and iodine are to-day employed in the treatment of syphilis, quinine in the treatment of malarial disease, and salicylic acid in the treatment of rheumatism. The groundwork of this new system of therapy has been already laid by Pasteur as to hydrophobia, by Koch in regard to tuberculosis, by Behring, Kitsasato, Wasserman and Ehrlich as to diptheria, by Tizzoni, Centanni and Cattani as to tetanus, by the Klemperers as to pneumonia, by Ferran, Haffkine and Klemperer as to cholera.

Stern (Deutsche medicin. Wochenchr., 1892, No. 37, p. 827) has made an interesting contribution to this subject. He had previously demonstrated that human blood-serum possesses the property of destroying the bacilli of typhoid fever. He now endeavored to determine if the bactericidal activity of the blood-serum to the bacillus of typhoid fever is increased in persons that had recovered from an attack of that disease; if the blood of such persons had any curative action upon animals inoculated with the bacilli of typhoid fever; and if this blood has the property of neutralizing the poisons generated by the bacilli of typhoid fever. Seven cases were examined, six at intervals of from five days to five and a half weeks after defervescence had set in, and one, who was under treatment for sciatica, seventeen years and a half after an attack of typhoid fever. It was found that the bactericidal activity of the blood-serum to
the bacilli of typhoid fever was distinctly diminished in persons recently convalescent from typhoid fever, in comparison with the conditions present in persons that had never had typhoid fever. It was further found that while the serum of a healthy person exerted no modifying influence upon the toxicity of bouillon-cultures of the bacilli of typhoid fever with which it was mixed, the serum of persons recently convalescent from typhoid fever exerted a distinctly modifying effect of an attenuating character. It was also demonstrated that a filtered extract of sterilized cultures of the bacilli of typhoid fever could be safely injected in doses otherwise lethal, if previously admixed with the blood-serum of persons recently convalescent from typhoid fever. From the foregoing it is clear that the protective influence of the blood-serum of persons recently convalescent from typhoid fever is not dependent upon a destructive action upon the bacilli themselves. It will not do, however, at once to jump to the conclusion that the serum neutralizes the toxic products of the bacilli. It is also possible that the serum renders the animal organism less susceptible to the influence of the toxic products. This doubt would be removed if it were shown that the diminution in the toxicity of a mixture of serum and the sterilized extract were progressive.

The observations here recorded are most interesting, and are deserving of careful consideration. They should be repeated and extended. They seem to bring us nearer to a correct conception of natural immunity and natural cure.—Medical News.

Leukæmia.—Pawlowsky says that the infective nature of leukæmia was first suspected some years ago. Bacteriological investigation has hitherto given unsatisfactory results. The author then cites a typical case where there was very considerable leucocytosis (1 to 4), and the spleen extended almost down to the pubes. No other glands were involved. Short bacilli with spores in them were discovered in the blood. In two other cases similar bacilli were found. They were also present in sections prepared from the organs of three persons dead of this disease, especially in the blood and lymphatic vessels of the liver. Cultivation experiments were successful in blood serum and glycerin agar. The organisms were also found in the blood of leeches which had abstracted blood from leukæmic patients, but they showed no aptitude to increase. The author says that characteristic microbes have thus been found by him in six cases, and that upon the ground of their constant presence in the blood and tissues and of their biological properties, they must be looked upon as peculiar to leukæmia and in direct casual relation with this disease. These results show that leukæmia is a disease of the blood. The bacilli exercise a certain influence upon the leucocytes in the blood-forming organs. They bring about a multiplication of leucocytes some of which latter get into the blood in an immature condition. The leucocytes also partly increase in the blood, and in many cases karyokinesis may be seen. Brought by the blood the micro-organisms are retained in the spleen, lymphatic glands, and medulla of bones. Here, and especially in the spleen, the fight takes place between the leucocytes and microbes (phagocytosis). The hyperplasia of the spleen and other blood-forming organs is thus the result of the reaction of the individual against the poison circulating in the blood. For this reason extirpation of the spleen must be quite unwarrantable.—The Lancet, Dec., 1892.

Magnetism and Paralysis.—Experiments made with powerful magnets at the Edison laboratory show that neither direct nor reversed magnetism exerts any influence upon the iron in human blood, upon the sensory or motor nerves, nor upon the brain. The fact, which has been established by these tests, that the human organism is unaffected by the most powerful magnets known, disproves the statement of Benedikt that magnetism will produce paralysis.
Book Notices.


In a general way it may be said that the views advanced by our author fairly represent the teachings upon the different topics at the present time, but being in the nature of a systematic review, as taught the class in the college with which he is connected, we are warranted in assuming that it should be something more than a mere compilation. The writer is led to make this observation principally because of the general character of the therapeutic recommendations, since the views expressed in regard to pathology and symptomatology are in the main correct. In the discussion of asthma he has followed the prevailing notion that it is due to "spasmodic contraction of the bronchi, which is excited through the agency of the nervous system." As this question is considered elsewhere in these pages, we may pass it with the query as to the influence which nitro-glycerin—one of our most efficient agents for the temporary relief of this malady—may have upon the muscular layer of the bronchi, or upon their mucous membranes.

There are serious doubts as to the value of chloral in this affection, even when offered as "the safest and most universally useful" (p. 16) of the remedies which act upon the nerve-centres. Evidently our author is not familiar with the therapeutic properties of ozonized oxygen by inhalation (pure oxygen gas passed through a solution of hydrogen dioxide), and no reference is made to the employment of euphorbia pilulifera, a most valuable remedy obtained from Australia. The use of opium and ammonium chloride and carbonate, and chloral, "to lessen the severity and frequency of coughing, to modify the secretions and excretions," (p. 43) can scarcely be accepted as "almost universal indications for treatment in bronchitis." Remedies infinitely superior will be found in arterial sedatives, such as aconite, gelsemium and veratrum, along with potassium bichromate or bryonia, to be followed later by calcium sulphide, phosphorus or sanguinaria in small doses. The use of opium and its alkaloids is always to be avoided in these cases—if possible—as when given in so-called medicinal doses, the after-effects are decidedly objectionable. The best that can be said of them is, that they are merely palliative; indeed, it will be readily admitted that opium is never curative, because it practically masks the disease, and besides, it sets up a long train of unfavorable symptoms.

On page 45 are given methods of aborting bronchitis in the congestive stage. In asthenic cases, a full dose of Dovers' powder is given along with hot baths and drinks, "to produce sweating;" "debilitated" patients get ten grains of quinine and one-fourth grain of morphine, followed by half as much every three or four hours "until four or five doses have been taken." The reviewer would be sorry indeed were there no more acceptable methods for the relief of this malady. With all due respect to those practitioners who follow these methods, which the writer long ago abandoned, it must be apparent to the most obtuse that there is good reason for dissatisfaction in the ranks of the medical profession; even the laity no longer willingly submit to the "sweating" system.

Space prevents more extended notice, but it may be added that the author would do well to learn the value of phosphorus in pneumonia; he should also test the virtues of mercury binodide in cirrhosis of the lung. Both phosphorus and calcium sulphide have been omitted from the treatment of gangrene of the lung. Treatment advocated for the early stage of pleurisy is eminently unsatisfactory; indeed, it is incendiary in character.
Tuberculosis of Bones and Joints. By N. Senn, M.D., Ph.D., Professor of Practice of Surgery in Rush Medical College, Chicago, etc. Cloth, 8 vo., pp. 520. Philadelphia: The F. A. Davis Co., 1892. (Price, $4.00).

This is an octavo volume of five hundred pages and is profusely illustrated. As the title implies, it deals with the important subject of tuberculosis of the bones and joints. It is a highly scientific treatise, in which every part is redolent of modern progress and careful thought and research. It is no exaggeration to say that every physician who practices medicine or surgery at the present day ought to read this book. To the surgeon it will give much light which he may not have time to seek for himself, and to the physician it will offer an explanation of many of his obscure cases of invalidism which suddenly burst out into an acute attack of phthisis. As a re-educator on the important subject which now attracts so much attention throughout the world, it will be a boon to the thousands of practitioners who still hold on to the old notions of their forefathers.

When other competent writers will have presented the subjects of intra-abdominal, intra-pectoral, and intra-cranial tuberculosis in as lucid and progressive a manner as Dr. Senn has presented that of tuberculosis of the bones and joints, we will have a literature on the subject of tuberculosis which will fairly represent modern thought and progress.

Medical Diagnosis. By Oswald Vierordt; Translated by Francis H. Stuart, M.D. Cloth, 8 vo., pp. 700. Philadelphia: W. B. Saunders, 1892. (Price, $6.00).

The reputation of the writer is a guarantee of the excellence of any product of his pen. The present work contains as much solid material bearing upon diagnosis as could well be crowded into a volume of similar size.

The plan of the work is to consider each organ separately, describing the evidences of disease it may present as contrasted with the normal condition and function. This method favors conciseness as it avoids repetition, but it has the disadvantage of giving only the local signs and symptoms of a disease as it affects a single organ, and, therefore, the clinical picture is necessarily incomplete and fragmentary, whenever more than one organ is involved. Especially in regard to fevers and other constitutional affections this plan is most unsatisfactory, as it is impossible to associate all the morbid phenomena with definite organic lesion, or even to refer them to a definite organ.

Allowing for this disadvantage, the work before us is an admirable one. The chapter on the digestive apparatus is especially full and excellent, while that on the nervous system gives in a small compass a vast amount of carefully arranged material on this most intricate and difficult subject.

The illustrations are numerous and well executed, and the use of color in representing stained preparations gives them additional value.

The translator has not wholly avoided the stiffness and awkwardness which comes from a close following of the original.

Taken as a whole, the book deserves to have a wide circulation.

F.


Dr. Stevens' book is intended to cover the entire practice of medicine, and epitomizes a considerable number of works, encyclopaedic in character; hence, in the mere matter of quantity of information condensed, it is especially desirable. We have to congratulate the author for showing such energy and persistence in compilation, but it is sincerely to be regretted that he had not given his time to a careful study of the best methods of treating affections of the bowels, notably that of
cholera infantum, a disease whose mortality is greater than the dreaded scourge, cholera. No less than thirty-six different authorities are named, whose works have been consulted, but, unfortunately, a mass of most valuable information on this topic, to be found in recent medical literature, has been overlooked; consequently the high rate of mortality goes bravely on. It is to be hoped that some of the recent improvements advocated in affections of the bowels will be able to make headway before another summer.

It might be worth while to mention some of the objections which can be urged against the plans outlined in the text. In cholera infantum, for example, the writer objects to the use of spice-plasters and weak stupes applied to the abdomen; also to the employment of barley-water, frozen blocks of beef-tea or pellets of ice; the use of calomel (gr. 1-12), or bismuth (gr. iij to gr. v), to allay vomiting; and nitrate of silver (gr. 1-16 to gr. 1-32) is rarely indicated. To one who has seen the light, the idea of giving such abominable stuff to an infant instinctively makes him shiver. Long ago the writer experienced the unsatisfactory results following the administration of laudanum and starch-water by the rectum, and he is equally opposed to the use of morphine by the mouth. It is death to the infant, but it means more; it means, practically, that the physician is unable to cope with the disease. It is scarcely to be credited that a physician should administer gr. 1-120 to gr. 1-100 morphine hypothetically, but here it is in cold type, and to a child six months of age (p. 58). This advice is diametrically opposed to the methods which obtain with gynecologists when they have to deal with septic absorption from the intestinal tract, although the conditions are substantially the same. Instead of the bowels being locked up by anodynes, in which case it is assumed the micro-organisms may be destroyed by their own products, the lower bowel should be frequently flushed with hot or tepid water, while suitable medica-

tion is directed to the condition of the stomach and small intestine.

The treatment of cholera morbus, which is based upon the employment of opium or its alkaid, morphine, is also unsatisfactory. The same is true concerning the treatment of dysentery; in fact, there is not the slightest evidence given in connection with the treatment of these disorders which would indicate that a single step had been taken in advance within the past ten years, a sad commentary upon the exhaustive researches of our brethren, the bacteriologists.

It should be stated in conclusion, that exceptions are made only as to the treatment advised; the definitions are concise, lucid and exact; pathology is sufficiently full for the purposes intended, and with the notes upon etiology, symptomatology and physical signs, the student will be directed in the proper channels, so that more elaborate works can be consulted with advantage. We therefore bespeak for the work a critical study, believing that it will prove exceptionally useful to both students and practitioners.

Outline of Treatment with Dosimetric Granules from the Standpoint of the General Practitioner. By W. F. Waugh, A.M., M. D., Member of the American Medical Association, etc. Cloth, 16 mo, pp. 103. Philadelphia: The Medical World, 1892. (Price, 50 cents).

This is a small book of 103 pages, bound in cloth. In the preface and introductory pages hints are given as to the general utility and mode of administering dosimetric granules. There is also a full list of the drug preparations, consisting of alkalo ids and active principles, with the dose, suggestions as to the frequency of repetition, etc. Then follows the chief portion of the work, in which the several diseases are arranged alphabetically, with a list of appropriate drugs appended to each.

While the scope of the work permitted only of the briefest hints for the selection of the individual drugs, the number of drugs whose chief indication is thus pointed out
is large, and though there are some noted omissions, in general this delicate task has been well performed.

Dosimetric medication has yet to win its spurs, so to speak; so that it would be premature as yet to pronounce upon its future. The physician who wishes to render it an adjunct to his practice will find Dr. Waugh's little book very useful. The therapeutic hints of the book are quite abreast—sometimes perhaps in advance—of recent therapeutics, as for instance, the information that "atropine is not good for blondes."__

**Acne and Alopecia.** By L. Duncan Bulkley, A.M., M.D., Professor of Diseases of the Skin, New York Post-Graduate Medical School, etc. Paper, 12 mo, pp. 85. Detroit, Mich.: George S. Davis, 1892. (Price, 25 cents).

In this little volume of eighty-five pages the author has succeeded in presenting the subjects of acne and alopecia in so clear, concise and practical a manner that one arrives at the last page with a feeling of regret that there is not more of it. A contribution of this kind from so eminent an authority as Dr. Bulkley is all the more acceptable from the fact that the subjects in question are too often ignored or passed over with scant notice in works designed for the general practitioner. That rare thing, an excellent index, is among the other commendable features of the volume, which is one of the well known issues of the Physician's Leisure Library. P.

**The Physician's Visiting List for 1893.**
Philadelphia: P. Blakiston, Son & Co. (Roan, Price, $1.00—for 25 patients weekly).

The present edition of the Visiting List by this firm far surpasses any former edition which has appeared, although it has now reached its forty-second year of publication. Besides the usual memoranda requisite for meeting emergencies, notes on incompatibility, disinfectants, eruptive fevers, etc., its value is greatly enhanced by the insertion of a very complete dose table, in which we have recorded, not only the suitable dose in English weights and measures, but also in the metric form. This addition will be very acceptable to physicians, owing to the fact that the new pharmacopoeia will use exclusively the metric system. The writer thinks the dose of both gelsemium and ipecac in the form of fluid extracts is altogether too large, namely: five to twenty minims of the former, and one to five minims of the latter, since he has observed distinct physiological effects from the administration of much smaller doses. Had the compilers tested the matter in propria persona, using a reliable preparation, the dose would have been greatly lessened.


In these days of rapid changes in terminology and the frequent use of new words, consultation of the larger and older dictionaries is rather unsatisfactory, hence the present compilation, which has received most careful revision, will be welcomed by all classes of practitioners. Although diminutive in size, it is encyclopaedic in character, and will prove especially acceptable to the student and recent graduate; but it will be of equal value to all who still remain students in general practice. It also contains the dose list with the English and metric equivalents found in the visiting list, and in addition, "very complete tables of the arteries, muscles, nerves, bacteria, bacilli micrococci, spirilli," and will be the means of spreading a great amount of practical knowledge as viewed from the modern standpoint. The author acknowledges his indebtedness to Dr. Dorland, well known to the readers of the American Therapist, for his valuable aid in the preparation of the work.
PUBLICATIONS RECEIVED.


Diagnosis and Treatment of Diphtheria. By Charles W. Atiken, M. D., of Flemingsburg, Ky. Reprint, 1892.


A Physiological and Clinical Study of Cicutine. Reprint from the Alkaloid, 1892.


Dangers of Malt Liquors as Galectogogues. By J. Wellington Byers, M.D., of Charlotte, N. C. Reprint, 1892.


Epilepsy. By A. G. Selman, M. D., of Indianapolis, Ind. Reprint, 1892.


Circular of Information and Register of Students: Kentucky School of Medicine in the City of Louisville, Ky.

Cool Baths in Typhoid.—Dr. Juhel-Renoy believes that the introduction of the cool bath into the hospital treatment of typhoid fever has reduced the mortality at least five per cent., and cites figures in support of his opinion.

Effects of Compressed Air.—Careful experiments made in England show that the effect of compressed air on men depends largely on their physical condition and temperament. Those of plethoric habit suffer most. A pressure of two atmospheres does not appear to injure men in good health, and periods of four hours of continuous work are common in air of this density. As the pressure is increased the time of continuous working is usually shortened. Paralysis is the common trouble induced by working too long under high pressures.

Immunity against Cholera Microbes.—It is well to understand the position of Dr. Pettenkofer in relation to cholera investigation before attaching too much importance to the conclusion he draws from recent experiments. He and Professor Emmerich have dosed themselves with large quantities of comma bacillus without suffering more than a mild form of cholera, from which they are “convinced” that “local and not individual conditions engender the disease in epidemic form.” But one of them at least has held this theory for many years, even to the extent of denying the existence of a cholera germ until it was thrust under his nose. There is no doubt that bad sanitation is favorable to the development of the germ in a virulent form; but it hardly required that a German professor should swallow a quart of microbes to prove a fact so well known.—Ex.

Wasteless Zinc Batteries.—One of the most serious items of expense in connection with the running of batteries employing zinc as one of the electrodes, is the waste of the metal without any corresponding useful result. It is estimated that this waste is fully 45 per cent. of the total weight of the zinc employed and the stump of metal left scarcely pays for the expense of collection and shipment. To avoid this loss there has been invented a zinc electrode made up of a number of pieces adapted to be connected to one another in a column by joints which are liquid tight. In this way a partially consumed piece is connected to the bottom of a fresh piece whenever the former becomes no longer efficient. The new piece, after being partially consumed, and after the still greater consumption of the first piece attached to it, may in turn be connected to a new piece, and so on. In this way, it is claimed the consumption of the zinc is economically obtained and the efficiency of the battery not the least impaired.—Ex.
Original Articles.

CELLULAR-THERAPY.

A Consideration of its Claims for Recognition as the Basis of Scientific Therapeutics.

Second Paper.

By John Aulde, M. D.

The trend in modern therapeutics is toward scientific rather than clinical facts, although the latter are often but the stepping-stone for the elucidation of the former; hence, clinical facts as well as analogies should receive due consideration on the part of those who aim to advance the interests of the healing art. The idea of studying the action of medicinal substances upon protoplasm is by no means new, nor novel, as will be shown later on, but the practical adaptation of the facts already discovered has made but slow progress. This result has doubtless followed from the tendency to study the katabolic phenomena associated with disease, and the tissue-changes produced by the toxic action of drugs and by certain surgical lesions in animals, repeated from time to time in the physiological laboratory. Anabolism, the name given to the phenomena observed in the repair of tissue, reconstructive metamorphosis, as it is called, has received but slight notice when compared with the vast amount of labor expended upon pathology and pathological anatomy.

My reasons for advocating the administration of remedial agents with a view to the restoration of cell-function must be apparent to those who have given the subject of therapeutics the most cursory examination. Just as cellular-pathology, first worked out by Virchow, opened up a new world for exploration on the part of scientific investigators; as the antiseptic teachings of Lister revolutionized the practice of surgery; and as the study of bacteriology promises to inaugurate new methods of combatting disease upon strictly scientific principles; so cellular-therapy, running in lines parallel with these investigations, discoveries and scientific adaptations, and embracing all preliminary and completed studies, aims to evolve from them practical deductions which shall elevate the profession and inure to the benefit of humanity in every land. Whether we consider the influence of remedies which have hitherto received favorable notice in arresting or modifying the progress of disease, or endeavor to fathom the mystery of producing immunity by the exhibition of anti-toxines, it can scarcely be said that we possess more than empirical knowledge until it can be demonstrated with some degree of certainty what action may be set up in the living cell, either direct upon the protoplasm, or indirectly through its nerve-supply. It is scarcely within the range of possibilities, however, that we can ever hope to attain to the eminence of a scientific demonstration; but, on the other hand, the probabilities are strong that we shall make sufficient progress to enable us to furnish a clinical demonstration. Indeed, our studies may be limited to that extent that we shall be confined to the deductions of mere clinical analogy; but notwithstanding these necessary finite limitations, we shall have the satisfaction of knowing that our therapeutic premises
rest upon facts instead of, as heretofore, upon conjectures.

Since the publication of my first paper (American Therapist, November, 1892) I have received a number of interesting communications relating to various questions likely to come up in the study of this rather complicated subject, and as others are probably anxious to hear explanations on the same points, some of them will be referred to here.

A friendly critic writes me as follows: "I have read carefully all you have said as to cellular-therapy, and find nothing therein to gainsay. My only criticism would be that you are awarding too much importance, relatively at least, to the manner in which certain medicines produce their effects upon the organism. Prof. Schultz elucidated the idea of drug-action affecting the ultimate cells, in a paper published some years ago, and there can be no question, I think, about the fact that many drugs do affect the ultimate cells helpfully in their smallest effective doses, harmfully in their physiological doses. This fact of the antagonism between the different ranges of doses was also referred to by Schultz, and is of far more practical importance, it seems to me, than a decision of the question whether their action is chiefly upon the nerve-trunks, the nerve-fibrils and nerve-endings, or upon the cells constituting the nerve-centres. Indeed, such a decision can only be reached by experiments upon animals, and so far, such experiments seem to demonstrate that different drugs act differently as to this point—some apparently stimulating directly the nerve-endings, and others the nerve-centres, which is probably the same as affecting the cells constituting those centres. But of course all structures may be reduced finally to their ultimate cells, and I think that no one will dispute that these ultimate molecules are involved in every drug-action."

"But to say this, or prove this, if possible, does not of itself explain why minute doses often produce such remarkably curative effects. The two chief reasons for these extraordinary effects are (1) the antagonism between the smallest and largest doses of a drug, and (2) the fact, also emphasized by Schultz, that disease greatly increases the sensitiveness or impressionability of the affected part, whether such part be nerve, nerve-centre, membrane or the ultimate cells."

From another correspondent comes an aggressive and more extended criticism, questions being brought forward which demand attention, if there be any foundation in fact for the belief in cellular-therapy. The communication runs as follows: "The fact is, that while I find the Therapist increasing in interest with each succeeding issue, I have found considerable to learn with reference to the 'cellular-therapy.' Not that I do not recognize the idea that it embodies as excellent, but because I am one of those who, unfortunately, have to 'take cognizance of the gross characteristics of disease rather than its influence upon cell-life.' For instance, when you cured your patient of migraine (American Therapist, Nov., 1892, p. 103) what could you really have known of the cell-disturbance going on, or of the mode of action of the cannabis indica in its relation to the same? It appears to me that you must have relied upon the empirical fact that cannabis had been found 'good' in such cases, and consequently I am unable to see any cellular-therapy here. So also in your case of croup (p. 107) and similar cases. In regard to the case of tonsillitis (p. 108), I am not disposed to deny the efficacy of atropine sulphate in doses of 1-16000 of a grain, but I would very much like an explanation of the modus operandi of the cells concerned. Since I am unable to ascertain either the condition of the cells, or the manner in which atropine affects them, I am unable to call this cellular-therapy. Indeed, I gather from Brunton (Pharmacology, p. 63) that
'the direct and indirect, the local and remote action of drugs upon the complicated mechanism of the body is so perplexing, that to ascertain the precise mode of action of drugs in health and disease is hopeless.'"

There being a slight inaccuracy in the foregoing quotation, I take the liberty of reproducing it in full, from the third edition (p. 49).

"Effect of Disease.—The direct and indirect, the local and remote action of drugs upon the complicated mechanism of a mammalian body is so perplexing that the attempt to ascertain the precise mode of action of a drug by its mere administration, either to a healthy man or to healthy animals, and observation of its effect upon them, is hopeless."

"Moreover," says Brunton, "the object that we really wish to attain is, the power to relieve human suffering, and to avert the premature death due to disease. But in disease, we have new factors; changes are produced by it in the functions of the body, and the reaction of the diseased organism to the drugs which we administer is oftentimes different from that of a healthy one. To a man suffering from cholera, for example, enormous doses of drugs have been given without the least effect; and in the wakefulness of fever, the opium which ought to produce sleep, may simply cause excitement and delirium."

In connection with the above extract, it should be noted that the paragraph is one of a number relating to the action of drugs on the organism, separate paragraphs being devoted to a consideration of other effects, such as the time of the day, the season, the climate, fasting, habit, the condition of the stomach, etc., all of which must be taken into consideration when exhibiting drugs in disease.

Referring now to the case of migraine reported, the following analysis is submitted. Pain affecting the peripheral nerve-endings may be relieved (1) by removing the cause, whether central, peripheral, involving the nerve-trunks or spinal cord; (2) by division of the sensory nerve by which pain is transmitted to the cerebral centre; (3) by the exhibition of medicines which obtund sensation in the peripheral nerve-endings, the nerve-trunks or spinal cord; (4) by employing reme-
gangs under healthy conditions, will, when diseased or suffering from impairment of function, enact the same rôle, and thus contribute to the restoration of function by stimulating the ultimate cells to renewed activity. The clinical fact remains, but back of it we must recognize the scientific fact upon which it depends. And with this explanation before us, it is easy to understand the reasons that have so often led to the acceptance of clinical facts without any effort being made to elucidate the scientific facts which should be made the basis of all therapeutic measures.

There are but few remedies which have been studied from the purely scientific standpoint. Perhaps the investigations of Prof. Fraser in regard to the value of strophanthus furnishes the only exception to the rule concerning the scientific study of drugs. Knowing that the seeds were employed by the natives of central Africa as an arrow-poison, he began by studying the action of the tincture upon the circulatory apparatus in animals, and discovered that when given in minute dosage the toxic action upon the heart was absent, but sufficient irritation followed to warrant him in classifying it as a cardiac stimulant, and his further observations upon man showed that he was right in his conclusions, and that strophanthus, previously used as an irritant poison, was an available medicament. Whether it acts upon the ultimate cells of the cardiac ganglia or upon the nerve-supply of the heart itself is still undetermined, but its therapeutic powers evidently depend upon its property of enabling the cardiac apparatus to discharge whatever objectionable substances are present to cause derangement of function. A similar explanation can be worked out in connection with the employment of small doses of atropine sulphate in the treatment of croup and other throat affections, since it is well known that the toxic action of the drug first and most notably affects this portion of the economy. Clinical facts show clearly that belladonna in small doses, not only al-

lays peripheral irritation, but also that it materially augments the blood-supply, and thus directly enhances metabolism; but the scientific facts rather than the clinical facts should govern the physician in deciding upon its administration. As I have elsewhere stated, our future triumphs in therapeutics will depend upon our ability to interpret aright these clinical facts which have been accumulating for generations. Had the clinical facts relating to the use of mercury in syphilis been earlier recognized, we should have had less complaint about the abuse of the drug, since the scientific fact upon which they rest is susceptible of an equally satisfactory explanation. Indeed, within recent years, that veteran sphylligrapher, Mr. Jonathan Hutchinson, has found that the most favorable results attend the exhibition of small doses, one grain of the grey powder three times a day, small doses of opium being used to control the bowels when necessary, a plan diametrically opposed to that which obtained twenty, or even ten years ago.

But my correspondent appears to be specially interested in learning the origin of the method credited to von Haller (p. 102) and says, "Again, are you quite fair in the quotation which you make from Haller, implying that he originated and practiced the trying of drugs first upon the healthy, and that such is the present method. I find your quotation in Dudgeon's Lectures on Homeopathy, and surely Dudgeon is right in the observations which follow it. It seems plain to me that the homeopathists are entitled to the credit of this method, and not the representatives of old physic."

In reply to this portion of the letter, I must repeat that the method did originate with Haller, and appeared in his Swiss pharmacopoeia in the year 1755, about forty years before Samuel Hahnemann began to agitate the question of similia, and fifty years before he invented the name homeopathy, the latter having first appeared about 1805 or 1806. Dudgeon (Lectures
on Homeopathy, 1853, p. 193) merely records these recommendations of Baron von Haller, and adds that neither he nor any of his contemporaries thought of practically carrying out the advice. It is substantially the present method, except that the medicines are first tried on animals, and then they are tried on man, but not often with the same care and safeguards as were adopted by Fraser in the case of strophanthus. It should be mentioned also that about twenty-five years after the name homeopathy had been invented, Prof. Jorg, of Leipzic, who, it seems was a bitter antagonist of Hahnemann, undertook a series of investigations in the expectation that Hahnemann’s theories would fall to the ground, but when made public, the latter incorporated them in his pathogenesis, and Jorg unintentionally became an acknowledged contributor to Hahnemann’s materia medica.

The same correspondent wants more light in regard to the salts of potash in bronchial catarrh and similar inflammatory troubles, but want of space precludes further discussion at present, and this subject along with other questions bearing upon it will be discussed at length, should there be a demand for it, in future numbers of this journal.


**FEL BOVINUM PURIFICATUM.**

By J. Lindsay Porteous, M.D., F.R.C.S.Ed.

The fresh bile of Bos Taurus, purified, is deserving of more notice than is usually given to it. It is a yellowish-green substance, rather firm and adhesive, with an odor peculiar to itself, and a taste at first sweetish and soon intensely bitter, soluble in water and spirit. The greenish hue is due to a substance which resembles the chlorophyll of plants. It was at one time considered a good cosmetic, and also a detergent, anti-talgic and emmenagogue, as well as having the power of hastening on labor. In none of these have we tried its efficacy, but consider that this preparation is deserving of a more extended trial as a stomachic, especially in those cases of functional dyspepsia where there is post-cibal vomiting, also as a laxative where the evacuations are pale and lack sufficient biliary matter. For this purpose we would recommend a pill containing two or three grains of ox-bile, combined with bicarbonate of soda and extract of gentian.

It has been lauded for its remarkable power in the resolution of hypertrophies when applied directly to the affected part, as in hypertrophy of mammary and of tonsils. The mixture used for this purpose is composed as follow: Three parts of inspissated bile, one part of extract of conium, two parts of soda soap, and eight parts of olive oil. This should be applied to parts requiring treatment, four times daily. It has likewise been recommended in opacity of the cornea, pannus and staphyloma.

Eight ounces of ox-gall diluted with eight ounces of water and a few crystals of washing soda, used as an enema, is sometimes useful in severe cases of intestinal obstruction.

It is not desirable that it should come in contact with the stomach, hence it should be put in capsules or in pills, coated with tolu dissolved in ether. After a more extended trial we hope to be able to give a definite opinion of its worth as a remedial agent.

Yonkers, N. Y.

**PETROLEUM IN DIPHTHERIA.**—A report comes to us from Paris, in regard to the value of petroleum as a gargle in diphtheria. Dr. Larcher claims to have treated successfully in this manner, forty-two cases, in twelve of which no other remedy was employed, and no injurious effects were observed. In this connection it should be noted that the editor will take up the subject of petroleum from a therapeutic point of view, and will make an attempt to explain how and why these beneficial effects may be secured from the use of a remedy which has hitherto been passed as of no further value than a simple lubricant.
FEL BOVINUM AS A THERAPEUTIC AGENT.

By D. H. BERGEY, M. D.

The employment of ox-gall in medicine is not of recent date. It was in general use more than fifty years ago, and continuously, to a greater or less extent, ever since. Writers of fifty years ago have more to say with regard to its value as a therapeutic agent than those of any other period, with the exception of the last three or four years.

PAREIRA says, "It was formerly employed as a tonic, and it has been recently re-introduced by a few practitioners in dyspeptic cases and biliary derangement." WOOD and BACHE speak of its use in cases of deficient biliary secretion; also of its use as a tonic and laxative. DUNGLISON refers to its use as a "detergent, anti-otalgic and emmenagogue," as well as its reputed power of facilitating labor. "It has also been given as a bitter stomachic and anthelmintic, as a tonic and laxative in cases of deficiency of biliary secretion." NAPHEY says, "when there is torpidity of the liver and deficiency of the biliary secretion it may prove useful by supplying the deficiency." FARQUARSON says, "Bile is well known to act as a laxative, to aid the digestion of fatty and amylaceous constituents of our diet, and to prevent the decomposition of food within the intestines." He speaks of its use in dyspepsia and chronic diarrhea. H. V. SEVERINER gives the chemical constituents of bile, and speaks of its use in medicine. The U. S. Dispensatory says, "Along with pancreatic juice, bile neutralizes the acidity of the chyme, and emulsifies fatty matters. The excess of it tends to quicken the peristaltic movements of the bowels. Profuse secretion of it produces diarrhea, deficient secretion constipation. It prevents fermentative and putrefactive decomposition of the food, aids in the solution of fatty matters, promotes peristaltic action of the intestines, and in sufficient dose purges." It speaks of its use in habitual constipation, in atony of the bowels, the bowels not being so apt to become torpid as after purgatives; in dyspeptic derangements caused by engorged colon and consequent compression of the liver; in jaundice from catarrh of the bile ducts; as a vermifuge for lumbricoides; in glandular hypertrophies as a topical agent. WARING says it is "not a purgative, but acts simply as a solvent of materials contained in the stomach and intestinal canal, producing no excitement to propel, but, by liquifying the mass, facilitates its excretion." He also speaks of its therapeutic uses in dyspepsia and constipation attended by torpor of the liver, when the stools indicate deficiency of biliary secretion; in jaundice with obstruction; in functional disorder of the liver; mesenteric affections; hypochondriasis with dyspepsia.

PORTER speaks at length of the action of bile in the human economy. First, its emulsifying action upon the neutral fats in our food; the action of converting the unconverted starch into glucose; its stimulating action as a whole in producing peristalsis of the intestines, thus tending to favor absorption and prevent constipation; the stimulant action of the bile acids upon the small muscles in the villi of the intestines, so that by the contraction of these muscles the contents of the lymph-spaces are carried toward the larger lymphatics, leaving those of the villi in a position to absorb more; its valuable function in accelerating the osmosis of nutrient particles, and in stimulating the onward movement of the contents of the intestines.

1 Elements of Materia Medica and Therapeutics, 3d ed., 1854, p. 1169.
2 National Dispensatory, 1849, p. 1292.
3 Medical Dictionary, 1860.
4 Modern Medical Therapeutics, 1878, p. 316.
5 Guide to Therapeutics and Materia Medica, 1882, p. 457.
7 U. S. Dispensatory, 1880.
Its anti-fermentative action, whereby it may be looked upon as being "Nature's chief antiseptic," and lastly, its undoubted office to maintain the full nutrition of the body by maintaining active digestion and assimilation.

Sufficient has already been said as to the value and uses of ox-gall as a therapeutic agent to preclude the need of any apology for again calling the attention of physicians to its claims for place in their armamentarium.

Ox-gall is a viscid fluid, of greenish or greenish-yellow color, a peculiar nauseous odor, and a bitter taste. The U. S. Dispensatory, 1880, gives the following constituents: Bilirubin, $C_{16}H_{18}N_2O$; bilifuscin, a dark, olive-brown powder; biliprasin, a greenish-black powder; bilihumin, a blackish powder; biliverdin (oxidation of bilirubin), a dark-green powder; cholestrin, $C_{16}H_{14}O$. It also contains 3 per cent. of glycocholic acid, $C_{16}H_{18}NO_4$, and 3 per cent. of taurocholic acid, $C_{16}H_{14}NSO_4$. Its composition is exceedingly complex, and it is impossible to determine the exact physiological properties of each of the constituents.

As a laxative, in normal conditions of the intestinal tract, its action is unquestioned. Excessive secretions of bile are invariably followed by copious movements of the bowels with, frequently, severe griping pains; while deficiency of secretion is invariably followed by obstinate constipation, which is only fully relieved by establishing a free flow of bile. That ox-gall has practically identical effects in the human system has been repeatedly demonstrated. The consensus of opinion on this point is so general that further facts to prove it are uncalled for.

Bearing in mind the physiological offices of bile we have a direct indication of the functions which we may expect this medicament to perform, and the pathological conditions under which we may hope to obtain satisfactory results from its use. In all those conditions where we have a deficient flow of bile, whatever the cause, we may confidently expect to alleviate the more distressing symptoms, if not lay the foundations for speedy and complete recovery. In constipation, especially the chronic form with atony of the colon, it is of undoubted value in many cases. It acts as a stomachic and stimulates the appetite; it assists in dissolving and emulsifying the fatty materials of the food; it increases the peristaltic movements of the intestines, and thus facilitates the excretion of effete matters; and it assists in the osmosis of the nutrient particles of the food, and thereby greatly accelerates their assimilation. In catarrhal conditions of the intestinal tract, and especially in colitis and dysentery, it has distinct and important functions. It not only facilitates the solution of the food and accelerates the onward movement of excretory products, but it acts as an anti-putrefactive agent, and thus prevents the deleterious effect of the action of micro-organisms in this condition. In fecal impaction it is a powerful agent in the relief of flatulence, and in stimulating the movements of the rectum and colon to expel the impacted feces. In torpidity of the liver and jaundice from obstruction, its influence as a solvent makes it no uncertain agent. For more than a year past I have repeatedly made use of it in cases of this nature, of which an unusual number have been under my treatment since the late epidemic of influenza, and the relief has been marked in a large percentage of the cases. They present themselves with more or less marked constipation, sometimes alternating with diarrhea of several hours duration, and accompanied with severe, griping pains; many have marked jaundice, and all have impaired or depraved appetite. In these cases ox-gall has had a good influence in arousing the torpid liver, and in dissolving the bile-salts lodged within the tissues, and in facilitating their excretion.

The value of this remedial agent is not, however, to be overrated. The indications for its use must be positive. It must be accompanied with intelligent hygienic
measures. Many other drugs can be advantageously combined with it. In the diseases of the intestinal tract pancreatic juice is sometimes as strongly indicated as ox-gall, and is therefore equally necessary. In chronic constipation strychnine may be combined with it with good effect, and it is well to have the intestinal tract unloaded with some active cathartic. In torpidity of the liver one of the salts of mercury is equally useful when thus combined with it.

It is preferable, on account of its bitter taste and nauseous odor, to administer it in capsules or in pill form. I have, however, frequently administered it in solution, disguised as much as possible, without any complaint from my patients. It is best, for continuous use, to administer ox-gall in doses of two grains; though as much as five and even ten grains may be given in some cases without the laxative effect becoming too pronounced. It is preferable to administer it a short time before meals, in order that it may readily pass the pylorus into the intestine.

North Wales, Penn.

PERISCOPE OF THERAPEUTICS.

By J. Lindsay Porteous, M.D., F.R.C.S., Ed.

Jaborandi in Hiccough.

Nobel and Stiller each bear testimony to the good effects produced by the use of jaborandi in hiccough. Nobel used it as an infusion in the case of a man suffering from influenza, and although the patient was slightly cyanotic, the drug had no bad effect upon the heart. He is doubtful which constituent in jaborandi produces the good result. Stiller believes that the good effect is brought about by the pilocarpine, as he has frequently used it (10 drops of a one per cent. solution three or four times a day) in nervous hiccough and was very successful. He does not use it in the reflex hiccough of severe abdominal disease and peritonitis. Sometimes, and especially in hysteria, only temporary relief has been obtained, necessitating continuance of the drug.

Thyroid Grafting in Myxedema.

Bouchard (Arch. Gén. de Méd., October, 1892,) states that as far back as 1887 he had had a woman suffering from myxedema under his care in the Lariboisiere Hospital. It occurred to him to make some physiological experiments on the function of the thyroid gland, and with that view he removed the organ from twelve dogs, and placed all the twelve thyroids inside the peritoneal cavity of a thirteenth dog. After time had been given for the grafts to take, the latter was deprived of his own thyroid. He survived the operation ten days, whereas the other dogs had all died within five days, and on post-mortem examination it was found that two of the twelve grafted thyroids were living, and had established vascular relations with neighbouring parts. There being difficulties in the way of grafting dogs' thyroids in the human subject, Bouchard bethought himself of the possibility of injecting thyroid juice instead. The results of Brown-Sequard's injections of testicle-juice confirmed his idea. In conjunction with Charrin he carried it into execution; both in the patient already referred to and in another patient in the Charité Hospital. The results in both cases were astonishingly rapid and highly favorable as regards the chief symptoms both bodily and mental. There were, however, certain drawbacks, such as headache, pains in limbs and chest which several times made it necessary to interrupt the treatment for four or five days. As to whether the thyroid juice is really the active factor in the therapeutic results obtained, or whether the same end might be obtained by injections of other organic liquids, Bouchard declines to commit himself. He is of opinion that the improvement is only temporary, and does not believe that actual cure is likely to be effected by the method.
Strontium Bromide in Vomiting.

G. Coronei (Lo Sperimentale, 1892) has tried bromide of strontium in a number of cases of vomiting from various causes. In nervous vomiting it acts well as an analgesic. He gives it in doses of two grams (gr. xxx) twice daily immediately before food. Its mode of action is similar to that of other bromides, viz., diminution of sensation in the nerve-centres first, then in the nerve-endings in the stomach. This drug contains less bromide than any of the bromide family; thus it may be inferred that the metallic element has some of the analgesic influence which acts on the nerve extremities.

Atropine in Hemoptysis.

Evidences of the powerful hemostatic properties of atropine are frequently brought to the notice of the profession. M. B. Blumenau (Meditzinskoie Obozrenie No. 9, 1892) emphatically confirms recent statements regarding its efficacy. He relates a case of a soldier who was expectorating one and a half to two tumblerfuls of pure blood daily, although ice-bags were applied to chest and ergot and mineral acids were given in full doses. He gave on the fourth day of the hemoptysis an 1/4 grain of sulphate of atropine, hypodermatically. The blood-spitting at once considerably decreased, and after a second injection on the following morning speedily ceased altogether. For a few days after this the sputum remained slightly tinged, but this too, soon disappeared and the man was discharged in a satisfactory condition. The secondary effects were slight dryness of throat and quickened pulse for a short time.

Faradization in Treatment of Ascites.

Gla Blair maintains that the effect is due to the mechanical compression of the fluid and not to the increased diuresis, as is held by some writers. He says, however, that in thin people the sympathetic may be influenced by the faradization, and unpleasant results, such as fainting, etc., be brought about.

Yonkers, N. Y.

Ox-Gall.

By W. Blair Stewart, M. D.,
Instructor in Medicine, Medico-Chirurgical College, Philadelphia.

In reply to the request for a few points on the therapy of ox-gall, the following conclusions, drawn from the practice of my father (Dr. W. G. Stewart, of Newville, Penn.) and myself, may be interesting:

1. Preparation and Dose.—Inspissated ox-gall should be absolutely pure and fresh; should never be exposed for any length of time to air or light; should not be dispensed in large quantities at one time. Unsatisfactory results will always follow the use of a poorly prepared ox-gall, of an old preparation, or one which has been exposed to the air or light for a time. There seems to be some chemical change or decomposition in an old and exposed preparation which renders it inert and, frequently, very irritating. It is best given in capsules, in three to six grain doses, three or four times daily, after meals.

2. Physiological Action.—Internally, it is a natural antiseptic; is a digestant; aids in emulsifying fats and converting starches and sugars; stimulates peristaltic action; increases intestinal secretion. Locally, it stimulates; brings the absorbents into greater activity, and aids in reducing hypertrophic tissues.

3. Therapy.—In cases of offensive, putty-colored stools, with flatulence and constipation, ox-gall—gr. iv, ter die, in capsules, gives prompt relief.

Dyspepsia, caused by the use of fats, is promptly relieved by ox-gall, gr. ij—iv, with ext. nucis vomicae, gr. 1/6, after meals.

It is indispensable in all cases where there is a deficient secretion and excretion of bile.

It has served me a good purpose as an application to the nipple to aid in weaning children. If applied to the nipple for several days in succession, a child will soon refuse it.

It is an unpleasant but efficient appli-
cation in the reduction of hypertrophied tonsils.

One case of enlarged cervical glands was greatly benefitted (not yet entirely reduced) by daily applications of ox-gall and hot lard. (Adipis, §§s; Fel bovis ins. §§j.)

Bryn Mawr, Penn.

ON THE VALUE OF CONSTITUTIONAL, TOGETHER WITH LOCAL TREATMENT IN CASES OF CHRONIC PERIOSTITIS.

By Charles H. Merz, A.M., M.D.

Chronic periostitis is a disease of relatively frequent occurrence, and no other disease is so apt, perhaps, to try the skill and patience of the physician as is this particular one, occurring as it does under so many varied forms and peculiar conditions. The literature of chronic periostitis is indeed voluminous, and is in keeping with the grave questions of its diagnosis and treatment.

The importance of periostitis from a surgical view is, perhaps, due to the fact that a periostitis that has lasted for any length of time very seldom leaves the bone substance itself unaffected.

The early recognition of the symptoms of periostitis is of great importance, as there may ensue conditions of a very grave nature before the trouble is really suspected, and the destructive tendency may be so great as to require the removal of the limb. The entire tissue of a limb may become so damaged that its vitality cannot be preserved.

When there is observed a swollen condition of the limb, a hard, central swelling, with pliable soft parts covering it, deep-seated pain, together with edema and pitting on pressure, and some discoloration, the diagnosis of periostitis ought not be a difficult matter. At one or more points there will be found small orifices that are filled with granulations.

The receipt of a bruise on the shaft of the tibia or ulna, at the time considered of little importance, the individual being able to pursue his usual occupation, may be followed by those symptoms that lead the surgeon to believe that the periosteam has been seriously injured. Very frequently the patient will be quite unable to recall any injury, and will claim that the pain is only rheumatic. He feels it worse at night, perhaps, and is loth to believe that there is any really serious condition of the bone substance. Many days, or even weeks, may thus elapse, the patient failing to recognize the real cause of the trouble.

Several typical illustrations of this condition are here presented, having been selected from cases that have come under the writer's observation.

While it is true that periostitis without involvement of the bone itself may occur, the instances are comparatively infrequent. There may be only a superficial involvement or destruction of the bone, but this occurrence is equally infrequent.

If, after these spontaneous openings have occurred, a probe be passed into the sinus, roughened bone will be invariably detected, and the point of the probe may be engaged at numerous points. Pathologically, we should expect to find in these cases that the periosteam is infiltrated with serum and plasma; an abundant development of small blood-vessels and the presence of numerous wandering cells, together with the transformation of the connective tissue into a gelatinous inter-
cellular substance. This condition, however, will be found liable to change at any time, the result being the formation of pus and an abscess. Should the inflammatory process be confined to the periosteum alone, the bone will be found to have undergone little, if any, change, but the tendency is always to the formation of new bone. Billroth has very clearly stated that "Osteophytes are the result of an inflammatory irritation of the periosteum and surface of the bone; they are precisely what we call callus in fractures, and they are formed in the same way."

Any attempt to restore the diseased parts must ever be connected with a knowledge of the facts. It will be found in a large majority of the cases that the chief obstacle to the restoration of the periosteum to a healthy condition, or, an arrest of the inflammatory action, is some constitutional taint or dyscrasia. This must be regarded as a point of the greatest importance. The blow, fall, or other mechanical injury acts merely as an exciting cause. Careful observation of a large number of cases of chronic periostitis would seem to justify the conclusion that the inflammation is due either to a local or constitutional cause, or more frequently both.

In searching for the latter factor, the syphilitic, scrofulous and tuberculous diathesis should be borne in mind.

Quite recently the writer made an amputation of the arm in the case of a boy aged fourteen, a chronic periostitis having arisen from a slight injury to the wrist. It was allowed to go until too late. The boy was of a decidedly scrofulous diathesis.

In whatever portion of the anatomy chronic periostitis be found, it is a constant menace to life. It slowly, but none the less certainly, saps the patient's strength and life. He becomes pale and anemic, and often emaciated. Not only this, but the liver, spleen, and kidneys pass into a state of fatty or amyloid degeneration, a condition readily proven by the iodine and sulphuric-acid test. No less frequently is there found an involvement of the lymphatic and glandular systems. For this reason we often find Bright's disease the termination of the process.

We have opportunities for studying these cases almost daily, and the question of treatment is an interesting and important one. If a free incision be made, the pus evacuated and all diseased tissue scraped away, what assurance is there that a cure will follow, or that the same condition will not recur?

Manifestly there is no assurance so long as any constitutional dyscrasia is overlooked or unsuccessfully treated. My own rule has always been to pursue first constitutional, and later, local treatment. Upon this point too much stress cannot be laid. Mercury, iodine, iron and arsenic, and other alteratives will all
be found of service. These are administered in liberal doses for an extended period, giving brief intermissions. An elegant and very effective preparation that has proven of singular value in my hands is an Elixir Three Chlorides. Each fluid drachm contains proto-chloride of iron, \( \frac{1}{4} \text{ gr.} \); bichloride of mercury, \( \frac{1}{10} \text{ gr.} \); chloride of arsenic, \( \frac{1}{200} \text{ gr.} \); with calisaya, alkaloids, and aromatics.

This is usually given in one or two drachm doses three times a day. As a constitutional treatment in the cases mentioned it is invaluable. As a tonic and alterative it has fulfilled every indication, and it has the additional value of not constipating the bowels. In some cases the progress of the disease may be arrested in its incipiency, but, whatever stage it has reached, the alteratives are given for an indefinite period.

Among the local means that may be employed, rest is of absolute importance; it is a \textit{sine qua non}. This is particularly important if the disease be near a joint. The freedom from pain insured by rest is a sufficient guarantee of real value as a therapeutic measure. The patient often insists upon it from his own observation and experience.

Elevation of the part, where practicable, is equally important. It prevents, as well as relieves, venous congestion, and offers a free escape for the venous blood.

In some cases Letters' cold-water coil will be found acceptable to the patient, though my experience has led me to prefer warm antiseptic irrigations or submersion. Frequent swelling and inflammation will rapidly disappear, and pain be entirely removed.

Local inunctions of the mercurials or iodides, combined with sedatives in lanolin, will often be found a source of comfort and benefit.

The actual cautery applied at various points over and about the seat of inflammation will exert a powerful derivative action in some cases.

Should the inflammatory process progress without suppuration, the plan of treatment outlined above will seldom lead to disappointment. It will more frequently give most surprising and gratifying results.

If suppuration does occur in spite of such energetic measures, a serious question at once arises—"Shall we open the abscess?"

No hard and fast rule can be relied upon. Each case is a law unto itself, and we should be governed by the circumstances.

If the abscess occurs in a bone in which an operation, having as its ultimate result the complete removal of all dead tissue, is impossible—as, for instance, in the vertebrae, knee-joint or sacrum—conservatism would warn us not to interfere. In such cases it is, perhaps, better to wait for a spontaneous opening:

Personal experience has led me to prefer this plan, where practicable, of opening the abscess by means of a free incision, emptying the contents, scraping away all dead tissue, and thoroughly cleaning and disinfecting the cavity with a solution o
peroxide of hydrogen. This insures a clean abscess cavity, if it be possible to secure such a thing.

Drainage tubes are then inserted where needed, and antiseptic dressings applied. Antisepsis in these cases is of prime importance. Unfortunately, some cases will be disappointing in the results; but this is much less apt to be the case if vigorous constitutional treatment is pursued. With me constitutional expectant treatment is a primary consideration; surgical interference a secondary one.

The progress of each case cannot fail to show to what a degree success will depend upon the general health. If the patient be anaemic, scrofulous or tuberculous, all local measures will fail, while, on the other hand, if the constitution be robust, the most energetic measures may be resorted to.

Were space to permit it, many cases might be cited from my case-book in support of the ideas here advanced; but this is, perhaps, unnecessary, as there can scarcely be any doubt but that the two plans of treatment should be pursued simultaneously.

Sandusky, Ohio.

Hungerbrod.—Upon analysis, Professor Virchow has found that the Russian "Hungerbrod," the bread eaten by the peasantry in the famine-stricken districts of Russia, is much more nutritious than the rye bread made in Germany. The latter, according to an analysis of bread baked in Berlin, contains but 6.04 per cent. of albumen and 0.48 per cent. of fat, while the "Hungerbrod" of Russia contains 11.79 per cent. of albumen and 3.79 of fat.

Iodide of Potassium in Angina Pectoris.—Dr. Lauder Brunton, in a paper on "Cardiac Pain and Angina Pectoris" (*Practitioner*), after speaking of the value of nitrite of amyl, nitroglycerin, nitrite of sodium, etc., as agents by which the blood-pressure may be rapidly diminished and the attacks of angina relieved, states that "first and foremost amongst the drugs that are really efficient in tending to prevent the recurrence of the attacks in angina, comes iodide of potassium in doses of five to thirty grains three times a day."

In connection with the above, a note is added to the effect that the beneficial effect of potassium iodide is susceptible of explanation on a strictly scientific basis, and this item will form a portion of the text for the next article upon the subject of "cellular-therapy."

Clinical Record.

THE INDICATIONS FOR ICHTHYOL IN GYNECIC PRACTICE.

These are three in number, as suggested by the peculiar properties of the drug. They are: 1. To allay pain; 2. To favor absorption; 3. To contract the blood-vessels and act as an astringent generally to the genital tract.

The analgesic properties of ichthyol have been abundantly demonstrated by the clinical experience of such men as Reitmann, Schônauer, and Bloch of Vienna. In the experience of the two former the results from the use of the drug were both prompt and satisfactory. Often only one vaginal tampon saturated with a solution of ichthyol in glycerin was required to allay the intense pain of pelvic inflammatory exudations, while at the worst, but few applications would effectually dispel the painful manifestations. Especially did they find the drug to be of value in the more acute cases. My experience does not differ from that of these observers in any respect. Indeed, I have found that ichthyol is a remedy of undoubted value both in allaying pelvic pain and in meeting the second indication, namely, the favoring of the absorption of inflammatory exudates. Under its influence the hardened pelvic tissues break promptly, and the amelioration of their condition is necessarily conjoined with the disappearance largely of the unbearable sufferings of the patient. Inflamed inguinal glands following specific vaginitis, and indurated valvo-vaginal glands quickly assume the normal condition under its influence.

Owing to its constricting properties ichthyol finds a place in the management of leucorrhea from whatever cause. That condition is always a concomitant of relaxed and engorged vessels, which of itself contributes to the heavy, bearing-down sensation complained of by this large class of patients. Acting upon these surcharged
vessels primarily, ichthyl indirectly removes the effects thereof; hence the bearing-down pain and leucorrhea are largely controlled. In the management of the specific blenorrea, especially, are its happy effects manifested, the discharge, heat, pain, and glandular enlargement disappearing completely after a few thorough applications.

As to the methods of using ichthyl, there is no limitation. It may be smeared over the parts requiring treatment in the form of a five to ten per cent. ointment with lanolin; it may be used with cotton vaginal tampons in the form of a glycercin solution (40 to 50 minims to the ounce), or it may be used in the form of rectal suppositories containing one or two minims, one suppository to be introduced night and morning. The pure ichthyl has been injected into the uterine cavity by Kötschaw and others for the relief of purulent endometritis without ill-effect. This local treatment may be supplemented by the internal administration of pills containing one or two minims of the drug. Zeisler's suggestion that the unpleasant odor of ichthyl may be masked by the addition of a small amount of vanillin or other aromatic mixture should be borne in mind.

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Nitrogenous Foods.—From careful investigations and analyses made by competent observers in Connecticut with respect to the food consumed in the United States, the conclusion has been reached that our people eat more fat, starch and sugar than is good for them. As a result there is an excess of the materials which serve the body for fuel, and a deficiency in the nitrogenous compounds which make blood, muscle and bone. To remedy this misproportion the quantities of fat, starch and sugar consumed should be lessened, and more beans and peas eaten instead.

Beans and peas and fish and lean meats are all rich in "protein," the bone and muscle making constituent in our daily food. Upon the quality and quantity of the blood much depends, and the hint thrown out by the Connecticut scientists ought not to be lost on a generation ambitious of improved muscularity. There would be larger hope, however, for a reformed dietary if the nitrogenous foods could be as cheaply secured as the sweets and starches which appeal to our depraved appetites.—Phila Record

ACCIDENTS AND "FINDS."

The following record of accidents and "finds" for the past year (1892) is deemed of sufficient interest for publication, since their successful treatment shows the advantages of modern methods.

1. A peach stone, swallowed by a little boy aged 7 years, on Aug. 24, 1892. Starchy food given, but no purgatives. Stone passed on fourth day without much trouble, encased in starch; about six hours before passing, complained of pain in the right side of abdomen. No unpleasant results. Specimen not sent.

2. A nickle, swallowed by a boy three years of age. This passed on third day without any special pain except a hard stool. Boy claimed the nickle, so this specimen is not sent.

3. Bullet specimen sent (Fig. 1). Extracted April 25th, 1892, from buttock of a soldier who had worn it ever since the battle of Antietam, Md., Sept. 13th, 1862. Gave little or no trouble until recently, when it caused a little pain. Extracted by an incision; wound washed out with antiseptic solution, the wall of the cyst freshened by scraping with a spoon. A closed dressing was applied with small gum drainage-tube in angle of wound, which healed kindly after second dressing.

4. The inclosed staple (Fig. 2) is exactly the counterpart of one swallowed in October last by a child eleven months old. The little fellow found it on the floor and swallowed it. He was fed for three days on starchy food, and passed it without a bad symptom on the third day after the accidental swallowing.

These are only a repetition of annual accidents. But what if these foreign bodies should not pass? I urge prompt laparotomy. This is so easily accomplished, and with much more safety to the
patient than the action of drastic purgatives that the surgeon will not hesitate to operate. JAMES COLLINS, M. D. 704 Franklin St., Philadelphia.

Recent Medicaments.

The following extracts are taken from Dr. Cerna's recent publication, "Notes on the Newer Remedies."

**Æsculin is obtained from the bark of the horse-chestnut (Æsculus hippocastanum). Its chemical composition is represented by the formula, C₁₇H₂₄O₇. **

Æsculin occurs in white, brilliant, acicular crystals; soluble in hot water.

**Therapeutics.**—Æsculin has been successfully employed in the treatment of malarial disease, especially remittent fever, as a substitute for quinine.

**Alanthol is a liquid substance from the root of a plant commonly known as Elecampane, the Inula Helelenium. The principle is also called Inulol, and its chemical formula is C₁₂H₁₉O.**

Alanthol has a peppermint-like odor and taste, and boils at 392°F. (200°C.).

**Therapeutics.**—Inulol has not had a very extensive trial as a therapeutic agent, but it has been recommended as a substitute for the oil of turpentine in the treatment of tubercular diseases.

**Anemonine is the alkaloidal principal of the Anemone pulsatilla. Its chemical composition is given as C₁₄H₁₄O₄. The alkaloid occurs in the form of colorless, crystalline needles, having a melting point of 304.6°F. (152°C.); readily soluble in warm alcohol, but insoluble in water and ether.**

**Therapeutics.**—This remedy has been employed with apparent success in painful affections of the female pelvic organs, such as dysmenorrhea, perimetritis, ovario-salpingitis and others. The alkaloid is given in doses of from 1/12 to 2/7 grain (0.05 to 0.20 gram).

**Ouabain is a crystalline body whose chemical nature has not as yet been investigated, but is thought to be the active principle of Blatta orientalis, or common cockroach.**

**Therapeutics.**—This new agent has been used chiefly as a diuretic in dropsical affections. The daily dose of antihydropin is given as 10 to 30 grains (0.60 to 1.30 gram).

**Arbutin is the glucoside of the common beeberry, or Arctostaphylos uva ursi, its chemical formula being C₁₄H₁₄O₁₁, 1/4 Aq. Arbutin appears in long, colorless, brilliant needles, having a melting point of 338°F. (170°C.); soluble in cold water in the proportion of 1 to 8, in alcohol, 1 to 16 parts.**

**Therapeutics.**—The glucoside is employed in diseases of the urinary organs as one of the most valuable of antiseptics, its effect being due to the hydrochinone, which is set free in the organism. The dose of arbutin is 75 grains (5 grams) per day, in divided amounts.

**Ouabain is the glucosidal principle of the Ouabaio plant, Acocanthera ouabaio, or the Carissa shimperi, belonging to the Apocynaceae. It is said also to be obtained from the seed of Strophantus glabratus, and has the following chemical composition, C₂₃H₄₄O₁₄. Ouabain is a white crystalline body, without odor, and having a slightly bitter taste; it has a melting point of 392°F. (200°C.). Soluble in hot water and in spirit, sparingly soluble in cold water; insoluble in alcohol, chloroform and anhydrous ether. The dose of ouabain is 1-1000 grain (0.00004 gram) every three hours, for a child five years of age.**

**Therapeutics.**—Ouabain is a local anesthetic to the conjunctiva and cornea. It has been used principally as a powerful antispasmodic, and is said to be of especial value in the treatment of whooping cough.
THE AMERICAN THERAPIST.

A Monthly Record of Modern Therapeutics,

With Practical Suggestions Relating to the Clinical Applications of Drugs.

JOHN AULDE, M.D., — — — — EDITOR.
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Editorial.

SCIENTIFIC ADAPTATION OF OXYGEN.

A study of the scientific adaptation of oxygen gas as a therapeutic agent is an extremely interesting and instructive subject for the physician. While there is a popular supposition on the part of the public concerning its remedial virtues, too many practitioners entertain rather vague ideas of its range of usefulness, although nearly all medicinal, dietetic, climatic and hygienic treatment, whether philosophical, experimental or practical, depends for its ultimate success upon securing proper oxygenation of the blood to the end that mechanical energy may be produced. Reports appear from time to time showing that oxygen inhalations are "good" for such diseases as pneumonia, bronchitis, phthisis, asthma, throat affections, "general debility" and numerous other ailments, but the "how" or the "why" of the observed phenomena rarely command a second thought; the philosophy of its application remains as a sealed book. Indeed, it has even been suggested that these inhalations might prove harmful, since they would favor more rapid combustion and thus destroy the tissues we seek to protect. As well might it be urged that a man could take too much life. True, oxygen is not the life, but it is the most important link in the vital chain; hence, the significance of its imperfect supply as shown by impairment or loss of function. Just as arrest of the vital spark is followed by somatic, so absence of oxygen is followed by cellular death, and the chief characteristic of all vital phenomena is uninterrupted, persistent, yet systematic combustion.

According to Ehrlich, the vitality of the protoplasmic cell depends upon its affinity for oxygen; under normal conditions it is alkaline in reaction, but oxidation results in the formation of acids and other products of tissue-waste, so that its function may be temporarily suspended until such time as the products of retrograde metamorphosis have been removed. Thus, the alkalinity of the protoplasmic cells attracts the oxygen, and with a renewed supply, combustion or oxidation again proceeds and the physical equilibrium is maintained.

"There is, thus," says Ehrlich, "a sort of self-acting mechanism in the cell, which, to a certain extent, regulates oxidation within it. Yet this regulating arrangement, which might be likened to the appetite, which prevents reasonable people from eating too much, does not seem to be enough, for we find a further one, which actually prevents the oxygen from getting to the protoplasm, and with the few exceptions of the brain, heart, and some of the muscles, the tissues of the body are shown by their reducing power to have only a restricted supply of oxygen, or, in other words, are burning like a furnace-fire with partially closed dampers.

Brunton (Croonian Lectures, Brit. Med. Jour., 1889) commenting upon these observations, says:

"The question arises, how is the supply of oxygen to the protoplasm restricted, and how is it that the supply may be, if necessary, increased? The damper which restrains combustion, according to Ehrlich, the paraplasms, or cell-juice, which surrounds the protoplasm. This paraplasms presents considerable resistance to the diffusion of oxygen through it, and this restricts the quantity which reaches the protoplasm.

"The amount of oxygen which will pass through the paraplasms and combine with the protoplasm,
will vary according to the thickness of the paraplasm and to the area of surface of the protoplasm. When the protoplasm is contracted to its utmost extent, it will form a globe presenting a minimum surface to attract oxygen, and with a maximum thickness of paraplasm around it. When the protoplasm is extended it will present a maximum surface with a diminished thickness of paraplasm; it will, therefore, attract oxygen more readily, and combustion will go on more quickly within it.

We are now in a position to understand the phenomena of internal respiration, since oxygen taken into the system by the ordinary process of breathing forms a loose combination with the hemoglobin of the blood, and is in turn given off to the lymph or inter-cellular fluid which constantly bathes the protoplasm. From this lymph the cells obtain their oxygen and nutritive material, and they return to it carbonic acid and waste-products resulting from oxidation, and thus the ever-changing processes of metabolism are continued, chemical energy being converted into mechanical energy. Again, while protoplasm possesses the power to take up oxygen for its own special purpose, it has also the capacity of storing this gas in limited quantity, which may possibly be again yielded to the inter-cellular fluid in case of emergency; in addition, however, it breaks up the oxygen molecules, by which ozone is actually formed in the organism, all going to show the importance of this agent when the physician is called upon to counteract the inroad of disease.

Having now traced the course of oxygen to the hemoglobin of the blood, thence to the lymph, thence to the protoplasmic cells, where it enacts the rôle of an oxidizer in its original form or when converted into ozone, explained the self-regulating mechanism which prevents hyper-oxygenation, and hinted at its importance in reconstructive metamorphosis, its influence upon katabolism, it does not appear necessary at this time to extend the discussion by pointing out its prominent therapeutic applications; the intelligent practitioner will grasp the salient points by reading between the lines. In the near future we shall take occasion to consider the therapeutic adaptation of oxygen, more especially with reference to its employment in the treatment of disorders of the digestive tract and pulmonary apparatus, and incidentally, its use in arresting a tendency to disease when the symptoms point to the condition known as sub-oxidation. The knowledge thus gained concerning metabolism will prove serviceable in our future work when we come to study the action of remedies upon cell-function and cell-life during the progress of disease, since it will be the means of opening up new channels of investigation, presenting a vast expanse of unexplored territory in the domain of therapeutics.

**TYPHUS FEVER IN NEW YORK CITY.**

Whatever alarm may have been entertained by the country at large in consequence of the existence of a number of cases of typhus fever in New York City in the spring of 1892, the comprehensive and intelligent methods pursued by the Health Commissioner of that city assured sanitarians and physicians that all that science could suggest was employed to stamp out the disease.

It may be recalled that typhus fever was introduced at that time by some Russian immigrants, the disease quickly spreading in the crowded and ill-ventilated lodging houses to which they resorted, though within a comparatively short time it was under control in consequence of the drastic measures that were adopted by the Board of Health.

It had been hoped that all possible foci of that disease in that city had been exterminated, but on the thirtieth of last November two typhus fever patients were found in two of the hospitals, the patients having resided in the same house. A third case was found on December 6th, in another hospital, the patient residing more than a mile from the first source of infection. The fourth, fifth and sixth
cases were reported respectively on December 9th and 18th, and they came from houses in the vicinity of that first infected. The next three patients came from a locality midway between the first and second centres of infection; and on the same day, December 24th, two cases were found of men who had lodged in a house on Bayard street. This latter establishment proved to be a centre of infection, for on the next day five cases of the disease were found among its inmates, on the next day twenty-two cases, on the next three, on the next ten, on the next two, and on the next six. Several cases were found of persons affected with this disease, who lived in localities more or less remote from the infected houses.

From November 30th to and including January 8th, there have been one hundred and fifteen cases reported, and twenty-three deaths from the disease have occurred among these.

The plan that has been followed by Dr. J. D. Bryant, the Health Commissioner, is to have a typhus patient removed as speedily as possible to the hospital for contagious diseases. This is done in an ambulance particularly devoted to this duty. If the patient is removed from a hospital, the ward is at once disinfected, the patients in that ward are carefully observed, and all suspected bedding, clothing, etc., is taken to the disinfesting plant at the Reception Hospital at the foot of Sixteenth street.

If the disease appears in the person of an inmate of a lodging-house, the apartment he occupied is disinfected, bedding that was in immediate contact with the individual is burned, and the occupants of the house are, as far as may be possible, kept under observation.

Much criticism has been made by the daily newspapers relative to the quarantine imposed upon the fifty-nine remaining inmates of the lodging-house on Bayard street, from which place most of the cases have been taken. The Board of Health has no building in which it can isolate persons that have been exposed to contagious or infectious diseases, nor does such an arrangement seem desirable. Dr. Bryant has now as a coadjutor Professor H. M. Biggs, the well-known bacteriologist, who is the chief of the division of disinfection of the Board of Health.

It is an entirely feasible plan to disinfect a lodging house if that duty is properly supervised and is performed by competent employees. While the upper floors of the building are undergoing disinfection the inmates may be subjected to personal ablutions and furnished with clean clothing on a lower floor. They may be then transferred to a floor that has been disinfected, and the disinfectors may work on the floor the suspected persons occupied. These individuals are divided into groups and visited several times daily by the physician in charge of the house. Disinfection properly performed will remove the local factor, but nothing but supervision will be sufficient to insure safety as far as the individual factor is concerned.

To again refer to the Bayard street lodging house, attention may be called to the fact that but twelve days have elapsed, at the date of the writing, since the appearance of the first case in that locality; and while this is the average period of incubation of typhus fever, still there are many cases on record in which the incubation has been longer than that time. So we may still expect a few more cases to occur among its inmates without questioning the efficiency of the disinfecting corps.

The latter has not yet been organized as Dr. Biggs probably intends it to be. The men are not uniformed in oilskin or rubber garments, and there are various other matters of detail that will require attention. Another feature that is needed is a portable disinfecting oven that may be taken to the door of an infected house, thus obviating the risks that are incurred by transportation to a single central disinfecting station as well as the necessary handling of fomites by several persons.
It has not been possible to trace the origin of the first case, nor has there been evidence showing any relation between that and the subsequently infected foci. The majority of the cases have appeared in the crowded insanitary population of lodging houses, whose inmates are here one night and there the next. While the factors of destitution and defective nutrition are as weighty in these as in all cases of typhus fever, the factors of overcrowding and bad ventilation seem to be at this time preeminent.

Every confidence is felt that the measures adopted by Dr. Bryant and Dr. Biggs will suffice to meet the present emergency, and there is no reason to apprehend a general epidemic even in the crowded localities in which the majority of the cases of that fever have appeared.

**OX-GALL AS A THERAPEUTIC AGENT.**

The number of excellent papers on the subject of ox-gall as a therapeutic agent which appear in this number of the American Therapist precludes the need for calling special attention to its virtues. It will be sufficient to remind practitioners that it is a useful remedy in properly selected cases, although it must be admitted that we have not yet fathomed its real nature from a scientific standpoint. Ox-gall is given and effects observed in suitable cases about the same as in the case of cod-liver oil, but the scientific adaptation of both these substances remains to be investigated before it can be said that they have attained a substantial footing. The clinical position being thus somewhat uncertain, it has been deemed advisable for the present to abstain from the publication of formulae in which ox-gall forms an important constituent, and this topic will come up for consideration at a later period. In the meantime additional reports bearing upon its clinical applications are invited, with a view to embrace as full an account as possible preliminary to its further study.

**PROTECTIVE PROPERTY OF BLOOD-SERUM.**

Gradually the practical results of bacteriological researches are beginning to manifest themselves, and, judging from the scientific character of the work already done, and the clinical evidence which is accumulating from month to month, there is every reason for congratulation on the part of both the profession, and the public that these innovations, as they appear to be on the surface, presage the dawn of a better day in the treatment of disease. Still, amidst the furore that has recently sprung up in favor of these methods, it should be borne in mind that they are not new, although rather novel to those unfamiliar with the history of medicine in the past, since, under the name of isopathy, similar attempts to control disease were made several generations ago. This question will be referred to again in the near future, when an attempt will be made to show just how the present methods differ from those in vogue a century or more ago, a matter which will prove of exceeding interest, owing to the fact that it will bring out in bold relief the difference between empirical and scientific methods in therapeutics. The object of the present note is to call attention to the practical results following the administration of blood-serum as a protective against various affections.

In the December number of the American Therapist attention was directed to the value of anticholerin-Klebs in the treatment of cholera during the epidemic at Hamburg, and although the mortality in his cases treated in this manner reached as high as 67.7 per cent., it was far below that attending the use of saline solutions. Klebs holds that a natural law exists in connection with tissue-changes, by which two substances are constantly produced, one of which is toxic to the organism, while the property of the other is to neutralize the effects produced by the first. These two substances he has denominated auto-toxines and allo-
toxines. Studying Koch's tuberculin with this idea, he was rewarded by the discovery of tuberculocidin (American Therapist, August, 1892), which is free from the toxine of tuberculin, and hence gives rise to no untoward symptoms when introduced into the system. This is the view obtained from the scientific standpoint, and as a side-light having an important bearing should be mentioned the experimental evidence to the effect that immunity against various diseases may be insured by the subcutaneous employment of blood-serum taken from animals that have acquired immunity against virulent cultures of pathogenic organisms. Reference is here made to the action of anti-toxines in the treatment of tetanus, pneumonia, diphtheria, and rabies, the animals experimented upon having been rendered immune to these diseases. For example, Kitasato recently made some experiments upon mice and guinea-pigs, inserting into the flesh small splinters of wood which had been soaked in cultures of the tetanus bacilli, so that only spores reached the tissues. He hoped in this manner to have the disease develop in the usual way, since it was his opinion that no toxic symptoms would result until the bacilli had time to for n, which would be followed in due time by the distribution of their toxic products together with the disease, lock-jaw. In all cases the results were as anticipated; but by the timely introduction of blood-serum from a horse artificially rendered immune against the disease, the lives of the animals previously inoculated with the spores by means of the splinters, could be saved, and thus we have another evidence of the triumph of scientific therapeutics.

And now comes the most interesting part of the report, since it has been discovered that anti-toxines exist normally in the blood at certain stages of a number of diseases, and scientific investigation has again demonstrated that there was more than a superstition for the belief that "the hair of the dog would cure the bite." Lazarus (Berliner klin. Wochenschrift, 1892, Nos. 43 and 44) has shown that guinea-pigs previously treated with the blood-serum of convalescents from cholera, resist infection when inoculated with lethal quantities of cholera-bacilli; but, on the contrary, when marked constitutional symptoms of the disease have appeared, no influence is produced upon its progress, conditions practically identical with those which obtain in the use of vaccine virus. By a similar series of experiments, Stern (Deutsche Med. Wochenschrift, 1892, No. 37) shows that the blood-serum of convalescents from typhoid fever offers a like immunity against that disease, an indication that the conservative processes of Nature leave within the system an anti-toxine or some substance which is inimical to the disease from which they have recovered.

Current Literature.

Double Salts of Quinine.—M. Gremaux mentions several double salts of quinine, the chlorohydro-sulphate, bromhydro-sulphate, chlorhydro-phosphate, etc. He specially mentions the chlorohydro-sulphate of quinine as worthy of employment in therapeutics. This salt offers the medicinal advantage over the sulphate of being very soluble in water; it dissolves in its own weight of water, and consequently is rapidly absorbed. It may, moreover, be administered in hypodermic injections. It has already been employed in this form with excellent results. Its posology does not present any difficulty. It contains the same percentage of quinine as the sulphate, and should be prescribed in the same dose. M. Laborde, who has made a physiological study of this drug, has found that it produces all the characteristic action of quinine, with the advantages of a much greater relative activity than the sulphate, due no doubt to its much greater solubility.

—L' Tribune Médicale.

Action of Alcohol upon the Kidneys.—1st. Alcohol in moderate quantity produces such a degree of irritation of the
kidneys as to cause the wandering out of leucocytes and the formation of cylindrical casts; and in somewhat larger quantities, giving rise to large masses of opalic and uric acid. The use of alcohol, he says, alters the solubility of the urinary salts, and this favors the deposition of oxalate of lime and uric acid.

2d. The effect of the ingestion of alcohol for a single time does not extend beyond thirty-six hours, but is cumulative by its continued use.


Post-Diphtheritic Paralysis.—1. The more intense the diphtheritic process in the pharynx the earlier does paralysis follow. We usually have paralysis of the soft palate; it appears consecutively with albuminuria or well developed nephritis, affects the heart often and early, and the children die with symptoms of heart-weakness.

2. Paralysis coming more slowly or later is associated with non-gangrenous or non-septic processes; generalization of paralysis, but especially localization to the diaphragm, is dangerous. Paralysis of the diaphragm is more common than is usually accepted. It is characterized by almost complete aphonia, cough, with difficult expectoration of copious, foamy and viscid mucus, dyspnea with thoracic respiration. The affection is usually, though not always, fatal; death occurs with asphyxia, bronchitis or bronchopneumonia, or suddenly with complete cessation of respiration.

2. The manifestations on the part of the heart are manifold. They vary from diminution in tension in the arteries to arhythmia with symptoms of stasis. Auscultation shows disappearance of the first sound, indistinctness of both sounds, duplication of the first sound. At the same time there is a rapid, sudden, and very great swelling of the liver, ominously prognostic. Cheyne-stokes respiration may occur, but recovery may take place after the appearance of all these symptoms.

The best results were obtained by subcutaneous injections of sulphate of strychnine, 0.003 to 0.004 pro die, in three injections, and of camphor. Arnheim comes to the conclusion that diphtheritic paralysis has as its pathological basis a polyneuritis; in Virchow's words, neuritis parenchymatosa et interstitialis proliferans.

Baginsky. (Archiv für Kinderheilkunde).

Mental Diseases Following Grippé.—

1. Influenza is more often followed by mental disease than any other infectious affection. Typhoid fever only approaches it in frequency.

2. The male sex is most often attacked and the age most susceptible seems to be between the twentieth and fiftieth year.

3. A predisposition exists in 72 per cent. of the cases. Alcoholism was present in 11 per cent. of the cases.

4. The toxine of the disease has a greater rôle in the production of the mental complications than the fever itself, for this latter is so low that it seems impossible that it could have such a disturbing influence.

5. With regard to the duration of the disease, 12 per cent. were cured in a week, 32 per cent. in a month, while 50 per cent. lasted over a month.

6. As to the proportion of cures and deaths, 7.6 per cent. of the cases terminated in death, 56.6 per cent. in recovery, and 35.8 per cent. remained stationary.

7. A careful study of the published observations shows that the mental diseases are especially liable to become manifest after light attacks (55.2 per cent.), while only 27.6 per cent. were found to follow severe attacks, and 17.2 per cent. after moderately severe attacks.

8.inanition delirium appears immediately after the attack, while melancholia
is observed several weeks after, and general paralysis six months subsequently.

9. The psychoses following influenza have a peculiar character, but they do not differ greatly from those coming on after other infectious diseases.

10. Influenza may have a varying effect upon the mental state of patients already insane. Certain patients are agitated and others improved. These modifications are due, no doubt, to the changes in the cerebral circulation.

11. The treatment is the same as that of mental diseases from other causes.

Dr. Julius Althaus.

Le Bulletin Médicale, No. 36, 1892.

Rules for the Administration of Cocaine.—1. The dose of cocaine injected should be appropriate to the extent of the surface desired to render insensitive. It should not exceed in any case one grain to one and three-quarter grains. Each dose should be restricted in large surfaces.

2. Cocaine should never be employed in cases of heart disease, in chronic affections of the respiratory apparatus, or in nervous subjects; and this exclusion applies also to other anesthetics.

3. Cocaine should be injected into the interior and not under the derm of the mucous membrane of the skin. This is the intradermic method of Reclus, which should be substituted for the hypodermic method. By this means the introduction of a substance into the vein is avoided, and the risk of accidents minimized.

4. The injections should always be practiced upon the subject in a recumbent position, and he should only be raised when the operation is to be performed upon the head and mouth, and then only after anesthesia is complete.

5. The cocaine should be absolutely pure, since, as pointed out by Laborde, its mixture with other alkalies forms highly poisonous compounds.

6. Cocaine should be injected in divided doses, with a few minutes interval. This method of "fractional injection" renders it possible to guard against the production of sudden symptoms of poisoning.

Dr. Magitot.

(Repertoire de Pharmacie, Aug. 10, 1892).

Biology of the Cholera-Bacillus.—Uffelmann reports the results of a study of the life-history of the cholera-bacillus when exposed to various conditions. He found that the organisms may continue to live in still water, not exposed to the rays of the sun, for one or two days, or even for five or six days; if the water has a temperature of from 60° to 70° multiplication of the bacilli may take place in the first fifteen or sixteen hours. The bacilli may survive for a day or two days in cow's milk, even though acid fermentation has taken place; at temperatures between 64° and 72° multiplication may take place in the first twelve or sixteen hours. Upon slices of rye bread, unprotected from the air, cholera-bacilli may survive for a day; if the bread be wrapped in paper, the organisms may survive for three days; and if the bread be kept under a bell-jar the organisms may survive a whole week. On the surface of feebly acid butter the organisms survive for from four to six days; in the interior of butter a shorter time. On roast meat, protected from drying by being placed under a bell-jar, they may survive for at least a week; upon smoked fish, kept under similar conditions, they may live to the fourth day. On the surface of fruit, the organisms, after drying, live from twenty-four to thirty hours; kept under a glass jar, to the end of the fourth day; on fresh cauliflower, from one to three days. Upon the printed pages of a book they live, after drying, for at least seventeen hours; on writing paper enclosed in an envelope at least twenty-three and a half hours; upon postal cards for at least twenty hours. Upon copper and silver coins and upon copper plates the bacilli die in from ten to thirty minutes. Upon textures that are
apparently dry, they may survive for four days; upon moist goods for as long as twelve days, perhaps longer; under the condition last named they may even multiply. Flies may remain infectious for two hours after having been brought in contact with moist cholera-matter. The organisms may live for an hour, but not for two hours, upon the dry hand.—Berlin klin. Wochenschr.—Med. News.

Ophthalmia Neonatorum.—This disease is a conjunctivitis of the newborn, and is characterized by purulent ophthalmia, which usually results from the inoculation of the conjunctiva of the child during parturition, with septic matter present in the genital tract of the mother.

It is an erroneous idea to think that the mother must necessarily be affected with gonorrhea, for the discharge of leukorrhea may cause this disease, if it comes in contact with the conjunctiva.

The disease usually begins from the second to the fourth day after birth, although it may be postponed several days longer.

At first the lids become edematous, the conjunctiva is red and inflamed, and the child suffers great pain. The discharge is at first serous, but soon becomes more profuse and purulent, creamy and yellow, or slightly green in hue.

As the disease progresses, the lids become more swollen, and have a dusky hue, the upper lid hangs down over the lower one, and is often so unyielding that it cannot be completely everted. If the disease is not checked, the palpebral conjunctiva becomes permanently thickened, relaxed, and more or less granular.

Catarrhal changes analogous to what occurs in stricture of the urethra, and also permanent thickening of the ocular conjunctiva, may occur.

In this disease the cornea may suffer great damage, partly from strangulation of the blood vessels, and also from the local influence of the discharge. If the cornea should become dull and hazy within the first three days of the attack, there is great risk that extensive sloughing may occur. Another danger is perforation from ulcers, which usually form a little below the centre of the cornea.

Either one or both eyes may be attacked. If only one eye is affected, the sound eye should be sealed up with silk adhesive plaster in order to prevent its becoming inoculated with the virus.

The best treatment consists in prophylaxis. In my practice I have established the following routine: As soon as the child is washed, I instil into each eye one drop of the following solution, which I carry in my obstetric bag:

R. Argent. nit. . . . . . . . . . . . . . . . . . . . . . . gr. jss
Aquæ destil. . . . . . . . . . . . . . . . . . . f 3 j—Mix.

I use this for the purpose of destroying any virus that may have found its way into the child's eyes.

Should the child be attacked with the disease, then I have the eyes carefully washed three or four times a day with tepid water, to which a small quantity of boric acid has been added. The discharge is carefully wiped off with absorbent cotton. I then bathe the eyes with a twenty-five per cent. solution of peroxide of hydrogen (15 volume solution), being careful that it traverses the whole of the conjunctival tract. Then I instil two drops of the following:

R. Argent. nit. . . . . . . . . . . . . . . . . . . . . . . gr. ij
Aquæ destil. . . . . . . . . . . . . . . . . . . f 5 j—Mix.

I allow this to remain a few moments, then flood the eyes with a solution of chloride of sodium, five grains to each ounce of water. This neutralizes the excess of the silver nitrate, and prevents its exercising too great a caustic effect.

W. G. Young, M.D.
(Medical Brief, July, 1892).

Function of the Bile.—If viewed from our combined physiological knowledge, and that derived from close clinical observation, we are enabled to speak with a much greater degree of accuracy than can
be obtained in any other way. Experimentally, it is almost impossible to prove positively the action of the biliary fluid, for the moment a biliary fistula is established and the bile turned from its natural channel, all the functions of the body are so thoroughly disturbed that the most contradictory evidence is obtained. Nevertheless, the knowledge derived in this way, together with clinical and pathological observations, has enabled us to formulate the following actions of the bile. The ordinary physical and chemical properties need not be considered in detail, as it is the physiological actions which concern us most. These actions are quite numerous and not necessarily due to contained ferments.

First: It has an emulsionizing action, that is, it acts upon neutral fats and minutely subdivides the oil-globules so that they can be easily taken up by the epithelial cells and discharged into the lacteals. It does not appear to have the property of splitting fats into their component parts—a fatty acid and glycerin—but when freely mingled with the biliary fluid, the fat is placed in such a condition that the steapsin of the pancreatic fluid can more easily separate it into a fatty acid and glycerin, and form a soap by the union of the soda and fatty acid.

Second: The bile contains a diastatic ferment which has for its action the conversion of starch and glycogen into glucose.

Third: Taken as a whole, the bile may be regarded as a stimulant, producing peristalsis of the intestines, thus tending to favor absorption and prevent constipation.

Fourth: The bile-acids in particular are stimulants to the small muscles contained in the villi, so that by the contraction of the muscles the contents of the lymph-spaces are emptied toward the larger and deeper lymphatics, leaving those in the villi empty and in a position to absorb more. Regarded in this light the lymph-sacs of the villi are little pumps which are constantly pumping the fat out of the epithelial cells and discharging it into the deeper lacteals to be passed on to the general circulation.

Fifth: The moistening of the epithelial cells with bile seems to be necessary for their vital activity, enabling them to take up both glucose and peptones much more rapidly than is the case when they are deprived of a free supply of bile. The bile seems also to stimulate a watery flow from the intestinal follicles, which together with its tendency to excite peristalsis, favors a free and easy passage of the intestinal contents into and through the colon. By some the bile is spoken of as a lubricant to the colon, which combined with the other effects, favors free movements and prevents constipation.

Sixth: The biliary fluid prevents decomposition in the alimentary tract and may be looked upon as Nature's chief antiseptic. This assertion is sustained by the rapidity with which decomposition occurs whenever the biliary secretion is impaired, totally arrested, or changed in quality. Under these circumstances we notice at once a tendency to persistent constipation, clay-colored stools and the distention of the intestines with gas. If the quantity of bile is abundant, but of poor quality, there is a tendency to black, tarry, and burning stools, with some tympanites, and fermentation and incomplete digestion of the food-stuffs.

Seventh: I think we are justified in assuming that the bile and its contained ingredients aid very materially in the final solution of the albuminoids, and their conversion into diffusible peptones. This view is entertained after a careful clinical study of a large number of cases which has clearly shown that unless the old bile and that of poor quality be expelled from the system, and its place taken by new bile, and that of a better quality, the digestive disturbances cannot be overcome; but that so soon as this change is effected digestion and assimilation become perfect and
nutrition is carried on normally. This is conclusively proved by the fact that the products of oxidation found in the urine rapidly change from an excess of uric acid, oxalates and urates, to urea, carbonic acid and water.

Having by the action of these various fluids and ferments placed our food-stuff in a condition in which they can be removed from the alimentary canal, we find the fats going by the way of the lymphatics and thoracic duct to the vascular channel, and thence poured into the blood-current at the junction of the left internal jugular and subclavian vein. From here they pass as fats through the left bronchiocephalic and superior vena cava to the right auricle on to the right ventricle, and through the pulmonary arteries to the lungs. In the lungs the fat in its original form appears to be acted upon by the oxygen and changed, so that it can no longer be recognized as such in the blood. It yields in its various transformations, heat and energy to the system, lubricates and protects various parts of the body, and is finally eliminated as carbonic acid and water. The sugars and peptones pass by the entero-hepatic or portal system of vessels directly to the liver, where they are variously changed by the hepatic cells and distributed to the various parts of the body.

William H. Porter, M. D.

(Med. News, Jan. 24, 1891.)

M. Pasteur.—As an illustration of the great law of compensation, it is announced that on the seventieth birthday of this celebrated savant, M. Pasteur, the French Academy of Sciences paid him the highest tribute of respect in their power, although but a quarter of a century ago it passed resolutions of censure upon his work in biology because at that time its members had no faith in it. Nothing daunted by this want of confidence, he went right on with his work, and has been the medium of saving France millions of money, and that, too, at a time when the French people were threatened with reverses which would have reduced them to beggary. He is, indeed, entitled to be classed as one of the immortals.

Book Notices.


The two subjects treated of in this brochure have not hitherto received at the hands of most general practitioners the consideration which their importance demands. Hereafter there can be no excuse for any physician's failing to understand them sufficiently well to diagnosticate them correctly, and call in the timely aid of the surgeon, even if he cannot acquire the technical skill necessary to treat them successfully himself. Dr. Adler has succeeded in condensing into this 25-cent monograph so clear and luminous, and so well illustrated an account of the two ailments, that he who runs may read it, and he who reads it with any sort of care cannot fail to comprehend it. All the more recent forms of treatment, both palliative and radical, surgical and non-surgical, are mentioned, the more important ones being fully and explicitly described. There remains little to be said by way of criticism except, perhaps, that the author does not emphasize sufficiently the value of iodoform, both as a palliative and analgesic, and as a curative agent in the treatment of oval fissure, having evidently overlooked a paper on this subject by Dr. Boardman Reed, which appeared in the Philadelphia Medical News in 1882.


There is much to praise and little to condemn in the small volume before us,
and as a reminder and guide for the general practitioner and recent graduate, it will prove serviceable. Without making the book unnecessarily bulky, very concise and reliable information is given concerning the anatomy of the parts, and taken together with the woodcuts and plate illustrations, which, by the way, have been well executed, the text is exceptionally interesting, and to the practitioner, therefore, it is especially to be commended.

From the standpoint of modern surgery, the work of Drs. Hansell and Bell is entitled to recognition as representing the views now held, and its faults lie principally in the direction of therapeutic paucity. It is to be regretted that they have not found use for hydrogen dioxide as a local application in conjunctivitis and similar troubles, and they also seem to be unfamiliar with the remedial virtues of calcium sulphide, used internally with great benefit in this class of affections. When recommending the employment of vaseline in ophthalmia neonatorum (p. 102) they have almost stumbled upon an important therapeutic discovery. By the time a second edition is called for, these points might be looked up with a view to increasing the utility of the book. The mechanical execution is unexceptionable.


When the intelligent practitioner begins to study Dr. Ewald's systematic treatise he soon realizes that the time has arrived for setting aside conventional methods in diagnosis and treatment. Turning to page 20, on which the three stages of acidity of the stomach are described in connection with the test-breakfast (Probefrühstück) and test-dinner (Probemittagbrot), it will surprise some who strongly favor physiological medication when informed that no free hydrochloric acid can be demonstrated as present until after the lapse of from 30 to 45 minutes, and that the stomach contents are normally acid from this secretion only after the first hour. In view of these facts, those who persistently order pepsin with an acid immediately after meals will be at a loss when asked to give satisfactory reasons therefor; but others, who put forward claims for the employment of lactic acid will be highly elated by the information that lactic is the only free acid found in the stomach during the first half hour after the ingestion of the test-meal.

Directions are here given for testing the total acidity, and whether the acidity depends upon the presence of free acids or acid salts; instructions are also given for determining hydrochloric acid and organic acids, lactic, butyric and acetic, and alcohol, along with rules for estimating the free and loosely combined hydrochloric acid.

While the trend of the work is uniformly scientific, the reader is constantly and forcibly reminded that this course has not been pursued at the expense of the purely clinical side, every conclusion, deduction and summary having a direct or indirect bearing upon therapeutics.

Perhaps a few, like the reviewer, will be most interested in the section devoted to neuroses of the stomach, in which the general relations between the functions of the stomach and the nervous system are considered by the author's brother, Prof. Dr. Richard Ewald, of Strasbourg. It gives us, for the first time, a scientific, rational and practical demonstration of the claims advanced by the writer within the past few years, namely, that therapeutics, to rest upon a substantial basis, should take into consideration the influence of remedial agents upon cell-function and cell-life. The following extracts (pp. 364, 366) will be sufficient for our present purposes, since it shows the candid and impartial manner in which this very important subject is ap
proached by one thoroughly conversant with every possible complication likely to present. Says Prof. Ewald:

"Although Johannes Muller had long ago called attention to the specific activity of the glandular cells, yet only recently was it positively demonstrated that the mechanical processes of filtration and diffusion do not suffice to explain secretion, and that we must accept the existence of a peculiar activity of the cells. Nerves may regulate this cellular activity, yet secretion is unquestionably possible without them, and in this respect the animal tissues do not differ from the vegetable, which have glands but no nerves.

"In the process of absorption the specific activity of the individual cells becomes even more obvious. Here, contrary to the physical laws, some substances are taken up, while others are rejected. The lymph-cells have been observed to wander to the surface of the intestinal mucous membrane, and there incorporate drops of fat; they then creep back even into the lacteals, where they give up these particles of fat. In the face of these occurrences, which seem to play an important part in absorption, how can we think of purely mechanical explanations? At all events, in the processes of absorption peculiar functions of the living cells must coexist with filtration and diffusion. * * *

"It seems that the more highly vegetative the functions of an organ are, the more does its activity depend upon its own cells, and less upon the nervous system. In fact, could we remove every nervous element, nerve-fibres as well as ganglia, from the walls of the stomach without injuring the other tissues, it would still secrete, absorb and contract quite well. One may ask, Why, then, all these nerve-fibres which enter the stomach? For the same reason that nerves go to the automatic heart—to connect it with the rest of the body. On the one hand, the stomach has these connections with the central nervous system to fulfill the demands of the other parts of the body; and, on the other, to enable the entire organism to take cognizance of its condition."

**PUBLICATIONS RECEIVED.**

From George I. McKelway, M.D., of Philadelphia: An Obscure Case of Appendicitis, Masked and Complicated by Ovarian Adhesions—Operation and Recovery. Reprint.

Delivery through the Abdominal Walls, &c. Craniorrhaphy, in Otherwise Impossible Births. Reprint.


Diseases and Conditions to which the Rest Treatment is Adapted. Reprint.


From LeRoy Broun, M.D., of New York: Fifty Selected Cases from the Practice of Dr. Clement Cleveland, at the Woman's Hospital of the State of New York. Reprint.


Moist Antiseptic Dressings in Injuries of the Hand. Reprint.


Expert Testimony in Cases of Insanity. Reprint.

A Case of Osteo-arthritic Tuberculosis. Reprint.


Ligation of the Internal Jugular Vein for Purulent Hemorrhage Caused by a Sloughing Adenitis, which followed Malignant Scarlet Fever. Reprint.


Fistula in Ano—General Considerations—Etiology—Symptomatology—Diagnosis—Prognosis. Reprint.

The Treatment of Anal Fissure, or Irritable Ulcer of the Rectum. Reprint.

The Operative Treatment of Fistula in Ano. Reprint.


**ANNOUNCEMENTS.**


The International Medical Annual, so well known to the medical public, is already in active preparation by a corps of thirty-six collaborators under the direction of Dr. P. W. Williams, Secretary of Staff, and the forthcoming issue promises to be even better than former editions. Published by E. B. Treat, of New York.

The Lancet, published at Chicago, a resume of the London Lancet. A journal of British and foreign medicine, surgery, obstetrics, physiology, chemistry, pharmacology, public health and news.

We have received a "McArthur Diary," containing much valuable information, selected and epitomized especially for physicians. Any reader who has not received a copy of this Diary, for 1893, can get one, without expense, by writing to McArthur Hypophosphite Co., Boston, Mass.
Miscellany.

Sir Richard Owen.—The death of Sir Richard Owen last month, removes from scientific circles one of the most distinguished anatomists of modern times, a man who had given his whole life to the study of science for the benefit of his fellow-men. His loss will be keenly felt on both sides of the Atlantic, as he was known abroad as well as at home, and has been held in great respect for his efforts to increase the sum of human knowledge.

Johns Hopkins University.—Miss Garrett, of Baltimore, has recently contributed to the Johns Hopkins University, of that city, the sum of $357,000, for the purpose of making up a fund of $500,000, to enable the Trustees of that institution to open the doors of the medical department to women, giving them equal advantages with men in preparing for practice. The proposition was made some time ago, on condition that the above-named sum was raised, and the time had nearly expired; less than $100,000 had been subscribed, when Miss Garrett came forward and pledged the remainder. We shall watch with interest this effort at co-education on the part of an institution having the prestige of Johns Hopkins Medical School, since experimental trials in this direction have not proven successful elsewhere.

A New Cure for Epilepsy.—It has been reported that patients suffering from epilepsy, and afterwards subjected to the Pasteur method of treatment for hydrophobia, receive incidental benefits, the disease being removed or favorably modified. The subject has been presented in the form of reports from Dr. Gibier, of New York, and Dr. Lagorio, of Chicago, each claiming precedence in the matter. It is said the material employed is obtained from the vital organs of the sheep. The following extract from Dr. Gibier’s paper will be of interest to the profession:

“One youth of epileptic ancestry, who was approaching a state of idiocy, took injections of the nervine and was greatly improved. The usual vertigo disappeared quickly, and he has gained in intelligence. In the case of a 13-year-old boy, who had idiocy complicated with epilepsy, the fits were reduced from several daily to one every two or three days. His temper and intelligence are materially improved. Dr. Gibier thinks epilepsy is caused by a disposition of the nervous centres to retain a poison which accumulates and causes convulsions, and he regards the nervine as likely to retard, if not prevent, this dangerous accumulation.”

Cinnamon as an Antiseptic.—“No living germ of disease can resist the antiseptic power of essence of cinnamon for more than a few hours,” is the conclusion announced by M. Chamberland as the result of prolonged research and experiment in M. Pasteur’s laboratory. It is said to destroy microbes as effectively, if not as rapidly, as corrosive sublimate. Even the scent of it is fatal to microbes, and M. Chamberland says a decoction of cinnamon should be taken freely by persons living in places affected by typhoid or cholera. —N. Y. Sun.

Tuberculosis in Cattle.—Reports are in circulation to the effect that tuberculosis in cattle is unusually prevalent, and that in Southern New Jersey the conditions are worse than in any other section of the country. A prominent milk dealer in Philadelphia has recently sent out circular letters to physicians, claiming that he has made perfect arrangements for inspecting his milk supply, not only the cows, but the method of feeding and caring for them, and for looking into the details of cooling the milk preparatory to shipment. In conversation with a veterinarian, the writer was informed that “jump-jaw” was frequently noticeable, but as soon as detected the cows were removed from among those which were apparently healthy, and he supposed, of course, they had passed into the hands of butchers, and were regularly supplied to customers. If the doctrine of contagion be true, as recently interpreted, it looks as if but comparatively few were susceptible to the disease, or else the population would soon be decimated.

Germs in Milk.—Recent bacteriological investigations on the part of the Board of Health of New York City demonstrate that tuberculous cows may spread the disease through the medium of the milk. The results of experiments with milk obtained from the Adams farm at Scarsdale, N. Y., show that guinea-pigs inoculated with it died with all the symptoms of tuberculosis, although the milk was supposed to be “gilt-edge,” and was sold at fourteen cents per quart. The entire herd, twelve in all, from which this infected milk was obtained, was killed, and the post-mortem demonstrated that tuberculosis was present in each animal; tuberculous tumors in the udders had broken down, and pus escaped with the milk. Dr. Cyrus Edson, Sanitary Superintendent of the Board, on being questioned about the matter, said:

“The researches made by Dr. Grant into the number of cows affected by tuberculosis have shown that about five per cent. of them have the disease. The disease is intensely contagious. More children die of tuberculosis than of any other disease.

“As milk is almost the sole food of children and the principal food of invalids, the danger from tuberculous cows is very great.

“Under these circumstances it is much safer to give young children and invalids sterilized milk, because this is perfectly healthy.”
DIGITALIS AND CHLORAL IN PNEUMONIA.

By J. Lindsay Porteous, M.D., F.R.C.S. Ed.

By the term pneumonia we wish it understood as meaning that form of inflammation of the lungs known as "acute pneumonia," or "croupous pneumonia," or "lobar pneumonia." Under very diverse circumstances, inflammatory processes in the lungs occur which present many different clinical phenomena and histological changes, so that the word "pneumonia" when used to designate inflammation of lung-tissue, includes in this sense diseases which are very different. Balfour in a recent article says: "Every one knows that the mortality of pneumonia has been claimed to have been annihilated by Cullen and Gregory with their large blood-lettings; by Bouilland with his coup-sur-coup system of bleeding; by Laennec with his contro-stimulant doses of tartar-emetic; by Hahnemann with his infinitesimals, whereon Fleischman pinned his faith to the decillionth of a grain of phosphorus; and by Bennett with his restorative system."

From time to time the medical journals publish accounts of some so-called specific, yet the mortality tables show no improvement. Curante in libris, moria

...
nia, especially after middle life or in infancy. The saburral condition will certainly disappear when the temperature falls, while no amount of purgation will make the slightest difference. Our prognosis in this disease must necessarily be most guarded if the patient is suffering from mental or bodily exhaustion when attacked, or is advanced in life, or has some other disease or anything else which depresses the cardiac region. We know that we cannot eliminate these complications, and therefore must consider the case most critical; but still we may have hope if the proper treatment is applied.

We think that it is generally conceded that a course of depressants is harmful. In a typical case of pneumonia, two conditions are especially antagonistic to powerful cardiac action; these are large consolidation of lung and high fever. The pyrexia, however, in this disease is seldom very high; when it is, and is prolonged, death is the inevitable result from some complication. The so-called antipyretics are in our opinion not called for, in fact their depressing effects forbid their use. When we find a medicine having the combined qualities of an antipyretic and a heart tonic, we shall have reached a state near perfection in the treatment of this disease.

That eminent physician, Dr. G. W. Balfour, strongly advocates the use of digitalis as the medicine of all others combining those qualities. No doubt, after large doses of digitalis, the pulse becomes feeble and irregular in proportion to the fall in temperature; consequently it has been stated that this drug weakens the heart, and should be avoided in pneumonia. Balfour says that the fall of temperature, the feeble and irregular pulse are due to the toxic effects of the medicine, and would act in the same way on one in health; but these symptoms soon pass off, leaving no bad results. The rapid, irregular and feeble heart of collapse following in the wake of pneumonia, is most emphatically best treated by digitalis and some diffusible stimulant, such as carbonate of ammonium, at the same time rigidly enforcing the recumbent position. If, in using large doses of digitalis, we find that the crisis is accompanied with considerable collapse, hiccough, vomiting, and perhaps stupor, we must immediately reduce the dose, or better still, according to Traube, always stop the drug just before the crisis is expected. In our experience we have found that moderate doses acted much better than large ones, and certainly save us the anxiety of the toxic effects. In some cases, we have observed, that constant employment of moderate doses seemed to shorten the attack, but even if they do not do this, they certainly give us a degree of control over the heart, which, if collapse threatens, we can the more easily stir up the flagging cardiac action.

There are other conditions than excessive consolidation and high temperature which we have to combat. There are insomnia, pain and cough, the former often caused by the other two. Opium internally and morphine hypodermatically are often used, but our therapeutic knowledge tells us that both tend to arrest expectoration, which in time produces grave symptoms. Wucherer, Baumgartner and other German authorities laud the use of chloroform for those distressing symptoms, and well they may, as their success in treating pneumonia has been marvellous, the mortality only being 3.3 per cent. in 303 cases. It was administered by inhalation every two hours; of course this might be done in a hospital, but it would not be safe to entrust its use to the unskilled hands of friends or even nurses. Fortunately Liebreich discovered chloral, and this drug has worked wonders in relieving these distressing symptoms. Chloral, according to Ringer, in moderate doses, causes sleep and slows the pulse. Liebreich found that a full dose (40 to 80 grains) depresses the temperature 3 or 4 degrees. The heart goes slower under its influence owing to the paralyzing action
upon the vaso-motor centres. It is an analgesic, and diminishes and ultimately abolishes all reflexes. In this we have a great aid in the treatment of pneumonia. It allows the patient to sleep, thus preserving his strength. By dilating the arterioles the free flow of blood flushes away the stasis elements, and the power of the morbid excitant gradually is overcome, as the healthy nutrition of the part asserts its rights and once more establishes itself. If pneumonia is a restorative reaction to an injury received, then this action of chloral may modify these reactions and check wholly or in part the series of organic changes through which diseased action when unmodified must run. On the other hand if pneumonia is due to local action of a coccus, a bacillus or any form of microbe, the flushing with phagocytes must tend to cut short the disease by destroying the cause.

During the last three years we have treated twenty-four cases of pneumonia; nine of these were double. Our main treatment was the administration of digitalis and chloral, with suitable stimulants, and every one recovered. Careful and early diagnosis are essential, and a constant watch over the toxic effects of the drugs is imperative. The mere fact of giving those medicines will not always prove successful, as they are not specifics. Only experience can teach the physician when and how to administer them. In our opinion no disease exists which requires more close attention, and we are certain that there is no other serious disease more amenable to judicious treatment or more easily allowed to run a fatal course with injudicious treatment than pneumonia.

Yonkers, N. Y.

CELLULAR-THERAPY.

A Consideration of its Claims for Recognition as the Basis of Scientific Therapeutics.

(Third Paper.)

By John Aulde, M. D.

As the present article will come to the attention of many who are unfamiliar with the points so far advanced in support of cellular-therapy, or the work in this direction which has been accomplished by the journal, a brief recapitulation, with explanatory remarks, will be in order.

In my paper entitled, "The Principles to Observe in the Treatment of Summer Diarrhea in Children" (American Therapist, August, 1892), I have demonstrated the futility of relying either upon acids or alkalies, explained the fallacy of administering opium and astringents, and have made an attempt to formulate methods of treatment in accordance with the latest known scientific investigation, recommending plans which least interfere with cell-function. In addition to my own paper, other contributions from competent observers have appeared, namely, the articles of Dr. Robert Carothers, of Newport, Ky., of Dr. F. M. Morgan, of Berkeley, Va., of Dr. D. N. McBride, of Rainsborough, Ohio, of Dr. A. H. Thomas, of Hurley, Wis., of Dr. T. Hewson Bradford, of Philadelphia, and these, along with other reports of a like character, go far towards confirming, from a clinical standpoint, the claims put forward.

In the course of an editorial entitled, "Soluble Poisons in the Blood" (American Therapist, August, 1892), I have shown that our information regarding these effects should be more direct and definite. The following quotation will indicate the line of investigation: "We ought to be in a position, with our advances in pathology, to learn something tangible concerning the changes effected by poisons and by medicines upon the tissues and upon the cells.
The dependence placed upon clinical facts as reliable data in the treatment of disease, has, perhaps, proven the greatest stumbling block to the legitimate advance of medical science. So long as clinical facts alone are considered in the selection of remedial agents, just so long shall we remain chargeable with failure to apply correctly the knowledge gained from physiological investigation, post-mortem observations and chemical study.

In The American Therapist for November appeared a preliminary paper under the caption, "The Basis of Scientific Therapeutics," and also an editorial on the "Function of the Cell," references being given to show that I was not alone in searching for the causes which have led to the undulatory movement that has hindered the progress of medicine in past generations. Others are likewise at work in different sections of this immense but hitherto unexplored territory, upturning the sub-soil of therapeutics, finding here and there precious gems and brilliants when its rich alluvial deposits are exposed to the modern search-light of scientific inquiry. The fact remains, however, that notwithstanding the different methods adopted in this investigation, chemical, physiological, pathological, biological, all lines are directed towards a single centre, and that centre the living cell.

Although in a destitute condition as regards therapeutics, we are not reduced to absolute want, since the school of experience has taught us certain principles which are practical and possess intrinsic merit; but "having ears, we hear not," and "having eyes, see not." Indeed, it appears as if some of the most astute and critical observers, allured by some fanciful mirage, occasionally stray from the well-trodden thoroughfare, to be poisoned by the miasm arising from the bogs and fens lying on either side. But these occurrences are merely incidental to an advance, and in the case of an army on the march, ample provision for stragglers is made in the way of ambulances.

The American Therapist for January contained my second paper, which was devoted largely to an elucidation of certain principles having a direct bearing upon clinical therapeutics, a considerable portion being taken up in replying to questions brought forward by correspondents. In the same number I also took occasion to develop, in an editorial, the "Scientific Adaptation of Oxygen," tracing the course of this gas to the hemoglobin of the blood, thence to the lymph, thence to protoplasmic cells, together with its influence upon metabolism. At the same time in reviewing the excellent treatise of Prof. Dr. Ewald, upon Diseases of the Stomach, the facts observed in connection with the peculiar function of the cells were likewise brought forward, namely, that while "nerves may regulate this cellular activity, yet secretion is unquestionably possible without them, and in this respect the animal tissues do not differ from the vegetable, which have glands but no nerves." For example, Ewald's investigations show that the mechanical processes of filtration and diffusion are insufficient to explain secretion, and that we must accept the existence of a peculiar activity of the cells. And, this much being admitted, we are compelled to accept a similar interpretation concerning a peculiar activity of the hepatic cells, the renal cells, the cells of the pancreas, and practically of all the cells.
concerned in maintaining the integrity of any organ. In this category would be included all the cells involved either directly or indirectly in the performance of any special function, such as hearing, seeing, feeling, tasting, etc. But this is not all, since we must admit that cells connected with the purely vegetative functions play a part, although this is doubtless more closely associated with the nervous system. The phenomena associated with respiration, or the rhythmic action of the heart, may be cited as examples of this principle, but the question is one which, to my mind, still remains unsettled.

It will be appropriate to quote here from my correspondent, who is anxious to learn how cellular-therapy applies to the action of the potash salts, and commencing at the point where I left off at the close of my last paper, it runs as follows: "I have some difficulty in regard to your explanation of the mode of action of the salts of potash in bronchial catarrh and similar inflammatory conditions. As I understand, recent pathology teaches that inflammation is attended by abnormal cell-activity—is, in fact, a condition of increased (abnormal) nutrition. Dr. Mettler has ably presented this view (Medical Register, 1888, p. 390). Now, in bronchitis, with over-active cell-function, what would seem called for, is not an additional irritant (stimulant), but rather a repressant of protoplasmic activity.

"The salts of potash are spoken of by Ringer, Brunton and Bartholow as 'protoplasmic poisons.' What I ask myself, is, How can a protoplasmic poison act as a stimulant to cell protoplasm in the process of elimination? And, would not the explanation be preferable, that here the undue nuclear cell-activity was checked and hindered by the elimination of the protoplasmic poison—rather than that the sluggish and stagnant cells were being irritated and stimulated by these agents?"

A postscript is added to the letter, as follows: "I take it for granted that you really claim that the 'cellular therapist' should know how disease modifies cell-activity, and 'the effect of therapeutic agents upon the protoplasm of the cells,' because you say, 'our future triumphs' * * * depend upon this knowledge (p. 102); and again, because (p. 103) you are only prevented from entering upon an elucidation of 'the influence of the drug upon the protoplasm of the cerebral cells by want of space. But how can we know this? Even our leading drugs are yet but imperfectly known. For example, potassium iodide, long considered as a sedative and depressant, is now claimed by Dr. Germain Sée as really a cardiac tonic, almost equal to digitalis.'

"If you mean that owing to the small dose and absence of disturbance in the organism, one may infer that a curative action has been exerted upon or through cell-activity, but this would not come up to your standard as above."

It will be sufficient for the present to consider the questions connected with the employment of potassium iodide, since the different salts vary in their action upon the organism, and I have already referred incidentally to the peculiar properties of potassium chlorate and potassium bichromate. This question must be considered in the light of the definition given, viz.: Cellular-therapy is the name applied to the method in therapeutics of exhibiting properly selected medicaments with a view to restoration of cell-function, and is in line with the conservative processes of Nature as evidenced by clinical facts observed in the treatment of diseased conditions. (American Therapist, Dec., 1892, p. 137).

When this salt (potassium iodide) is taken into the system, certain chemical changes are supposed to take place; the potassium combines with inorganic substances—chlorides, sulphates, carbonates and phosphates, as shown by analysis of the blood, and besides, being an alkali, it may have some influence in assisting to maintain the normal alkalinity of the pro-
toplasms. According to Bartholow (Materia Medica and Therapeutics, 6th ed., 1888, p. 243): "The base is changed in the blood, and the iodides of ammonium and potassium become iodide of sodium. In the blood they probably undergo no further change, and do not, so far as is known, modify the composition of that fluid. At the points of elimination from the free mucous surfaces (nasal, faucial and bronchial mucous membrane), the chemical changes which ensue set free ozone, and the irritation there experienced is probably in part due to the iodine, separated from its combination by the action of that agent (Bucheim). Elimination doubtless takes place by the broncho-pulmonary, faucial and salivary glands, but chiefly by the kidneys. The diffusion of the iodides into and out of the blood takes place with such rapidity that in fifteen minutes they may be detected in the saliva and in the urine." Again (loc. cit., p. 204, under the head of Alkalies), Bartholow remarks: "The effect of potash on the tension of the vessels—on the blood-pressure—is much influenced by the quantity and mode of administration. A large quantity by intra-venous injection quickly poisons the heart and lowers the pressure in the arterial system. On the other hand, small doses increase the tension (Hummel, Traube). As elimination takes place very rapidly, it is not surprising that the normal pressure is quickly restored. This difference in the result, due to the size of the dose, is largely responsible for the conflicting statements which have been put forward."

Now, while the foregoing statements will be readily admitted as facts, and will suffice for an explanation in regard to the great value of potassium iodide as a cardiac tonic, they do not, in my opinion, quite come up to the demands of scientific requirements, as I conceive it, from the standpoint of cellular-therapy. A number of questions present themselves, but I do not think anything would be gained by answering them categorically, since they may be touched upon in a general way with sufficient fulness to enable the reader to comprehend the modus operandi by which therapeutic effects are obtained on the basis suggested. For example, the iodides being inorganic substances and foreign to the economy, are eliminated in the manner indicated just as other inorganic substances escape from the body. From the blood they pass to the intercellular fluid, which constantly bathes the protoplastic cells, hence we may reasonably assume that they exercise some influence at least upon these bodies. Doubtless the liberation of ozone is one of the effects of contact, since I have already shown that these cells not only possess the capacity of storing oxygen in limited quantity, but they also have the power to generate ozone, and there is apparently no more natural conclusion than that when these protoplastic cells are irritated (stimulated) by medicinal substances, the effect is to cause greater activity; as a consequence, ozone is generated for the purpose of enabling them to discharge waste products, whereby katabolic action is increased and the normal alkalinity of the cells restored, when the reconstructive processes go forward as usual. Disease is, to a large extent, an arrest or suspension of the activity of the cells, which is attended with the accumulation of carbonic acid and katabolic products; when, by the absorption of oxygen and discharge of waste products, the alkalinity of the protoplasm is regained, the anabolic or reconstructive processes begin, and thus the phenomena of internal respiration is explained. The application of this principle to the cells concerned in elimination, for instance, the epithelial cells of the bronchial, faucial, or nasal mucous membranes, the cells of the malphigian tufts or convoluted tubules of the kidney, or the hepatic cells, will probably be more readily understood than when applied to the protoplastic cells as a whole, although there is practically no difference.

I have purposely presented the above
illustration in the belief that it would be best calculated to elucidate the true principles underlying the scientific applications of drugs, because we must bear in mind that the administration of any particular remedy or combination of remedies for the relief of a certain disease does not constitute scientific medication, unless we are in a position to explain how and why these medicaments act upon the system as a whole, or upon the part affected.

As a further illustration of the practical adaptation of the principles for which I contend, let us consider briefly some of the therapeutic functions of potassium iodide. This remedy is recommended for the relief of humid asthma, and in properly selected cases, good effects are observed from its administration; but these beneficial effects are not due, as is frequently assumed, to any specific influence of the drug upon this disease. They are due, however, to the action of the remedy upon the cell-activity throughout the entire system, whereby metabolism is improved, elimination being effected at other points, and the over-worked cells of the pulmonary structures relieved. And, it may be here remarked that it is for this reason that potassium iodide has become so popular as a cardiac tonic, notwithstanding the fact that it is a protoplasmic poison. Another question likely to come up in this connection is, Why does potassium iodide occasionally produce untoward effects, such as coryza, edema of the epiglottis and skin eruptions? Well, the truth is, that Nature sometimes adopts peculiar methods for ridding the system of impurities; at one time, constitutional disturbances will be relieved by profuse movements of the bowels; at another, the kidneys will be called upon to do extra duty for a time; and so it is with the skin, the pulmonary structures, or the nasal mucous membrane. The untoward effects of potassium iodide are merely incidental, and arise from the fact that elimination of waste products is assigned to certain structures to an extent that over-burdens them, and this furnishes the clue to the treatment of all inflammatory conditions.

The view that inflammation is attended by abnormal cell-activity is correct, but it does not follow that this may be translated into "increased nutrition," since we know very well that inflammation is always characterized by impairment of nutrition; inflammation simply means that the cells are over-worked, but the fact of being over-worked must not be construed to mean that more work is accomplished. Potassium iodide is of service in sub-acute and chronic bronchial affections, not because it has any special action in this class of disorders, but because it favors elimination through other channels, and thus lessens the work thrown upon the pulmonary structures. Immense quantities of this salt can be taken with impunity after the system has been gradually saturated with it, and no manifestations of untoward effects appear, a fact that has recently been demonstrated by Prof. Richet and Dr. Hanriot, and the iodides are valuable in syphilis for the reasons here enumerated, which are sufficient to explain their value in angina pectoris (Brunton), referred to in our last number (p. 161).

At the earnest solicitation of numerous correspondents, this subject will be taken up again, but the present paper has already exceeded the limits assigned to it, and space forbids further discussion.

*PERISCOPE OF THERAPEUTICS.*

By J. Lindsay Porteous, M.D., F.R.C.S., Ed.

Quabain.

In the New York Medical Journal, of September 26th, 1891, I gave an account of this drug, which I had found most useful in the treatment of whooping cough. It is obtained by the crystallization from the watery extract of the roots of the Quabain, a plant nearly related to the Carissa schimperi. It was first introduced to the medical profession by Professor
Gley and Arnoud, of Paris, and subsequently used with much success by Dr. Percy Wilde, of London, and Dr. Gemmell, of Glasgow, Scotland. In the article in the New York Medical Journal, to which I have referred, I gave the results of the treatment of three typical cases varying from 15 months to 45 years of age, and during the past month I have treated seven additional cases with the most happy results. In each case improvement began within 24 hours, and a cure was effected in from seven days to three weeks. It is a very expensive drug and difficult to obtain, but I believe wholesale druggists now have it in stock.

Tetanus Anti-toxine in Tetanus.

Berger (Sem. Méd., November 30th, 1892), relates a cure of tetanus, where chloral was administered up to 24 grams (5 vi) a day without any relief. The injured member, a finger, was amputated, and on that day and the following days antitetanic serum was injected, according to the method of Tizzoni and Cattani. The amount used was 40 grams (5 x) representing 4 grams (5 i) of the dry extract (anti-toxine) daily. Amelioration followed, the tetanic attacks ceased, and the patient left the hospital in the course of a month, cured.

Ichthyol as an Antiseptic.

Latteux has tested bacteriologically the antiseptic power of ichthyol on the following micro-organisms; staphylococcus pyogenes aureus and pyogenes albus, streptococcus erysipelas and pyogenes streptococcus from a case of purulent pleurisy, bacillus typhosus, diplococcus pneumoniae, micrococcus gonorrhoea, and trichophyton tonsurans. Of these nine species of micro-organisms only one—the streptococcus pyogenes, resisted the action of a 3 to 4 per cent. solution of sulpho-ichthylolate of ammonia, and that micro-organism was destroyed by a solution of 6 to 7 per cent. The drug may be used in practice without any inconvenience, in a strength of 5 per cent. or even 10 per cent. and its employment ensures perfect antisepsis, where frequent washings out are necessary, such as in vaginal inflammation, where it is very useful; and patients prefer it to iodoform on account of freedom from smell. He further states that it is of use in diseases of the respiratory organs as an inhalation.

I have found it almost a specific in mosquito bites, equal parts of ichthyol and glycerin being used.

Treatment of Syphilitic Ulcers.

V. T. Svertchkoff treats inveterate or obstinate syphilitic ulcers as follows:—Thoroughly cleanse sore with a 2 per cent. solution of hydrogen dioxide, then dry with absorbent wool; then soak a piece of wool in a 1 or 2 per cent. mixture of carbolic acid and camphor. Change the dressing two or three times a day. In from three to five days the ulcer becomes cleaner, and studded all over with abundant succulent granulations. After this it should be dressed twice daily either with a 1 to 4 per cent. mixture of aristol and vaseline oil or with a mixture of dermatol and vaseline in equal parts, the layer being covered by a piece of mercurial plaster twice as large as the ulcer. Rapid cicatrization takes place, the lesion healing soundly, according to the size, in from 15 to 40 days from the commencement of the treatment. The same author states that campho-phenol mixture alone proved of great use in simple ulcers, suppurating wounds, soft chancre and chancreoid buboes.

Quinine Poisoning.

We do not often hear of poisoning by quinine, although we believe that where quinine is taken for a long time in unsuitable cases that it acts slowly as a poison. Grosskopf reports a case of a man suffering from malaria who took, against orders, 2.5 grams (gr. xxxvijss) of quinine in a single dose. An hour later he was unconscious, the face was very pale, the surface of the body cold, the pulse small and frequent, and the respiration shallow.
and quick. He was given two camphor and ether injections. In an hour consciousness returned, but he was blind. He then fell into a sleep lasting for eight or nine hours; when he woke up he still complained of his sight; this however rapidly got well and he went to his work on the next day. The strange fact of the case was that he never complained of deafness or noises in the ears. There was no return of malaria.

**Alumnol.**

M. Chotzen has investigated the therapeutic action of alumnum, a substance discovered by Filehne, of Breslau. It is an aluminum salt containing about 15 per cent. silver and 5 per cent. aluminium. It is a fine, white powder, very soluble in water, in glycerin, and in warm alcohol. It is insoluble in ether. As shown by Heinz and Liebrecht, it is harmless, odorless and an antiseptic astringent. M. Chotzen has used it in three hundred cases. He found it curative when applied pure to soft chancre and abscesses; mixed in the proportion of 10 to 20 per cent with inert powders in balanitis, erosions, moist eczemas, etc. He used from 2½ to 10 per cent. solution in alcohol in the treatment.

**Sodium Ethylate.**

We have had excellent results from this drug in the treatment of naevi. It is prepared by dissolving sodium in absolute alcohol. It is of a syrupy consistence and brown in color. It should be applied with a pointed glass rod for two or three successive days. A scab forms; after this is loose and easily removed, it is again applied.

**Arum Maculatum.**

The success of this herb has frequently been of great service in our hands in cases of obstinate neuralgia when other remedies had failed. We gave it in one-drachm doses three or four times daily. It had no bad effects, and a very few doses relieved the sufferer.

**Osmic Acid.**

We think the drug deserves a more extended trial than has been given to it. In several very intractable cases of sciatica a few drops of a 4 per cent. solution of osmic acid, administered hypodermatically, gave very happy results. In only one case we noticed the slightest tendency to inflammation at the seat of puncture.

**Salol in Gonorrhea.**

G. N. Grivtzoff of Sebastopol has found salol alone very useful in the treatment of gonorrhea when in the acute or subacute state. If the patient comes under observation within the first four days, it can be cured in ten to fourteen days. The dose he gives is 1.5 grams (gr. xxijss) in powder with a few drops of peppermint oil to improve the flavor. He also advocates the use of warm baths to accelerate the disappearance of dysuria and painful erections. In neglected cases salol in the shape of injections should be employed. His recipe for those injections is as follows:

R Salol. puri............. 10.0 grms.
Gummi Arabici ....... 5.0 "
Aqüe destil........... 2,000.0 "
M. et ft. emulsio.
Sig. To be injected into the urethra 3 or 4 times daily.
Yonkers, N. Y.

**Reports of Societies.**

ROYAL MEDICAL AND CHIRURGICAL SOCIETY (London).

**THE EFFECTS OF THE IODIDES ON ARTERIAL TENSION AND THE EXCRETION OF URATES.**

Dr. A. Haig refers to an article of his in vol. lxxi of the "Transactions" on drugs which diminish the excretion of urates. The list of substances which have this action has recently been greatly enlarged, and the author believes that the iodides must be added. He is also of opinion that the action of these substances on the solubility and excretion of urates will ex-
plain a large part of their value and utility in medicine and surgery, just as he has already shown to be the case with regard to opium and mercury, which act in the same way. He was at first misled by the results of his experiments with the iodides, and he was still further hindered by their affecting the process (Haycraft's) which he uses for the estimation of uric acid. These difficulties were, however, got over, and with greater knowledge and experience of the working of certain laws which govern the excretion of urates and of water, he now believes that it is possible to speak more decidedly as to the action of the iodides.

One of these laws is that first formulated by the author at the beginning of 1889 (British Med. Journ., vol. i, 291), "that, caeteris paribus, arterial tension varies with the uric acid that is circulating in the blood." Another is that from day to day and from hour to hour in physiological conditions, the urinary water varies inversely as the uric acid excreted along with it. Another is that in physiological conditions the excretion of urates in the urine varies inversely as the acidity of the urine. And another, that the amount of urate in the urine is, relatively to the urea, to a certain extent an index of the amount of urate passing through the blood. From these it follows that arterial tension varies with the amount of uric acid that is being excreted in the urine. But arterial tension means contracted arterioles, and contracted arterioles mean that water has difficulty in passing the kidneys, as is shown to be the case in the parallel action of digitalis and other drugs which contract the arterioles; and this is the reason why the urinary water varies inversely as the uric acid.

The diuretic action of iodides is well known, and the author shows four figures which demonstrate that at the time an iodide is causing diuresis it is also causing a diminished excretion of urate, and that the one thing is related to the other as cause and effect. The figures also show well the inverse relation of urates and water in excretion; also that under the influence of iodides the excretion of urate ceases for a time to bear its usual inverse relation to acidity. But the author points out that some twenty drugs, or rather groups of drugs, all diminish the excretion of uric acid in the urine, and at the time they do this they also produce relaxed arterioles, lowered arterial tension and diuresis. Iodides then can be classed along with these drugs, and as the latter can further be broken up into three groups according to the way in which they produce the diminished excretion of uric acid, it may be possible to say which of the groups the iodides most resemble in their mode of action.

He points out how this action of iodides on the solubility of urates, and thus on the contraction of the arterioles, enables one to explain all their most important effects in physiology and pathology, just as has already been done in respect of opium and mercury.

Lastly, he referred to his previous contributions on uric acid as a cause of high arterial tension, and suggests that there is no possible explanation of the parallel action of all these drugs but the one which he has given, namely, that urates cause the arterioles all over the body to contract, and raise arterial tension, while their absence from the blood-stream, however produced, produces a contrary effect. The action of iodides on arterial tension is thus completely explained by their influence on the solubility and excretion of urates.

Dr George Harley said that it was only by researches of this kind that they could hope to fathom the pathology of gout. Pathological anatomy had given place to pathological chemistry and that in its turn had given place to chemical pathology. These were widely different for while pathological chemistry merely analysed the excretions in disease, chemical pathology tried to follow the course and to elucidate the nature of the malady. He insisted upon the importance of uric acid in the production of the morbid phenomena of
gout, and he pointed out that this tendency to the over-production of uric acid was not peculiar to individuals but to families and even to districts. There were, indeed, districts in which uric acid calculi, etc., were common, and others in which they were virtually unknown. The theory that uric acid was an intermediate product in the oxidation of urea had had to be abandoned, as had also the theory that it was the product of a higher oxidation. Observations on the presence of uric acid and urea respectively in the urine of animals disproved this theory, and there remained much to be learned before they could hope to explain the anomalies which presented themselves in the study of this interesting and important subject.

Dr. Mirza Ali, of Teheran, speaking in French, said that gout in Persia only existed among the rich, the rich alone partaking of animal meat. Uric acid was only met with in the form of deposits in the joints and never in the form of calculi in the bladder or kidneys.

Sir William Roberts said he had followed up Dr. Haig’s researches ever since he had commenced working on this subject, and he suggested that too prolonged and exclusive an application to one subject was to be avoided as tending to diminish the investigator’s powers of original observation. He himself had worked at this subject for three years and already he had enough of it. He questioned the author’s assertion that the excretion of uric acid was conversely as the excretion of urinary water. He himself had found that urine after long fasting and after sleep, in which the water was at a minimum, was also deficient in uric acid. With respect to the solubility of uric acid he pointed out that uric acid as such did not and could not exist inside the body. In any case no single statement could apply to all its forms. A statement, for example, which might apply to the urates in the urine would not apply equally to the urates as seen in gouty deposits. Uric acid existed in the blood-serum in the form of quadru-

rates, but these were remarkable for their extreme solubility. Gouty deposits were composed of biurates and these, on the other hand, were remarkable for their insolubility, in fact nothing they could do seemed to affect their solubility in the slightest. That was a fact that could be ascertained experimentally in the laboratory. The addition of iodides to the blood-serum, at any rate in medicinal doses, did not seem to affect this salt, and the addition of alkalies was also without influence, indeed the addition of bicarbonate of soda had the effect of diminishing the solvent power of the serum. He did not think on the whole that uric acid had the disastrous influence attributed to it by the author, and so long as it could in any form be kept in solution he doubted whether it was capable of doing any harm. It was only when thrown out of solution that it became injurious. He doubted, moreover, if uric acid had the importance ascribed to it in the pathology of gout, and he suggested that if it were withdrawn altogether from their conception of gout that malady would still preserve its pathological entity.

Dr. Sansom said that long clinical experience had enabled him to confirm the curious effect of the iodides in bringing about a fall in blood pressure as exemplified in the treatment of sacculated aneurism and angina pectoris. In both the relief obtained seemed to be due to a relaxation of the constriction of the arterioles. He recalled that it was the writings of Dr. Churchill that had first called the attention of the profession to the remarkable properties of the iodides in the treatment of these conditions. He suspected, however, that the action of the iodides was due to their effect on the central nervous system rather than to their action in favoring the excretion of uric acid. The action of iodide of ethyl, for example, was far too rapid to admit of this explanation, though it also gave relief by diminishing the constriction of the arterioles. The author had said that high vascular tension meant constricted arterioles, and that constricted arterioles
meant difficulty in the passage of water through the kidneys. That did not express the exact situation for the constriction of the arterioles was after all only one factor in determining the facility or otherwise of the passage of water through the kidneys. The other factor was the strength of the left ventricle. If this were strong then the blood would be forced under high tension through the arterioles and filtration would be free. If, on the other hand, the heart was weak or if the resistance of the constricted arterioles was out of proportion to its strength then the pulse would be slow and the tension would be low. He pointed out that during the pyrexial stage of an attack of gout, when uric acid might be supposed to be in abundance in the blood, the pulse was often markedly dicrotous and of low, instead of high, tension. That seemed to disprove the author's contention that the presence of uric acid in the blood was per se a cause of high intra-arterial tension.

Dr. Haig in reply said that when the uric acid was retained in the body they got the manifestations of gout, and when it was excreted they got gravel or calculus. In using the term uric acid he did not mean to imply uric acid as such but uric acid in some such form as that described by Sir William Roberts. They could not argue on laboratory experiments in view of the results of clinical observation. The amount of the urinary excretion depended largely upon the quantity of water present in the blood. When the proportion was low then the quantity excreted was small. His experiments had led him to conclude that the benefit derived from certain remedies was due to their action in facilitating the excretion of the uric acid, and no laboratory experiments would convince him of the contrary. With regard to the action of iodide of ethyl he had not tried it, but with nitrite of amyl the maximum effect was produced in eight minutes, a period of time which was not incompatible with the suggestion of an action on the fluids of the body. He admitted the force of Dr. Sansom's remarks. He had omitted reference to the part played by the left ventricle in order to simplify his description. He hoped that some one would take the trouble to repeat his experiments.—The Medical Week, January 13, 1893.

Recent Medicaments.

Chloralose is a bitter, crystalline substance, produced by the action of anhydrous chloral on glucose; readily soluble in hot water, but sparingly so in cold water (6 parts in 1000). According to Prof. Ch. Richet and Dr. Hanriot, who have given the above name to this glycochloral, it produces toxic action in dogs when given in doses of sixty centigrams (gr. x) per kilogram of body weight, although in smaller dosage the action is markedly that of an hypnotic, more active than chloral itself. The authors named have administered it to the human subject, and have also taken it themselves, and find that from three to six grains is followed by a dreamless and refreshing sleep which was not attended by headache or nausea. In cases where morphine and chloral were not well borne, it is said chloralose gave excellent results.

Moussena Bark for Tapeworm.—M. Bouchet, (Lyon Méd., Nov. 20th, 1892), a pharmacist, recommends to the Society of Therapeutics the following formula: Fast in the evening; in the morning take three or four pearls of ether, and one hour later administer the following decoction:

Water .......................... 800 grams.
Bark of the pomegranate root 60 "
Moussena bark .................. 60 "

Reduce to a coarse powder, boil, strain, moisten the residue with a little water, and replace on the fire and evaporate to about a glassful. One hour after taking this there generally follows an abundant evacuation which contains the entire tenia.

Mercuric Soziodol. Dressings.—This preparation contains 38 per cent. of iodine and 31 per cent. of mercury. It may be employed in pomades, powder or emulsion.

Mercuric soziodol.................. 1 gram.
Lanolin...........................90 "
Olive oil........................10 "

Apply to wounds on gauze to retard
suppuration. The following mixture may be dusted over the parts.

Mercuric sozoidol .......... 1 gram.
Powdered talc ................ 99 "

In emulsion this remedy is of value in from 15 to 30 drop doses by injection every two or three days in the dressing of fistulae.

Mercuric sozoidol .......... 1 gram.
Glycerin ...................... 8 "
Gum arabic ................... 4 "
Distilled water ............... 88 "

The fistula is covered afterwards with a dressing of sozoidolized gauze and drainage carefully observed. These injections are less painful than those of iodoform emulsion.—Rev. Gén. de Clinique et de Therapeut., Nov. 30th, 1892.

Camphorated Oil in Tuberculosis.—Alexandre has contributed a study of this question to the Medical Society of Berlin. He has employed camphorated oil subcutaneously in pulmonary tuberculosis, laryngeal phthisis, and bronchiectasis. In the latter affection he employs the method of intra-tracheal injections. In laryngeal phthisis intra-laryngeal injections are made; and finally, in pulmonary tuberculosis hypodermatic injections of a solution of camphor in sterilized olive oil. Each injection consists of a gram of the camphorated oil, and this is repeated daily for four days. They are then stopped for a week and again renewed. Alexandre does not explain the therapeutic action of this medication; he states merely that it appears to modify the general nutrition and sustains the myocardium. The hypodermatic injection of camphorated oil has been long employed to combat cardiac collapse.—Rev. Gen. de Clinique et de Therapeut., Nov. 30th, 1892.

Cantharidate of Cocaine in Tuberculosis.—Under this name Dr. A. Hennig, Rev. Pharm., Nov. 10th, 1892, designates a mixture of cantharidate of soda with 1 to 100 hydrochlorate of cocaine. It is a white, inodorous, amorphous powder, with a sharp, biting taste, slightly soluble in cold water, easily soluble in hot water, and completely soluble in alcohol, ether and benzine. This preparation is employed in hypodermatic injections in tubercular laryngitis and chronic catarrhal affections of the upper respiratory passages. It presents the advantage over injections of the ordinary cantharidates of being absolutely painless. Hennig employs two solutions of 0.075 and 0.15 to 50 grams of chloroformized water. He gives two injections of the first solution and one of the second (= 0.0001 cantharidine). The dose of 0.0004 may be reached, since these stronger doses (even up to 0.001) are borne by the kidneys and bowels.

Alumnom as an Antiseptic in Surgery, Dermatology and Gynecology.—This new antiseptic, which appears in the form of a white, readily soluble powder, is especially of interest because of the manner in which it acts towards albumen. It at first precipitates this substance, and then on the addition of an excess of albumen redissolves it. This property facilitates the entrance of alumnom into the tissues. Its properties have been studied by Heinz, Liebrecht and Finker. Favorable results have been obtained from its use in surgery, gynecology, dermatology and otology. In surgery it has shown itself efficient in the treatment of purulent cavities (irrigations with a weak solution, and in fistula and abscesses (cauterization with a solution of 10 to 20 per cent.). Chronic and torpid ulcers, especially those of the leg, begin to become covered with granulations when they are treated with a 3 to 6 per cent. solution of alumnom. In gynecology good results are obtained with irrigations of alumnom in weak solution. It is almost a specific in the treatment of blenorrhagic endometritis; the bougies (2 to 5 per cent.), the gauze of alumnom (in solution of 10 to 20 per cent.), and the ointment cause the gonococcus to disappear rapidly from the uterine and vaginal secretions; irrigations with a solution of alumnom, 1 to 5 per cent.
are successful in the treatment of simple leucorrhea, and are efficacious even in the cases where alum has failed. In dermatology alumol may be employed in the form of a plaster, varnish, etc. It is of service in both acute and chronic skin affections. In these cases it is especially important that solutions of sufficient concentration be employed. Thus, in chronic affections, recourse must be had to solutions of 10 to 20 to 50 per cent.—(Nouveaux Remèdes, April, 1892).

Thiosinamin.
Thiosinamin, or allyl-sulpho-carbamide, occurs in the form of a crystalline body, obtained by heating together two parts of allyl, mustard oil, one part of absolute alcohol and seven parts of spirit of ammonia, and subsequent concentration by means of a water-bath. It has been used by Hebra (Monat. f. prakt. Dermatol., 1892, No. 7.) in the treatment of various cutaneous affections. The remedy is employed hypodermatically in the form of a 15 per cent. alcoholic solution, the dose ranging from five to thirty minims twice a week, the initial dose being small until toleration is established.

It is said that local reaction followed its use, and that lupus has shown amenability to its influence; a favorable effect was also noticeable upon cicatrices, and glandular enlargements, when not of syphilitic origin, were reduced in size. Corneal ulcerations also cleared up under its use, and the general condition of patients improved, manifested by better appetite and increase in weight. A special point to be noted is, that diuresis resulted, and this was particularly noticeable when evacuations existed, facts which point to its eliminative properties.

In this connection it may be worth while to note that allyl sulphide was brought to the attention of the profession several years ago as a remedy in the treatment of phthisis by Dr. James T. Whittaker, of Cincinnati, Ohio, but on account of the disagreeable odor exhaling from patients thus treated, he was obliged to discontinue it. In some of the cases, while the patients did not seriously object, those associated with them, in mills and factories, refused to work unless they discontinued treatment or were discharged.

Antispasmine
occurs in the form of a white powder, readily soluble in water, and contains approximately fifteen per cent. of pure narceine. It is said to be a true chemical combination of one molecule of sodium narceine and three of sodium salicylate, and preferable to other narceine preparations owing to its easy solubility.

Antispasmine was highly esteemed by the late Prof. Demme (Berne) as an analgesic and hypnotic, especially in spasmodic affections of children, because of its freedom from the untoward effects of other opium preparations. Its employment so far has been limited to the treatment of whooping cough and laryngismus striplus in children, and as an ingredient of cough mixtures for adults. The dose for children ranges from one-half to two-thirds grain and for adults from two to four grains, usually given in solution at intervals of four to six hours.

"Cerebrine"-Paul.
The "brain matter" employed by Constantine Paul in neurasthenia, locomotor ataxia and mental diseases, is prepared in the form of a ten per cent. glycerin extract as follows: "Half an ounce of grey matter is taken from the brain of a freshly killed sheep and finely divided. It is placed in three times its own weight of pure glycerin and allowed to macerate for twenty-four hours. An equal quantity of distilled water is then added, and the mixture passed through a d'Arsonval filter under very high pressure (50 atmospheres); in this way a clear, colorless fluid is obtained which contains no organized particles."

The initial dose is fifteen minims, introduced subcutaneously in the flanks or in the lower dorsal region, and this is increased by fifteen minims every second day until the limit is reached, seventy-five minims being considered the maximum. The latter dose is continued twice a week until twenty injections have been given.
THE AMERICAN THERAPIST.
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With Practical Suggestions Relating to the Clinical Applications of Drugs.

JOHN AULDE, M. D., - - - Editor.

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Editorial.

THERAPEUTICS OF EMULSIONS.

When physicians administer silver nitrate with mucilage of acacia for obstinate cases of chronic gastritis, bismuth in the same manner for sub-acute and chronic affections of the bowels, or even emulsions of cod-liver oil, they probably very seldom take into consideration the valuable therapeutic properties of the mucilage or the emulsifying agents, giving entire credit to the medicaments employed. From our studies of the physiologic action of the bile and pancreatic juice we are led to believe that both these substances enact the rôle of emulsifying agents, hence the conclusion is warranted that this action is one of Nature's procedures for preventing the absorption of poisonous products from the intestinal tract. When foreign bodies are swallowed by accident, the rule now is to advise a dry diet consisting largely of potatoes and bread, in place of the purgatives formerly advocated. Potatoes and bread contain a large amount of refuse material which is eliminated by the bowel, and are given in the belief that they will cause a more or less constant distension, thereby permitting the passage of coins, nails, tops, staples, jack-stones, marbles, etc. The results have been eminently satisfactory, the contribution of Dr. James Collins, of Philadelphia, in our last number being sufficient evidence of the efficacy of the treatment.

In another department of this number will be found a report from Dr. W. T. Kend- all of similar cases treated successfully by means of mucilage alone, the foreign bodies all being passed completely coated with the mucilage.

Now, what explanation can be given for these beneficial effects from the use of so simple a remedy as mucilage? Simply this: That it (the mucilage) takes up and holds in suspension various poisonous particles resulting from imperfect digestion, and probably also the micro-organisms themselves, just the same as it holds in suspension the medicines combined with it.

This explanation not only suffices to account for the good effects following the use of silver nitrate and bismuth when combined with mucilage, but it also sheds additional light upon the therapy of cod-liver oil and petroleum when given in the form of emulsion; but questions come up here that require more space than can be given in a brief editorial, and a full discussion must be deferred for the present.

Cod-liver oil may frequently be exhibited with benefit towards the close of a protracted illness, but this is not always the case. Patients will sometimes take the crude oil when they are unable to tolerate a refined product, or even when an emulsion disagrees, because the crude oil contains a sufficient quantity of the biliary salts to insure perfect digestion. While it is true that in such instances, an emulsion would appear to be preferable owing to its being in a condition which renders it readily assimilable, this very fact may prove a serious drawback, since its absorption has the effect of exhausting the oxygenating capacity. This effect will be marked by shortness of breath, looseness of the bowels with inability to take solid food, derangements of the renal
function and other evidences of sub-oxidation; hence it becomes necessary to exercise caution in the administration of cod-liver oil. In its finely divided state it reaches the pulmonary structures where oxidation takes place, heat and energy being produced, although a considerable portion escapes this action to be deposited throughout the tissues. But even then, with the benefits attending the local action of the emulsionizing agents in the intestinal tract, harm may follow its too liberal use by interfering with the phenomena of internal respiration. So it happens that emulsions containing but a small percentage of the oil are occasionally more effective than others carrying a larger quantity, because the emulsionizing agents constitute an important factor in preventing absorption of poisonous products from the alimentary tract, and the oil itself is not given in sufficient quantity to interfere with the normal metabolic processes.

"TRUE ISOPATHY."

Whether the cannibalistic propensity is inherent in human nature, we are unable to say, but the recent advocacy of certain peculiar methods of treatment in the line of biological therapeutics is sufficient to recall the vagaries entertained in times gone by. Isopathy originated about the dawn of history, as we are informed that it met with favor at the hands of Nicander, Xenocrates, Galen, Serapion, Paulus, Aegineta, Dioscorides, and even Paracelsus is supposed to have advocated the practice. The English speaking people are naturally opposed to it when carried to extreme limits, since comparatively few evangelists are willing to sacrifice themselves by becoming "cold missionary" for the advancement and edification of the heathen.

Precisely the same doctrine that is now advanced by scientists was promulgated just sixty years ago by Herr Lux, a veterinary surgeon of Leipzig, namely: "All infectious matters the remedies capable of curing themselves." Isopathy, briefly stated, teaches that any disease will be cured by its own morbid products; and its followers adopted the motto, "Equalia equalibus," to distinguish their practice from homeopathy (Similia similibus) on the one hand, and allopathy (Contraria contrariis) on the other. Until within recent years, however, with the exception of vaccination, isopathy, as such, has not taken firm root in medical soil, as the employment of ox-gall, pepsin and pancreatin can scarcely be regarded as coming strictly within the meaning of the term.

Tracing the delusions to which this fancy led would be unprofitable; but some of the numerous remedies introduced may be mentioned, such as morbilline, scarlatine, varioline, syphiline, sycosine, psorine, anthracine, hydrophobine, etc., from which it will be learned that the practice, though crude in the extreme, was conducted in lines running parallel with the operations of Koch, Pasteur, Sternberg and others. There is this difference, however, the latter-named investigators have not only discovered the materies morbi, but they have also demonstrated the presence of the curative agent associated with disease, another evidence of the triumph of science over mere empiricism.

True isopathy is altogether different from the isopathy above described, inasmuch as it consists in the administration of the organs of healthy animals for the relief of disease affecting the same organ in the human subject. This method, which is an imitation of the ancient doctrine of signatures, and might with propriety be called "Organopathy," has recently been rescued from oblivion by Dr. W. A. Hammond, of Washington, D.C., (New York Medical Journal, January 28, 1893); an abstract of his paper appears elsewhere in this number. Dr. Hammond says: "I am quite sure that the system I am about to bring to the notice of the profession is not only well
founded in fact, but is in accordance with physiological law, and that we have in it philosophical means of combating disease, of which I can only lay some part of the foundation, but which, through the accumulation of material by other observers, will eventuate in the erection of a permanent and worthy therapeutic structure.” It should be stated that Dr. Hammont was anticipated in his discovery about forty-five years by Surgeon Herrmann, who, in 1848, published a book of 160 pages, entitled, “True Isopathy; or, on the Employment of Organs of healthy Animals as Remedies in Diseases of the same Organs in the Human Subject.” So far Dr. Hammont has limited his report to the effects observed from the exhibition of the extracts obtained from the brain (cerebrine) and that obtained from the heart (cardine), but Herrmann enjoyed the distinction of having produced an entire system. “Hepatine,” a tincture prepared from the liver of the fox or dog, was employed against the various liver diseases and for hydrophobia, but in this latter recommendation, Herrmann was several centuries behind Dioscorides and Xenocrates. “Lienine,” a tincture prepared from the dog’s spleen was used in the case of enlargement of the spleen; “renine,” a tincture prepared from a healthy kidney, afforded relief from spasmodic retention of urine; “pulmonine” took the place of other remedies in pneumonia, and was also recommended in hemoptysis; and “dentine” was employed against toothache.

Of course, this ground has been pretty thoroughly worked over and the straw well threshed, but it is astonishing to what extremes these notions were carried. It is related of a certain enthusiastic German, that he carried constantly with him a pocket-case, containing a most elaborate assortment of remedies, and among the number, “loníru,” a thunderbolt, which he was wont to use with infinite satisfaction against accidents, violent blows, or confusions, on the ground that a thunderbolt was about the strongest blow that a man could receive. At any rate, we shall watch with interest the progress of organopathy in modern times, and bespeak for it a careful consideration on the part of the profession.

**ORGANOPATHY.**

The method of treating disease by administering to the patient an extract or tincture of the organ of a healthy animal corresponding to the organ affected, while novel, is by no means new, as the plan has been in vogue, though in somewhat crude form, from the earliest times. As elsewhere stated, a complete system was promulgated by Herrmann about thirty-five years ago; and recent methods present no special features, except that the followers of the method take advantage of the knowledge we have gained in respect to antisepsis. The present article is intended to bring to the attention of readers some of the results of recent investigations which have a direct bearing upon the subject, which may assist in demonstrating the true physiological basis of such medication.

By way of comment, as indicating the favorable reception accorded to “organopathy,” as we have termed it, may be mentioned the fact that it has been extensively employed by Constantin Paul (The Medical Week, January 27, 1893), of the Charité Hospital (Paris) during the past year in the treatment of neurasthenia and locomotor ataxia. Within this period, fifty patients were treated with this substance, viz.: 23 cases of simple neurasthenia, 3 cases of neurasthenia associated with chlorosis and 24 cases of locomotor ataxia, with somewhat variable results. Benefits followed in 12 of the ataxic patients, in 3 of simple neurasthenia, in one of neurasthenia with chlorosis; in 5 cases of tabes and 4 of neurasthenia, no change was perceptible, and 14 cases were thrown out owing to irregularity in attendance. Out of 36 cases, therefore, but 16 were benefited. Previous to July, 1892, Paul
had similar results in the case of 54 patients treated in the same manner, although in all instances the first effect was favorable, producing a feeling of comfort and well-being with increased strength.

Organopathy has also been studied in mental diseases by Dr. A. Cullerre (loc. cit.), superintendent of the lunatic asylum at La Rochesur-Yon. The number of patients placed under treatment was 4; in 8, the results were satisfactory, moderately good in 4, but nil in the remaining two.

Some of the most pertinent questions which present themselves are the following: What is the most probable explanation of these therapeutic results? Is it reasonable to assume that "dead" matter, rendered thoroughly aseptic and introduced into the circulation without passing through the hepatic circle, contains valuable nutrient properties? Do these and like substances possess the requisite constituents, from a chemical or physiological standpoint, to warrant us in classing them as a food-product in the strict sense of the term? In other words, is there any likelihood that the liquid extracts obtained from the protoplasmic cells contain any proximate principles which become available in rejuvenating disorganized cells, anything which possesses specific properties?

An affirmative reply to the latter query would imply a self-regulating mechanism on the part of life that is incredible, as a reciprocal action would result from illness of every description sufficient to check it immediately; health would be infectious instead of disease. That reciprocal relations exist which are conservative, cannot be denied, but the evidence is overwhelming that disease is always attended by retrograde changes; hence, this theory must be set aside. It must not be inferred, however, from this negative admission that these extracts do not contain some substance, possibly in the form of a ferment, which exercises a favorable influence upon the organism. Thus, under favorable conditions, the bacillus pyocyaneus (bacillus of blue pus) will check the action of yeast (Charrin et d'Arsonval, loc. cit.) both of these substances being organized ferments; but this discovery gives us merely a faint glimpse of the normal antagonisms which are present in health as well as in disease. For example, it has been known for some time that the secretions of this bacillus exerted an influence upon the vaso-motor system (Bouchard), and it is claimed that this discovery was one of the factors which led to the therapeutic use of the soluble products of the organism. These toxines raise arterial pressure, and at the same time, they cause a corresponding elevation of the temperature; and this rise in temperature and arterial tension is modified by various circumstances. When the dose is large, the rise is greater than when a small dose is employed.

Another important link in this chain of physio-pathological investigation is the fact discovered by Prof. R. Lépine (loc. cit.), of the formation of sugar from peptone by the blood and organs of the body. The claim is put forward that, contrary to the general belief, the production of sugar takes place in many organs besides the liver—confirmed by the fermentation and phenyl-hydrazine test. Prof. Lépine says: "It is evident, therefore, that the watery (or glycerin) extract of certain organs contains a ferment which may be termed the peplo-sugar-forming ferment." We are therefore compelled to withhold a definite opinion as to the ultimate results of studies in organopathy, since its therapeutic basis must be determined from purely scientific investigation; clinical observation should be regarded as complementary to this work.

THE HYDROGEN DIOXIDE CONTROVERSY.

An acid controversy in regard to the availability of hydrogen dioxide (commonly called peroxide of hydrogen), has arisen between a prominent New York physician and a manufacturer of this
product, which seems to call for brief comment, since the writer has been using it continuously for the past seven years. His first published paper appeared Sept. 1, 1888 (Philadelphia Medical Times), and his conclusions, therefore, may be accepted as representing the results of clinical observation during that period.

Hydrogen dioxide is relatively, but not absolutely, harmless, pointed out as long ago as 1862, by Dr. Benjamin Ward Richardson. Like mercury, it will cause the teeth to become loose, and that the writer has witnessed in the case of a patient who deemed himself capable of self-medication; but a freshly prepared product, free from an excess of acid and other impurities, properly used, is absolutely harmless. In suitable strength—a part to 6 to 10 of the fifteen volume solution—it is a useful and efficient remedy in diphtheria, that is, a solution conforming to the above requirements. Not being a stable article, a solution which is reliable to-day, may be worthless, irritating, or even poisonous to-morrow. Any solution when combined with a comparatively pure glycerin and allowed to stand, will produce an irritant action similar to formic acid, but this is not due to the faulty character of the dioxide; it is owing to the chemical changes resulting from oxidation.

In the treatment of nasal catarrh occurring in debilitated subjects, where the tissues are relaxed and "juicy," a weak solution causes burning and smarting, although it removes every vestige of accumulated mucus. To overcome this, it is advisable to employ a petroleum spray, plain or suitably medicated, or, in the absence of an atomizer, a colorless petroleum ointment may be substituted.

In diphtheria the same course is pursued, but we must bear in mind that while diphtheria is at first a local affection, poisonous products are rapidly absorbed from the seat of disease, so that in the course of a few hours, it presents all the symptoms of constitutional infec-

tion. Internal medication is imperatively demanded to counteract the toxic action of the pathogenic micro-organism associated with the disease, over which local treatment has no influence whatever.

Knowing the exceedingly vascular character of the nasal mucous structures and the large amount of moisture eliminated by them, we do not have far to go for an explanation of the bad effects following the use of hydrogen dioxide. The fault rests entirely with internal medication, because thorough cleansing of the diseased area only opens the sluice-way for increased elimination of poisons, and we have a clinical paradox. The efficacy of the remedy is its only disadvantage.

EDITORIAL NOTES.

Dr. Roberts Bartholow.—The announcement that Dr. Bartholow has recovered his health and strength and resumed active practice, will be received with no small degree of pleasure by thousands of physicians throughout the country. The impression which this distinguished author has made upon medical literature in every land is such that in making an estimate of the factors affecting its progress, he "cannot be skipped." In a personal communication to the Editor, he speaks in high terms of praise of the appearance and character of the American Therapist, and writes that it will afford him pleasure to contribute a paper on some topic connected with that great work to which it is devoted, and our readers may, therefore, anticipate a rare treat in the near future.

Milwaukee Meeting of the American Medical Association.—The annual meeting of this organization will be held in Milwaukee, Wis., commencing Tuesday, June 6, 1893, and indications point to a large attendance. Important scientific contributions will be presented in the different Sections, and a portion of the General Session will be devoted to a discussion of the report of the committee on the "Code"
question. Doubtless, a large number of the delegates from the eastern section of the country would be glad to avail themselves of this opportunity to spend a week or ten days at the Columbian Exposition, and to that end the Editor begs to announce that preliminary arrangements have been effected by which this object can be accomplished. One of the large railroad corporations has offered to place at the disposal of delegates and their families and friends a special train, if necessary, to accommodate all wishing to attend. Details of the proposed trip will be given in a later issue, and in the meantime, physicians living in proximity to New York, Philadelphia, Baltimore and Washington will have ample time to decide upon the itinerary.

Selection.

FOREIGN BODIES IN LARYNX AND STOMACH:—THE MUCILAGE TREATMENT.

By W. T. Kendall, M.D.

(From the Mississippi Medical Monthly.)

CASE I. A young man while running through a field struck a dry cockle-burr stalk. One burr flew in his mouth and in deep inspiration lodged in the larynx. I was called to see him at once. Arrived at patient’s house late at night. Did not have a pair of laryngeal forceps with me at that time, and I could not reach it with a pair of ordinary forceps; hence tried to make an instrument out of a piece of white oak split. Could not reach the burr; impossible to dislodge it with the means at hand. The patient was breathing very well, concluded to wait until morning. After a good night’s rest, the patient experienced very little inconvenience from the burr. One more effort to dislodge it with my improvised instrument. Concluded to resort to other means, hence gave slippery-elm mucilage in moderate quantities during the day, and as I expected or hoped, the meshes of the burr filled so completely in a few days that it dislodged the burr, and the patient in a fit of coughing spat it out. He never experienced any further trouble.

CASE II. Bessie C., ten months old. While crawling on the floor she found a large round-headed tack and swallowed it. I saw the little patient a short time after. Could not find the tack, as it had passed from view, having examined with the laryngoscope. Concluded to try the mucilage treatment, hence ordered a teaspoonful of mucilage of acacia given to the child every two or three hours. In about thirty hours the tack passed out with the feces, completely covered with mucilage. No further trouble.

CASE III. Lottie M., age two years. While playing with a breast-pin (such as children frequently wear, about two inches long, worked on it “My Baby,”) she put it in her mouth and accidentally swallowed it. Her father lived some distance in the country. He came for me; I ordered the mucilage treatment. In about 36 or 40 hours the pin made its appearance surrounded with the mucilage. No further trouble.

CASE IV. At the East Miss. Insane Asylum, about three years since, a child of Mr. Burbets, the baker of the institution, three months old, was lying on the floor on its back. Its little brother came into the room with a large screw three inches long, put it in baby’s mouth and pushed it down its throat. The mother saw the act when it was too late to prevent it. She at once sent for Dr. Johnson, assistant surgeon of the institution. He at once telephoned for me to come and bring forceps to extricate it, but on my arrival it could not be found. Dr. J. suggested that we give patient a large dose of castor oil, to which I kindly objected, upon its producing too great of peristaltic movement, and there would be danger of perforation of the bowel in its passage. Suggested the mucilage acacia treatment with happy results, as the enormous screw passed out in 36 hours, surrounded by its safeguard, the mucilage.

I merely write about this simple treatment of foreign bodies in the stomach in order to show how easy it is to rid the system of them by simple medication instead of major surgical operations. The foreign body is a nucleus around which the mucilage readily accumulates, hence prevents any danger to the intestinal tract.

Meridian, Miss.
Current Literature.

Acute Meningitis.—Is there any remedy for this most fatal malady? Can anything be done to stay the hand of this death-dealing disease? If we turn to our modern text-books for an answer, we are deeply disappointed to find not a single remedy recommended that can be given with any assurance of success. Yet surely something ought to be done. To see a child, previously healthy and strong, suddenly stricken with a disease that must shortly destroy it, if there be no means of relief, is indeed a sad and serious thing. It certainly ought not to be allowed to go on without a strong effort being made to arrest it.

Fortunately there is a remedy which, if rightly used, will in the large majority of cases prove successful. I refer to venesection. Its use in the treatment of inflammation goes back to the dawn of medical history. From the earliest times it has been successfully employed in the management of this class of affections. Though at times temporarily thrown into disuse by gross abuse, its inherent value has kept it prominently in the foreground as a most potent means of treating this class of diseases. If we will but bear in mind the pathology of inflammations—a brief account of which I have endeavored to present to you—we can readily perceive the rationale of the remedy. In the first stage there is always congestion. Now there may perhaps be a congestion without inflammation; it is hard to conceive of an inflammation without congestion. The relation which they bear to each other is not definitely determined. It is probable that hyperaemia is merely a factor in the phenomenon of inflammation, and not its cause. Nevertheless, it is a most important factor, and the process cannot go on actively without it. Blood-letting blanches the congested tissues, relieves the pressure in the vessels and thus blocks the progress of the disease. No other remedy can do this so efficiently and with as little depressing effects as does this one.

The question at once comes to your minds, “Why is it that a remedy so long known and so often brought to the notice of the profession should not have received a more unanimous approval?” If the evidence of its value be so convincing to the few who have made use of it, why should not their testimony induce the many to at least give it a fair trial? Well, the majority of physicians are timid people. At least they are afraid of public opinion in general and their own patrons in particular. They do not like to incur the displeasure of the community in which they practice. Blood-letting seems to laymen a heroic measure and so they prefer to have “other things tried first.” It does not appear to alter their opinion to know that after those “other things” have failed there is little use in trying anything else.

There is another reason why venesection has not been more generally adopted in the treatment of this class of affections; it is because most doctors follow the advice of a few men who have enjoyed the reputation of being leaders in the profession. These leading lights do not advise blood-letting; it is true they have nothing else which they can offer with any assurance that it will be successful—still they do not recommend venesection. And “better,” says the average doctor, “better to lose more patients while pursuing the practice of teachers than to risk losing a few while using an unsound plan of treatment.” For in the first instance they can always assure the friends of the unfortunate that they have followed the practice of the most eminent men in the country, and hence nothing more could have been done. The measure of value of a remedy is not by whom and by what class of men it is used, but what is the success which follows its use.

Until some other and better means shall be brought forth, venesection must stand as the most reliable and the most successful treatment of meningitis and all other
inflammatory affections. When and how shall it be performed? It is manifestly the duty of the doctor to do it at his first visit if the presence of meningitis seems reasonably probable. It is certainly far better to bleed a patient unnecessarily than to omit doing so when there is urgent need of it. How much blood may be taken? That of course will depend upon the age and condition of the patient. The amount must always be sufficient to stop the engorgement of blood in the affected part. A child of four years can readily lose five or six ounces; more is sometimes demanded, less is often sufficient. In every case if, after a lapse of thirty-six or forty-eight hours, there is no improvement, or the symptoms seem more pronounced, the operation should be repeated; or else local blood-letting by means of leeches or cups should be resorted to. The value of local abstraction of blood depends entirely upon the amount of blood taken. It is of course equivalent to venesection when a like quantity has been obtained, though this is generally difficult to accomplish.

Second in importance only to blood-letting, in the treatment of meningitis, is the application of cold water to the head by means of cloths wrung out of ice-water. When changed frequently and constantly applied they are, I think, greatly superior to ice-bags, and a most valuable aid to venesection in the management of this affection. When ice-bags are used, two at least are necessary, and a sufficient quantity of water should cover the ice, so that the cold may be more evenly distributed. One of the bags may be placed under the head and the other over the superior part.

Of medicines little need be said. Their value in controlling inflammation is more than doubtful. Theoretically they do so, but practical proof of their efficiency is wanting. To attempt to accomplish this result by the use of large doses of dangerous, depressing drugs, is surely a hazardous undertaking. The one indication for giving medicines is the relief of suffering.

Headache, pains in the head, restlessness, etc., are best relieved by the bromides and small doses of morphia.


Intra-thoracic Auscultation.—A most valuable adjunct in the diagnosis of intra-thoracic diseases is announced by Dr. Benjamin Ward Richardson, of London, editor of the Asclepiad, and one of the foremost physicians of the age. While using an esophageal tube with a view to determine the presence of malignant disease of the esophagus, he conceived the idea of applying to the exposed end of the tube an ordinary binaural stethoscope, thinking that he would thus be able to study the condition of the structures over which it passed by the sense of hearing as well as that of touch. In this he was not disappointed, and through the longitudinal openings in the side he was made aware of the physio-chemical changes taking place in the stomach as soon as the tube entered that viscus. It was found, also, that the method afforded excellent opportunities for studying the heart sounds, although he was unable to obtain any definite information concerning the condition of the pulmonary structures. Dr. Richardson is of the opinion that the proposed plan promises to open up a new channel for investigation and study of intra-thoracic affections, and looks forward to the time when, with improvements in the requisite appliances, intra-thoracic auscultation will become an efficient auxiliary to the usual methods employed in physical diagnosis.

In view of the valuable knowledge to be obtained by the process above described, inventors will be stimulated to produce instruments specially adapted to the purpose, and the writer suggests as the most feasible plan, the use of a sensitive diaphragm which will not be affected by either liquids or moisture, on the principle of the phonograph with microphone attachment.
Importance of Vibration to Cell-Life.—

Shaking is in the last effect nothing but vibration. Vibration, we may assume further, produces a fine motion of the minutest particles in the bodies of the minute organisms. In other words, vibration produces a molecular motion in the bodies of the micro-organisms. This assumption is the more admissible as we know that shaking produces heat, and that heat is nothing but molecular motion. But as we have established the fact that the mechanical effect of shaking is not identical with the production of heat, it follows that the fine motion of minute particles, brought about by vibration, must differ from the molecular motion produced by heat. Therefore I suggest that the minute particles to which the vibration is transmitted are not the physical units, the chemical molecules, but they are the physiological units, which I should like to term with Foster somacules; these elementary particles may be identical either with Naegeli's well-known "micells" or with Wisner's "plasams." I accept the view of Nägeli that each of these elementary particles is surrounded by a layer of fluid, which is the carrier of the metabolic products.

Thus I think that the vibration of the elementary particles influences favorably the metabolic process. Violent shaking, on the other hand, causes a looseness between the elementary particles, or a complete disunion.

The object of my experimental investigations has been the ascertaining of a biological truth, without any consideration whether the results will have any direct bearing on the science or practice of medicine. And though, with the far-reaching view I entertain of the importance of vibration to life, there might be a well-founded expectation that many functions and states of normal and pathological life could be brought in close relations to the effects of vibration, I withstand this temptation for the present. Hasty practical utilizations of newly-recognized scientific facts prove nearly always to be a failure. The history of medical science is full of such discouraging instances. Remember tuberculinum Kochii! But I cannot restrain myself from referring to the prominence which was quite recently given to the effect of vibration in the most practical department of medicine—in therapeutics—and by no less a man than Charcot!

In a remarkable article, entitled La médecine vibratoire, Charcot communicated last August his very favorable therapeutic results which he obtained by treating different nervous troubles—like paralysis agitans, neuralgia, neurasthenia, etc.—with rapid and continued vibrations. The vibrations produce a soothing effect. It seems that this communication has awakened wide attention. According to Charcot, the first attempt to treat nervous affections by vibrations was made by Vigouroux in 1878, and was followed by Baudet, Mortimer Granville, and others. It was in the year 1878 that Horvath published his experiments on the influence of motion upon life; and, as a year before Horvath made a preliminary communication of his subject in the Société de biologie, where it aroused a good deal of attention, we could be apt to think that just this communication has been the primum mobile for Vigouroux's attempt to utilize vibrations as a new therapeutic agent. It seems to me, however, that it would be more proper not to consider the "médecine vibratoire" as a new and separate mode of treatment, but rather to classify it as a part of mechano-therapeutics. And there we find that the well-known Dr. Zander attempted, long before Vigouroux, to treat nervous troubles like neuralgia by vibrations.

On the subject of the position of vibrations within mechano-therapeutics, I would refer to an interesting article of Buchheim's, which appeared some time before Charcot's communication. The interest of Charcot himself in the effects of vibration was awakened, according to his statement, by the common observation that
the pains accompanying paralysis agitans were favorably influenced by prolonged driving in a carriage with much shaking. It is historically interesting to note that one of the primary causes for Horvath's experiment was the similar observation that a prolonged transportation of eggs rendered them sterile. The same observation caused Dareste to study the influence of shaking of hatching eggs upon the production of malformations.

All these facts remind us of some pathological states, like railway spine, commotio cerebri, shock, etc.—all of which could be considered as resulting from a violent shaking up of nerve cells, without any visible anatomical lesions. Accordingly, we would have on the one hand the favorable soothing influences of moderate vibrations, and on the other hand the detrimental influence of violent shaking upon nerve cells, a contrast which then well corresponds with the results of my experiments on micro-organisms. Again, our experience with the asphyxiated micro-organisms—rigor vibrationis (ϕ)—may lead us to believe that many of the violently shaken up nerve cells are not destroyed, but only "shocked," and that the remedy for their recovery would be, as in my case, rest and good nutrition.

S. J. Meltzer, M.D.

Organic Extracts.—** Organic beings possess the power of assimilating from the nutritious matters they absorb the peculiar pabulum which each organ of the body demands for its development and sustenance. The brain, for instance, selects that part which it requires, the heart the material necessary for its growth and preservation, and so on with the liver, the lungs, the muscles, and the various other organs of the body. No mistake is ever committed. The brain never takes liver nutriment, nor the liver brain nutriment; but each selects that which it requires. There are, however, diseased conditions of the various organs in which this power is lost or impaired, and, as a consequence, disturbance of function, or even death itself, is the result.

Now, if we can obtain the peculiar matter that an organ of the body requires and inject it directly into the blood, we do away with the performance of many vital processes which are accomplished only by the expenditure of a large amount of vital force.

Let us suppose a person suffering from an exhausted brain, the result of excessive brain-work. Three hearty meals are eaten every day, but, no matter how judiciously the food may be arranged, the condition continues. Now, if we inject into that person's blood a concentrated extract of the brain of a healthy animal, we supply at once the pabulum which the organ requires. Then, if under this treatment the morbid symptoms disappear, we are justified in concluding that we have successfully aided Nature in doing that which, unassisted, she could not accomplish.

That is the system. I believe it is applicable not only to the brain, but to all the other organs of the body. **

Taking the brain as a type of the process employed—and it is not materially varied with the other organs of the body—it is as follows:

The whole brain of the ox, after being thoroughly washed in water acidulated with boric acid, is cut into small pieces in a mincing machine. To one thousand grammes of this substance placed in a wide-mouthed glass-stoppered bottle I add three thousand cubic centimetres of a mixture consisting of one thousand cubic centimetres each of a saturated solution of boric acid in distilled water, pure glycerin, and absolute alcohol. This is allowed to stand in a cool place for at least six months, being well shaken or stirred two or three times a day. At the end of this time it is thrown upon a porous stone filter, through which it percolates very slowly, requiring about two weeks for entirely passing through. The residue remaining
upon the filter is then inclosed in several layers of aseptic gauze and subjected to a very strong pressure, the exudate being allowed to fall upon the filter and mixed with a sufficient quantity of the filtrate to cover it. When it has entirely filtered it is thoroughly mixed with the first filtrate, and the process is complete. ***

Five minimis of this extract diluted at the time with a similar quantity of distilled water constitute a hypodermic dose.***

To the substance obtained in the manner mentioned and held in solution, I have given the name of cerebrine as the one, in view of its origin, most appropriate.

I have employed the solution of "cerebrine" with decided advantage in cases of nervous prostration—the so-called neurasthenia—in insomnia due to cerebral hyperæmia, in migraine, hysteria, general paresis, hebephrenia, and epilepsy. In these latter—two cases of the petit-mal variety—the effect has been so marked that I am not without the hope that cures will result, although I am not able as yet to speak positively on this point, the patients having been less than a month under treatment. In two cases of the grand mal the number of paroxysms has been reduced more than one half and greatly mitigated in severity. In six other cases which were of long duration I could perceive no curative effect. ***

WM. A. HAMMOND, M. D.

ALKALOIDE OF COD-LIVER OIL.—It is a fact well known to physiologists that in certain structures of the body, proteid substances—albuminoid constituents of the organism—may be found, and in the case of cod-liver oil these bodies have been isolated, and are now offered to the profession under the name of "morrhauol." The method of treatment is directly in line with the investigations of Dr. HAMMOND and the "True Isopathy" of Surgeon HERMANN, elsewhere referred to, and the reports covering its employment are, indeed, quite flattering.

M. J. BOULLOT, in a communication to the French Academy (Nov, 15, 1892), asserts that this product acts as a stimulant to the circulatory apparatus, improving nutrition, and also that it has distinct diuretic properties. BOULLOT's report covers different classes of disorders, including anemia with amenorrhea, mal-nutrition in children, eczematous eruptions occurring at the menstrual period, and bronchial catarrh in aged persons, in all of which a marked beneficial action occurred. These results, it is claimed, are due to the influence exerted upon oxidation, sub-oxidation being counteracted.

THE INTERNAL USE AND DOSAGE OF LYSOL.— *** I was not misled in my expectations of the internal antiseptic action of lysol (in scarlet fever). I gave it with sherry wine in the proportion of lysol 5.0 to wine 10.0. Of this I ordered ten, five, and three drops, for the three children respectively, to be given in milk four times a day.

The effects of these small doses of lysol could be seen within the first twenty-four hours. I saw the children twice a day to May 16th, so I am enabled to give up to that date a complete temperature record.

Analyzing first the curve of M. G—seven years of age, I have to state that this child got forty drops of the solution the first day, with an increasing dose of five drops daily. The temperature fell steadily, without any recurrent exacerbation, till the morning of May 15th, after which no change could be seen.

During the whole time the urine was examined with a double object, viz., to see the effect on the albumin, and note whether phenol could be found. No trace of albumin after the first twenty-four hours could be discovered. The urine showed once only the presence of sugar, the reason of which phenomenon I could not make out. At all the other times the analysis was negative in every respect.

The decrease in the temperature curve can be seen more clearly in the cases of
the other two children. The explanation of this fact will probably be that the doses of five and three drops were, in comparison to the age, larger than the ten drops of the older child.

On the second day the temperature of the five-year-old child rose from 98° F. to 99° F. at 6 p. m., which was the result of the neglect of the mother to give the lysol.

On the fourth day the temperature of the baby rose from 98.5° F., to 100.5° F., but this was explained by the fact that the mother gave her some beer.

These two incidents teach two things: 1, that the use of lysol must never be abandoned until the temperature has been normal for a few days; 2, that the diet should be as restricted as possible, so that no irritation to the uropoietic system may result.

The mixture of lysol, one part, and sherry wine, two parts, could be taken very well in warm milk.

If now, finally, I should formulate a treatment concerning the cholera Asiatica out of these preceding observations, I would advise: 1, to give immediately a stimulant mixed with lysol, 2.5 grams; 2, to wash out the intestines thoroughly with a one per cent. solution of lysol in warm water. This should be repeated every two hours until a change is seen.

Eric Vondergoltz, M.D.

(Medical Record, Sept. 24, 1892.)

Phlebotomy in Uremia.—Patient Mrs. G., age 42, married, laundress, very stout and plethoric. There is a condition of general anasarca; tongue coated with a heavy brown fur; patient breathes with much difficulty. Over both lungs, anteriorly and posteriorly, are heard numerous sibilant and sonorous râles. Heart sounds are feeble and distant, and pulse is of very high tension. Liver and spleen negative and extremities very oedematous. On the second day after admission, after diuretics had been freely given, there was secreted an unusually large amount of urine. The urine, however, soon became much diminished, and contained albumin, granular and hyaline casts.

On the morning of November 4th the patient had her first uræmic convulsion. These continued throughout the day and night with increasing severity, and at one time artificial respiration was necessary. Pulse continued of high tension notwithstanding the administration of one one-hundredth of a grain of nitroglycerin hypodermically every forty-five minutes. During the entire night the patient was very restless. Between the uræmic convulsions she was tossing about in wild delirium. Toward morning she developed a condition of alternate coma and delirium, and pulmonary oedema developed. The tension of the pulse remaining very high and all the symptoms becoming more grave, it was decided to do venesection. The median basilic vein was opened and twenty ounces of blood much darker than ordinary venous blood was withdrawn.

The effect was instantaneous. The patient lapsed from restlessness into a calm sleep. This continued for three hours, and, on waking, the patient was perfectly conscious and pulmonary oedema had disappeared. The normal flow of urine soon became established, and in two days the anasarca had entirely gone.

Renwick R. Ross, M.D.

(N. Y. Med. Jour., Dec. 24, 1892.)

**Book Notices.**

**Notes on the Newer Remedies:** Their Therapeutic Applications and Modes of Administration. By David Cerna, M. D., Ph. D., Demonstrator of Physiology in the Medical Department of the University of Texas, etc. Cloth, 12 mo., pp. 177. Philadelphia: W. B. Saunders, 1892. (Price, $1.25).

Although Dr. Cerna's book does not pretend to be anything more than a compilation, it is to be regretted that he has consented to imperil his reputation by issuing a work of such a superficial character. Our author, possessing marked ability and wielding a trenchant pen, and withal, having had considerable experience in physiological investigation, offers to the profession a collection of material, considerable portions of which are copied from other books without regard to the reliability of the information furnished. Had he given authorities, it would have been an improvement; but in its present
shape, we cannot regard it with favor. The more recent information upon cactus, pichi, bryonia, etc., is not embraced in these notes, and everywhere are found evidences of hasty preparation. No reference is made to tuberculocidin, a remedy advocated by no less an authority than KLEBB in ample time to be included in the compilation; nor do we find mention of zinc sulpho-carbolate, arsenic sulphide, or copper arsenite. A rather cursory examination shows that the "notes" on apiol, arbutin, aspidospermine, camphoric acid, carvacrol, chromic acid and chrysarobin are almost literally copied from HELBING's excellent work—Modern Materia Medica, 3d ed., 1892, and an entire paragraph in the preface (p. viii) is copied from an article of Dr. DORLAND's on "New Remedies," which appeared in the Medical News last April. A second edition, covering the physiological actions of the drugs with the latest therapeutic information would be an acceptable work from an authority so competent.


For the advertising patrons of Medical Journals, Dr. Hummell's book is a "gem"; it will also prove a valuable adjunct to the physicians who contribute to these journals, since the author, satisfied from its general or special character, can readily select that journal which will afford him the largest audience for any important contribution he wishes to make to the profession. But, with the wisdom born of experience, Dr. Hummell cautions his readers that owing to certain special features, journals with a comparatively limited circulation may be more serviceable to advertisers than others with a larger following, and had he been addressing the profession, this fact might have been strongly emphasized. The conclusion reached, from an examination of the little book is, that sound, progressive and practical medical journals need not go begging for advertising patronage.

PUBLICATIONS RECEIVED.


Report of the Kensington (Philadelphia) Hospital for Women (non-sectarian), from October 12, 1891, to October 10, 1892.

A Year's Work in Minor Surgical Gynecology, at the Kensington Hospital for Women. Reprint, 1892.

Certain Aspects of Gonorrhea in Women. Reprint, 1892.

From D. H. BERGEL, M. D., of North Wales, Pa.: Fel Bovinum as a Therapeutic Agent. Reprint, 1893.

Santonin as an Emmenagogue. Reprint, 1892.

From L. WEBSTER FOX, M. D., of Philadelphia: Resection of the Optic Nerve, by Dr. ROHNUR (translation). Reprint, 1893.


From WHARTON SINKLER, M. D., of Philadelphia: Insanity in Early Childhood. Reprint, 1892.

From S. WEIR MITCHELL, M. D., LL. D., HARV., of Philadelphia: The History of Instrumental Precision in Medicine. Reprint, 1892.


LITERARY NOTES.

The Universal Medical Journal, formerly the Satellite, is a handsome thirty-two page monthly—without reading notices. The January number contains brief excerpts from periodical literature compiled by correspondents abroad. It is edited by Dr. CHARLES E. SAJOUS and Dr. C. SUMMER WITHERSTINE, and published by The F. A. DAVIS Company, of Philadelphia, at two dollars a year.

The Hoagland Laboratory, Brooklyn.—A course of study in bacteriology is announced at the above institute, extending from February to May. Histology and pathology will occupy the first part of the course, under the charge of Dr. J. M. VAN COTT; the latter half of the term is to be under the management of Dr. GEORGE M. STERNBERG, and will be devoted to bacteriological examinations, the object being to prepare practitioners for independent research.

The New York Therapeutic Review, a thirty-two page quarterly, devoted principally to biological therapeutics, with reviews and abstracts, appeared in January, 1893. It is edited by Dr. PAUL GIBIER, and published from the Pasteur Institute, N. Y., by E. Esquerre, at one dollar a year.

The Medical Week is the English edition of the French Journal, La Semaine Medicale, which is now for the first time published in this form, and sent by mail to this country at two dollars per annum.
Miscellany.

Non-Protective Power of Drugs.—As the result of an extended series of experiments upon animals, Dr. Brunton and Dr. Bokenham have arrived at the conclusion that saturation of the system with salts of potassium, magnesium, calcium, strontium and aluminium afford no protective power against disease, although they claim no bad effects resulted from the long continued administration of these drugs in large dosage.

Lying Analyzed.—A lie is not necessarily an untruth at all. It may be merely an overstatement of truth, or putting an emphasis in the wrong place. A bent mirror is as really a mirror as if it were a plane surface, yet it lies to every man who walks before it, making him think himself a son of Anak. You may construct a falsehood out of any truth whatever by twisting it a trifle out of shape.

Mouse Microbe.—An opportunity for testing Loeffler’s method for destroying mice in large numbers through the agency of bacillus Typhi murium, was presented by the recent plague of field mice in Thessaly, in the course of which an entire field of corn was sometimes destroyed in a night. The bacillus grows well upon a decoction of oats or barley. The preparation was distributed by means of bits of bread. Millions of mice died, and the harvest was saved.

Nitric Acid from Atmospheric Air.—An interesting corollary to the theory put forward some time ago by Professor Crookes, that an electric spark is due to the oxidation of nitrogen in the air, is found in the results achieved by Dr. Von Lepel in experiments with slow currents of air under different pressures of current. He has succeeded in producing nitric acid in the proportion of ten per cent. of the air employed, and believes that by means of high pressure discharges this acid might be made from the atmosphere on a commercial scale.

Cholera Abroad.—Late reports from Hamburg, Berlin, St. Petersburg, and other European cities where cholera prevailed last summer are to the effect that the disease still persists, and every effort is being made to prevent its rapid spread during the coming season. New cases are reported from Hamburg almost daily, and the Emperor has directed that daily reports shall be made showing the progress of the disease throughout Germany. The Russian government has summoned a Congress of three hundred physicians, more than half the number being from infected districts. The Congress will sit for a period of eight days, and a report is expected covering the best means of preventing the reappearance of the disease in the Czar’s dominions.

Official statistics of the epidemic in Russia show that the deaths from European cholera number 130,417, and those from Asiatic cholera, 135,343, since its outbreak last summer, the total number being 265,700 deaths—over a quarter of a million.

The New Mesmerism.—Our readers will recall the sensational claims presented a few years ago by Dr. Luvs, of Paris, in regard to the action of medicines at a distance. Certain medications were enclosed in sealed tubes and these tubes applied to the skin of patients suffering from real or imaginary disease, and with rare exceptions the subjects asserted that they experienced the same effects as if the remedies had been taken in the usual manner. Apparently, this strange fancy has broken out afresh in the French capitol, and forms the subject of a communication to the London Times by Mr. Ernest Hart, the able editor of the British Medical Journal, who has recently made a thorough investigation of the phenomena. A single paragraph from this letter will be sufficient to demonstrate the utter fallacy of the claims and bare-faced frauds employed to back up the ridiculous fiction.

Says Mr. Hart, after having submitted these pecu liarly susceptible patients to careful tests in the presence of competent and reliable witnesses, “I need only say here that the whole of the phenomena were reproduced with sham magnets, with substituted figures, with misnamed medicinal substances, and with distilled water, and with sham “suggestion,” opposite suggestion, or none at all. Every one was able to convince himself that all the results so shown were, without exception, simulated, fictitious and fraudulent. That some of the patients were hypnotic and hysterical in a high degree does not alter the fact that from beginning to end they all showed themselves to be tricksters of the most bare-faced kind; some of them were very clever actors, possessing dramatic powers that might have been turned to better purposes, most of them utterly venal, and some of them confessing that they played upon the credulity of Dr. Luvs for their own purposes. But when the authentic details of their separate and combined simulations are read, it will only remain to regret that so much prominence has been given to so sad a page in human wickedness and folly, and that men of distinguished position and good faith have allowed themselves, by carelessness and persistent credulity, to be made use of as propagators and apostles of wild follies and vulgar deceptions. There is a still more painful social and moral side to this matter, to which I can here only distantly allude, but which confirms me in the belief that the question is at least as much one of police as of science, and from that point of view deserves the attention of the lay authorities of the Paris hospitals and of the correctional tribunals.”
Original Articles.

ALBUMINATE OF IRON.

By W. Blair Stewart, A.M., M.D.,
Instructor in Medicine in the Medico-Chirurgical College,
Philadelphia.

Synonym.—Ferri Albuminas.

Physical Properties.—Albuminate of iron is an amorphous, reddish-brown, slightly alkaline, chemical preparation which is placed on the market in the form of small scales and irregular lumps. It is irregular in fracture, translucent, and, under the microscope, presents itself as a beautiful reddish-brown body, containing a small amount of granular matter. Many specimens show a spiral marking under the microscope, due to fracture in carrying; a freshly prepared specimen will not present this peculiarity nor any granular matter. When ground in a mortar, it is reduced to a fine, brown powder. Improperly prepared specimens show many pure lemon-yellow, or white scales, which may contain much granular material. It has a glutinous taste, and should not be salty.

A practical study of a freshly prepared, pure preparation shows valuable physical and chemical properties. It is practically insoluble in distilled water, hot or cold; but a small amount may be held in suspension for a short time. It is insoluble in all acids, dilute or concentrated, ether or chloroform; readily soluble in all alkaline mixtures, giving a beautiful, clear, reddish-brown solution. It is freely soluble in water which has been rendered slightly alkaline by water of ammonia, caustic potash or soda. Almost any alkaline solution can be added to a solution of albuminate of iron. Liq. potassii arsenitis will mix with it in all proportions without change. Bichloride of mercury will cause a white precipitate of albuminate of mercury. If sufficient potassii iodidum is added to dissolve the bichloride of mercury, it can be mixed in almost any proportions. Acids and acidulated preparations can not be combined with it, as they always cause a precipitate. If these precipitates are not new chemical compounds, they can be redissolved by rendering the solution alkaline. In all poor preparations, when the solution is heated to the boiling point, an odor similar to glue is given off; but the odor from a good preparation is bland and agreeable. No precipitate should form when heat is applied to the solution of a fresh preparation; it simply becomes frothy for a short time. Alcohol and alcoholics can be added in all proportions, provided they are first rendered alkaline or neutral in reaction.

Albuminate of iron does not undergo oxidation nor decomposition when exposed to the air. When powdered albuminate of iron is heated in a glass tube, water is given off first, which is strongly alkaline in reaction; next, dark, irritating fumes, which will not support combustion and which smell like burning meat; a dark carbonaceous ring is deposited on the cold portion of the tube, and a dark carbonaceous ash is formed which, if heated strongly in a flame, is soon reduced to a dark white or black oxide of iron, proved by appropriate tests.

Chemistry.—Crudely expressed, albuminate of iron is formed by making a solution of fresh egg-albumen and gradually adding to it a neutral solution of oxychlor-
ide of iron. Precipitation will not be complete unless the solution is neutral in reaction. Albuminate of iron is precipitated as a brown, amorphous, flocculent substance; is collected on a linen cloth; thoroughly washed with distilled water, and dried at a moderately low temperature. When dried, it consists of irregular scales and needles of a beautiful brownish-red color.

The following is the formula given for making liq. ferri albuminas:

"Thirty-five parts of dry egg-albumin are dissolved in one thousand parts of water. The solution is strained and poured into a mixture of one hundred and twenty parts of a solution of oxychloride of iron and one thousand parts of water in a thin stream, with stirring.

"A very accurate neutralization with very dilute soda-lye (five parts of this lye for ninety-five parts of water) may be necessary to completely precipitate the albuminate of iron formed. After the precipitate has all settled and the supernatant fluid has been decanted, it is washed by repeated mixing with water and allowing to settle, until the supernatant fluid, on being acidulated with nitric acid and mixed with a solution of nitrate of silver, opalesces only feebly. The sediment, gathered on a linen straining cloth after the supernatant fluid has been poured off, is poured into a sufficiently large bottle (previously weighed) together with three parts of soda-lye (sp. gr. 1.170) previously diluted with fifty parts of water, and dissolved by shaking. Add to this solution, one hundred and fifty parts of alcohol (sp. gr. 0.830), one hundred parts of cinnamon water, two parts of aromatic tincture and a sufficient quantity of water to make the total weight of the fluid amount to one thousand parts.

"This solution contains approximately four parts of iron in one thousand parts. It is a reddish-brown fluid of extremely slight alkaline reaction with a weak taste of cinnamon."

Some writers have made assertions that there is no true chemical compound called an "albuminate," but they fail to produce the experimental evidence whereon their conclusions have been based. There is not the least question of a doubt that a chemical reaction takes place when egg-albumen is added to a solution of oxychloride of iron or bichloride of mercury. It is claimed that a mere coagulation takes place resulting in coagulated albumen which carries down with it the salt of mercury or iron in its original state. Let us test the reaction. Take a fresh solution of egg-albumen and cautiously add to it a dilute solution of oxychloride of iron until the iron is just short of an excess; a brown precipitate forms. Carefully filter; add ammonia water to the filtrate, and no precipitate forms, showing an absence of free oxychloride of iron, for it is precipitated by ammonia water. Its presence can not be shown in the filtrate by any other test. Was it precipitated with the albumen in its natural state? Carefully cleanse the filter (testing the wash water with negative results) and add to part of it water which has been rendered alkaline with ammonia water. It is dissolved completely, giving a reddish-brown solution. If this pre-precipitate had contained oxychloride of iron it would not have dissolved in ammonia water or alkalies. To another part of the precipitate add dilute hydrochloric acid and water; no change is noted at all. If any part of the oxychloride was present in a free state it would be dissolved at once. This gives two of the most important conclusive proofs that a chemical change occurs between the albumen and oxychloride, in which the latter has been decomposed and a new salt formed.

After thoroughly cleansing and drying the remaining part of the precipitate, reduce it to a fine powder. Treat one part of the powder with hydrochloric acid; another part with nitric acid, and another with nitro-muriatic acid. No change occurs in any case after twelve hours, hot or cold. This proves again that iron is not present as a chloride, oxychloride or oxide; for, if suspended in the precipitate, it would have been dissolved. Other experiments are equally conclusive.

Conclusions.—When a neutral solution of egg-albumin is added to a neutral solution of oxychloride of iron, a chemical
change takes place, resulting in the formation of a new salt of iron. This new salt is an organic compound, entirely unlike all other known salts of iron, and, chemically speaking, is termed an albuminate.

There is a series of salts called albuminates, but their formulae, as well as that of albumin, are so complicated and complex that they have never been positively figured. If this salt, obtained as mentioned, is not a chemical albuminate, what is it? and what chemical tests will prove any other identity. The presence of free albumin cannot be demonstrated in the solutions or salt of the albuminate.

Physiological Action.—We have already demonstrated the great chemical affinity of the salts of iron for albumin, and it is now proposed to carry its study one step farther as related to internal administration. All therapists teach that the best time to administer the preparations of iron is after meals; and the reason assigned is, the greater activity of the absorbents as well as the presence of the digestive fluids at this time. If given as a chloride, its first action is to combine with the albumins present and form an albuminate. If any other preparation of iron is given it is acted upon by the free dilute hydrochloric acid, converted into a chloride, which, in turn, combines with the albumins. The albuminates produced in the stomach are probably precipitated by the acid condition of its contents, but as soon as they pass into the intestines and come into contact with the alkaline fluids they are rendered freely soluble, and taken up by the lacteals, enter the blood as albuminates. It is altogether probable that this chemical change is not confined strictly to the digestive tract, for a certain amount of the other soluble preparations of iron may be taken up by the lacteals and absorbents; but the moment they are mixed with the alkaline chyle, which is very rich in albuminous material, they are converted into soluble albuminates. The blood itself is so rich in albumins, and, being alkaline, iron could not probably exist in it in any other state than as an albuminate.

The salts of iron have much to do with the oxidizing processes of the body, through the blood, and also enter into the composition of hemoglobin and the red blood corpuscles. Just what action albuminate of iron plays in this oxidation is entirely theoretical; but, being an organized nitrogenous, carbonaceous, oxidized product in itself, it seems to be capable of combining or parting with atoms of oxygen or carbon, in its contact with the tissues, and yet retain its physical characteristics.

When the claim is made that albuminate of iron, being the most easily assimilated salt, because it is ready for absorption without chemical change, should, therefore, be given the preference to all other salts of iron, it is open to objection and criticism. As has been shown, other salts are absorbed and fulfill their special functions as indicated. This much can be said, however, in favor of albuminate of iron and its preparations. It is not astringent; does not "pucker the mouth" nor injure the teeth by prolonged administration; does not constipate, and does not precipitate the digestive ferments in the stomach and intestines. It will remain in the stomach without causing irritation when other preparations cannot be retained; it is readily assimilated and can be given to children without the least trouble and in any dose. It is not toxic in its action and will fulfill every indication for a plain tonic. It cannot be used in place of, nor substituted for, other salts of iron, employed for their astringent action or local effect.

Dr. Sydney Ringer has given the subject of iron considerable study, and claims that it is present in the circulation and body in the form of an albuminate. Other writers corroborate his opinion. These considerations seem perfectly plausible, and a close chemical and chemico-vital examination, such as we have given, will add many points in its favor.
Dose.—Pulv. ferri albuminatis gr. j to xx. Liq. ferri albuminatis f3 j to iv. Syr. ferri albuminatis cum strychninæ et quininæ (Quininae, gr. j. Strychninæ sulphas, gr. 1/6) f3 ss to iij.

Therapy.—Briefly summarized, albuminate of iron has found its most suitable applications in my practice, in all forms of anemia and debility where an iron tonic has been indicated. Good results could not always be obtained from tr. ferri chloridi and other astringent preparations, and serious objection was found to its continued administration in the case of children. Convalescence from scarlatinæ, measles, influenza and diphtheria was very much hastened, and a bright ruddy glow was soon brought to the pallid faces of these children by administration of one drachm of the liq. ferri albuminatis after meals and at bed-time. In most cases it was combined with one to three drops of liq. potassii arsenitis. Several cases of anemia and irritability of the stomach have yielded to its use in combinations. For two years past the following combination has given me extremely favorable results:

R. Pulv. ferri albuminatis... gr. ij.
Acidi arseniosi.........
Strychninæ sulphatis... f3 gr. j0
M. Ft., tab. (compressed) no. i.
Sig.: One tablet after meals and at bed-time.

Mr. ——, aged 48, consulted me, complaining of great prostration, nervousness, irritability, inability to do a full day’s work, shortness of breath, giddiness, poor appetite, insomnia, constipation and loss of flesh—all the result of an attack of influenza six months before. He was put on a diet of rich milk, cocoa, red meats, baked potatoes, eggs, oysters and all easily assimilated foods, and instructed to abstain from pork, veal, cabbage, turnips and all heavy indigestible articles of diet.

He took three tepid salt-water baths each week,—at bed-time. Bowels were regulated with small doses of cascara sagrada and aloin in pill-form. Improvement was noticed, and one week later he was placed on the above pill, four times daily, as directed. In two months’ time he was apparently a new man; had gained twenty pounds in weight, and could do a full day’s work without unusual fatigue.

Another equally typical case was that of a chlorotic, single woman, aged 25, who had amenorrhea, general pains, giddiness, headache, nausea and great pallor. A similar form of treatment was ordered for her, and recovery was perfect in three months. The menstrual periods returned at regular intervals; the nausea, headache and giddiness disappeared, and the color returned to its natural hue.

Many other diseases are promptly benefited by it. You may summarize its therapeutical application by the axiom, that albuminate of iron can be used in any condition where iron is indicated, providing it is not required for its astringent and styptic action.

Bryn Mawr, Penn.

"ALBUMINOPHOBIA."

By Louis Lewis, M.D.

The condition known as albuminuria may be of little significance or of vast importance, accordingly as it is dependent on physiological or pathological causes. But its detection in the urine often causes much unnecessary distress, which only serves to enhance the evil; for worry is sufficient to produce the condition per se, and visions of Bright’s disease harrass the victim as soon as he realizes the least escape of albumin. All changes in the internal structure of the kidneys, whether acute or chronic, have been generally included under the name of Bright’s disease. Acute changes are inflammatory, and are marked by overgrowth of epithelium in the urinary tubules, causing obstruction to the flow of urine. This is acute Bright’s disease, or desquamative nephritis. It is attended with dropsy, and is usually associated with scarlet fever, or else with
small-pox, diabetes, cholera, erysipelas, advanced pregnancy, exposure to cold, or overdoses of certain irritating drugs. It is functional at the outset, carrying no organic lesion; but if blood is delayed in the kidneys, albumin and casts appear in the urine, and—if congestion persists—the structures may eventually degenerate.

Chronic Bright's disease mostly affects men. It consists in a continuous deposit of albuminous granules in the cells and connective tissue of both kidneys, and is characterized by the conjoint and constant presence of albumin and casts in the urine, with deficiency of urea. Albumin is present in variable quantities. It is mostly derived from the malpighian tufts, and is associated with casts of the uriniferous tubules, either epithelial, granular, hyaline, or fatty. Epithelial and granular casts denote desquamative action; hyaline casts are either transparent and delicate, as they appear in simple congestion, or waxy and brittle, indicating advanced structural mischief. Fatty casts show fatty degeneration,—the end of all forms of organic renal disease.

There are three principal varieties of chronic Bright's disease, all involving interstitial and parenchymatous changes; inflammation with enlargement, or parenchymatous nephritis, (smooth, mottled kidney); atrophy with contraction, or interstitial nephritis, (granular kidney); and lardaceous or waxy degeneration, (albuminoid infiltration); and these may occur in various combinations. Inflammation with enlargement affects the parenchyma; dropsy, albumin, and casts are always present; the kidneys—enlarged at first—contract later on; the capsule is loose, and malpighian bodies thickened and fatty; the average age is about 30. Atrophy with contraction is the commonest form of Bright's disease; the interstitial tissue is involved; the capsule is adherent, and malpighian bodies shrunk and knotty; the left ventricle is nearly always hypertrophied; and there may be casts without albumin, and not much dropsy; the average age is about 50.

In lardaceous degeneration, there are often similar changes in the liver, spleen, and other parts; the capsule is loose, and malpighian bodies shining and distinct; there is not much albumin or dropsy at first, but casts are commonly present; this form generally follows degenerations of bone, or scrofula, syphilis, phthisis, and many wasting diseases. Pain in the loins is by no means diagnostic of Bright's disease, being more usually symptomatic of renal congestion, uric acidity or lithemia, neuralgia, lumbago, intestinal accumulations, calculus, stricture, gall-stones, and diseases of the prostate or bladder. But increasing debility and emaciation, frequent urination, puffiness of the eye-lids or ankles, and pallor or pastiness of the countenance are warning signs, which become ominous when succeeded by frothy urine of low specific gravity, more or less dropsy, with dyspnea, Cheyne-Stokes respiration, dimness of sight or perhaps retinitis, enlargement of the heart, and a tendency to uremia. Then casts and albumin will be found; dropsy will be prominent when albumin is deficient, and vice versa; and death is likely to ensue, sooner or later, from asthenia, pulmonary edema, cerebral apoplexy, phthisis, or other complications; or the inflammation may reach the excretive structures, involving the glomeruli or the tubules, and cause suppression of urine and uremic poisoning. If only a part of the kidneys is affected, the patient may live out the usual span of life, so long as elimination is fairly active; for elimination is the secret of prolonged life, in all affections of the kidneys.

Albumin is always travelling round in the blood and other fluids of the body, besides constituting the main ingredient of the tissues; and it may appear physiologically in the urine independently of casts, or kidney disease. This may result from, trifling causes, as prolonged cold
bathing, excessive muscular exertion, over-indulgence in animal food, eggs, walnuts, and other albuminous diet; excess of uric or oxalic acid; possibly from tight lacing (despite the deep situation of the kidneys). It may follow persistent dyspepsia or intemperance, or it may be originated by albuminous microbes. It may show intermittently under malarial conditions. It may appear when blood-pressure is extreme in the malpighian tufts, as in faulty circulation, valvular disease, and renal congestion or catarrh. It may happen when there is undue pressure on the abdominal veins, as in ascites and pregnancy (to disappear after tapping and labor). It may accompany temporary alterations in the blood, during the progress of pleurisy, pneumonia, pulmonary edema, pyemia, pericarditis, peritonitis, hepatic atrophy, carbuncles, lead-poisoning, gout, meningitis, diphtheria, apoplexy, epilepsy, syphilis, rheumatic, typhus, typhoid, and per- pural fevers; or it may be found after extensive burns. It may be connected with genito-urinary troubles, as in pyelitis, cystitis, prostatitis, vesical catarrh, stone, gleet, and stricture; it may arise from the passage of bougies, catheters, and similar instruments. Or it may attend any unimportant oozing of blood or pus along the urinary tract.

Albuminuria is said to be of frequent occurrence in the urine of wind-instrument players, and of persons who are constantly employed in the erect position; yet neither of these are specially prone to kidney disease. Thus the presence of albumin need not imply structural disease, unless supported by the collateral evidence of casts; and even these are not very unusual in health, and always show after inhalation of ether or chloroform, and during renal congestion—a functional disorder, not necessarily grave, nor attended with permanent lesions. Or casts alone may be seen, without albumin, and without organic change. The blood in the kidney is separated from the water of the urine by a membranous partition, which allows the transudation of urinary salts, but intercepts the albuminoids; so, if the urine contains albumin, it is probably either forced through by blood pressure, or the barrier has broken down at some point.

The urine responds to tests for albumin during the administration of certain drugs, as quinine, chlorate of potash, iodoform, cubebs, copaiba, creasote, carbolic acid, and salol. Turpentine, cantharides, and phosphorus, in large doses, cause renal inflammation, hematuria, and consequently albuminuria, though they are used in the treatment of such conditions. Chloral hydrate causes no albuminuria, but it aggravates renal congestion and degeneration. Iodide of potassium and perchloride of mercury are prescribed to check new tissue-growth in the kidneys; but they may themselves cause albuminuria. Arsenic tends to correct morbid action in the kidneys, and improve their condition; yet its continued use may hinder the eliminating action of the liver-cells, and lead to degeneration in the epithelial cells of the renal tubules, and as a consequence, albumin in the urine.

There are thousands of men walking about, enjoying life, and abusing it too, who were "turned down" by life offices a score of years ago, on account of albumin or casts. When the heart is normal, the breathing unembarrassed, the weight pretty constant, and the elimentive functions in fair working order, a little albumin and a few transparent casts do not necessarily invalidate a man's chances of life.

Both albumin and casts have been visible, constantly, for many years, in some men's urine, and they have maintained their health well on into old age. No doubt they would be safer without either, but they cannot have been dying of Bright's disease all this time. As before stated, enlarged prostate and vesical catarrh may cause albuminuria in otherwise healthy men, and few are entirely
free from symptoms of one or the other of these, after they have attained a ripe age. Many persons have the bad habit of eating meat several times a day, thus favoring a constant accumulation of nitrogenous elements; and this may in a measure account for the prevalence of albuminuria in this country. Perhaps the daily loss of albumin instinctively provokes a desire for animal food, by way of compensation. At all events, there is reason to own that albuminous urine is of less terrible import than has been commonly supposed.

39 No. 19th Street, Philadelphia.

WHEN IS THE ADMINISTRATION OF ERGOT ADMISSIBLE IN PARTURITION?

BY T. RIDGWAY BARKER, M. D.,
Demonstrator of Obstetrics in the Medico-Chirurgical College of Philadelphia.

It is not my purpose to evoke any discussion as to the precise manner in which ergot acts upon the nervous system, as to whether its action be central or peripheral, but merely to give my experience and conclusions, having employed it under varying conditions and circumstances in cases of confinement where delivery was delayed by uterine inertia. Whatever view we may accept, of the many advanced, as to the seat of its action, the fact remains that its effect upon the uterine muscular tissue is sudden and pronounced, the degree of intensity depending upon the amount administered and the rapidity of absorption. That it induces in full doses strong, and frequently recurring contractions, soon followed by those of a tetanic character, needs no verification.

Appreciating these facts, the question arises, What are the conditions which render the administration of this ecobic admirable? Shall we employ it in the first stage of labor to increase the uterine muscular contractions, and thus attempt to hasten cervical dilatation? Surely not! For the opposite effect, so far as overcoming the sphincter-like fibres of the cervix are concerned, would be produced. Nor is this delay the only undesirable result, for, with the augmentation of the pains, the tendency to rupture of the uterus would be greatly increased. Further, should the amount of liquor amnii be small, the life of the infant might be jeopardized by violent compression and interference with its circulation.

Thus we see that ergot is inadmissible in the first stage of labor, the very object we desire to accomplish being negatived by the action of this drug upon the circular fibres of the cervix, causing them to resist the attempt of nature at dilatation. In the second, or expulsive stage of labor, opinions differ widely as to the propriety of administering this agent, the experience of some obstetricians seeming to prove that at times its administration has been of value, and in other cases the opposite result has been obtained. My observations are of a decidedly negative character, and I believe ergot and its preparations as an expulsive agent in parturition to be a dangerous and unreliable remedy, unworthy of confidence. How many times it has caused death of the offspring, and has done an irreparable injury to the mother, we can only surmise; but there are but few of us who cannot recall cases of labor where we were tempted to use it to stimulate feeble uterine contractions, and have discovered to our disgust and mortification that while the uterine muscular contractions were stronger and more frequent, the fibres of the cervix had become more resistant, and the size of the os markedly diminished. What we had hoped it would do—force the head from the uterus—it had not done; and instead of assisting in delivery, its use had increased the risk to mother and infant, and had subjected both to dangerous pressure.

* Read before the Philadelphia County Medical Society, Feb. 29, 1893.
Hosack says, "By some authors ergot has been called the pulvis ad partum, but, owing to the dangers to the fetus, it had better be denominated the pulvis ad mortem." Moreover, ergot practically closes the locks of the cervix through which the fetus must pass, and refuses to allow them to be opened. With such risks attending its administration, can we in justice to our patients or ourselves say that it is admissible?

Ergot, in my experience, has a direct action upon the circular muscular fibres of the uterus, and does not exercise a corresponding influence upon the longitudinal or retractive fibres; hence it tends to augment the forces of compression while it leaves those of expulsion undisturbed. This view is held by Barnes, who states, "the ergotic contraction does not observe the physiological character of alternating diastole, sístcle and repose, conditions necessary to the orderly circulation of the blood through the uterus, placenta and fetus." It is through the recognition of these demonstrable facts alone that one can hope to escape just such complications as have been mentioned.

That ergot is applicable in cases of abortion where the whole uterine contents are of a semi-gelatinous consistency, and are readily expelled by simple compression, there can be no doubt; but when one seeks to secure similar results under far different conditions, with a fetus fully developed, we must not be surprised at the occurrence of grave complications.

I have frequently endeavored to overcome this passive contraction of the longitudinal fibres of the uterus by efforts directed to stimulate their activity, and thus obtain in labors attended by uterine inertia a balance between compression and expulsion, but only to fail. In these cases the edges of the cervix invariably hardened under the influence of the drug, and compression was intensified. With the hope of discovering how to establish this balance of forces I tried doses of ergot of varying size, some administered by the mouth, others hypodermatically, but without any practical benefit.

This physiological peculiarity of ergot and its preparations renders it unsuited to the third stage of labor no less than if does to the first and second stages, for, if the placenta be not separated from the uterine wall at the time the drug acts, it is more than likely that the after-birth will not be expelled, and that the cervix will close upon it; its removal then becomes well-nigh impossible until the effect of the medicine has passed off. The dangers incident to such a condition are too apparent to require more than mention. When the third stage of labor is complicated by hemorrhage it may become necessary to resort to ergot to control bleeding, thus seeking to escape from an immediate danger, even at the risk of incurring a later one.

In this discussion, if we include in the question of when the administration of ergot is admissible, some pathological states complicating labor, such as malposition of the fetus and maternal deformities of the pelvis, the same rule holds good, viz.: That there must be no obstruction nor lack of adaptability of the contents of the uterus to the parturient canal if ergot be employed to increase labor pains. Should it be otherwise, the result might prove fatal, not only to the child but also to the mother. I am well aware that the saving of time and energy is desirable, but in obstetrics, our only and the first consideration must always be safety, though the rate of labor be very slow.

Ergot has long been held as an agent that will shorten labor, but we cannot fail to see at what a tremendous risk this trifling gain is secured. Compression then, and not expulsion, may be said to be the physiological effect of ergot when administered during any of the three stages of labor.

1703 Spruce Street, Philadelphia.
THE HYDRO-THERAPY OF HIGH TEMPERATURES.

By Wilmer R. Batt, M. D.*

The employment of water as a remedial agent in the treatment of conditions of high temperature, is of such remote origin, that its antiquity alone should entitle it to receive our careful consideration.

The history of its use would be practically the history of medicine, and while it has frequently been obscured by many remedies which for brief periods have held dominant sway in the field of therapeutics, hydro-therapy to-day bids fair to assume a commanding position once more in the treatment of high febrile phenomena.

Modern physiological research has demonstrated that the theories of heat-production and abstraction are in perfect accord with its use. Clinical experience in very many instances has corroborated this fact, and the most acute and thorough observers of this age do not hesitate to recommend and employ this method. That the present epoch, the most important that medical science has known, should bear witness to its efficiency, is, indeed, a worthy tribute.

The action of water as a therapeutic agent is twofold—first by mechanical impact, and second by temperature changes. The latter is by far the more important action, and is the one that most directly interests us.

The skin, the most extensive continuous vascular and nervous area of the body, as well as the most accessible, receives the thermic irritation produced by contact with water of a different temperature from the body, and as a result we have sensory phenomena of two characters; first, in the reflexes which arise from the central nervous system, and which affect the most important functions of the body; second, the changes produced in the circulatory current through the vasomotor system.

As the result of these impressions, we reach the most vital functions of the body by a remedy which does not exert its beneficial influence on one or a number of organs at the expense of the general economy.

The results of careful and prolonged study of these physiological effects by Winternitz and others, may be briefly stated thus: In respiration the inspiratory effort is deepened, thus increasing the oxygen supply—on the circulation—the cardiac activity and force is improved, the calibre of the blood-vessels diminished, and the blood current accelerated. In conditions of high temperature, particularly fevers of adynamic types, where the peripheral circulation is sluggish, by reason of the enfeebled heart's action, and when every function is correspondingly depressed, the application of the cool bath, by sensory reflex, stimulates the inspiratory effort, the amount of oxygen is not only increased but the flow of blood from the internal organs is favored, the cutaneous vessels are contracted, the blood-pressure, as well as the pulse-rate is increased, and the rapid flowing blood robbed of its fever and returns cooled and re-vitalized.

As the result of these physiological changes, the clinical picture that is presented to us by the administration of a cool bath in fevers of a typhoid character, and, as described by Baruch, Ziemssen and others, is the cleansed and moistened tongue, the improved digestion, the slowed and steadied pulse, the urine improved in quantity and quality, the removal of stupor and delirium, and, in short, the changed aspect of the body to a nearly normal condition.

I take the treatment of fevers of a typhoid character for the purpose of illustration, since it is in this disease that by means of hydro-therapy such wonderful progress has been made both at home and abroad.

The statistics of Brand, with his 1223 cases and 11 deaths; of Jörgensen's 219 cases and 1 death, and in our own city of Wilson's 65 cases with no deaths, are

* Read before the Philadelphia County Medical Society, Jan. 25, 1893.
unimpeachable monuments to its efficiency. A treatment that has reduced the mortality to 1 per cent. in a disease which formerly destroyed 20 to 40 per cent. of its victims, is worthy of profound consideration. The mortality of typhoid fever to-day in Philadelphia is 25 per cent., 683 deaths having been reported from this cause during 1891. During the first two months of 1892, 505 cases were reported to the health authorities; of this number 130 or 25.7 per cent. proved fatal. To the physicians certifying to these 130 deaths, I sometime since addressed a circular letter, asking for information as to the immediate cause of death and the range of temperature in each individual case. The cases treated in private practice were separated from those in hospitals, and the mortality of the latter cases was 5 per cent., while in private practice it was slightly over 30 per cent.

The result of these inquiries showed that the immediate cause of death in 60 per cent. of private cases was exhaustion due to hyperpyrexia, and in 25 per cent. more, the remote cause was undoubtedly due to the same condition.

In the majority of the cases cold sponging was employed with often great temporary, but no permanent, benefit.

The mortality of less than 5 per cent. in hospital practice was due to the employment of cold baths. Their use, however, was not universal, or I am sure the percentage would have equalled some of those already quoted. The deductions that follow such statistics show that as a remedial agent the cold bath is of the first importance in the treatment of this affection, and as the majority of typhoid cases are, and will continue to be, treated outside of hospitals, the mortality of cases so treated will continue to be large until we apply the same methods of treatment in private practice as are employed in these institutions.

That there are many obstacles—and very often serious ones, to overcome in order to employ hydro-therapy in private practice must be admitted; at the same time I believe they may be overcome.

Briefly stated, those objections which have hitherto prevailed are:

1. The lack of means at our command to administer baths efficiently.

2. The objections of patients and their friends to what seems to them a too harsh and radical method of treatment.

3. The failure of physicians to have the courage, born of their own convictions, as to its efficacy.

4. The failure, when baths have been attempted, to have them administered carefully and efficiently.

The first of these objections may be overcome by the use of the portable tub. The second and third objections are such that each physician must decide and overcome. The last objection is equally important with the first, and at this point I shall take the liberty of briefly describing the technique of the full or Brand bath. It may be possible, through careless and imperfect administration of the cold bath, to secure the most unsatisfactory and contradictory results. Therefore, the most essential features to success are, care and efficiency in its use.

The tub being about two-thirds filled with water of a temperature of 70°, the patient's chest and face having been bathed in cool water, he should be gently lifted from the bed and submerged. A light stimulant consisting of brandy or of hot broth, should be administered directly before or during the bath. The bath should be continued for fifteen minutes. A chilliness complained of by the patient should not constitute an indication for his removal from the tub, prior to the expiration of this time, unless it is accompanied by chattering of the teeth, cyanosis of the lips or a weakened pulse. While the patient is in the bath, friction should be gently and continuously made over the body and limbs. This is the most essential feature of a successful bath, as its purpose is to assist in dilating the
superficial cutaneous vessels, and to favor the flow of blood from the deeper parts, thus countering any tendency to congestion.

The time-limit having expired, the patient is returned to the bed, wrapped in a blanket, is dried, and if the temperature has fallen below the normal, some warm applications are made to the extremities. The indications calling for the use of the bath in a case of typhoid fever are a temperature of 103° F. or over; stupor, delirium or coma, even if the temperature should be below this point.

It must not be inferred that the cold bath is the sole agent to be employed in the treatment of high febrile phenomena in typhoid fever and similar conditions, but it is the chief agent to be relied upon in their management. It does not remove the toxic elements of disease, but it prevents the integrity of the many functions of the body from being destroyed by the exhausting and debilitating influences of excessive hyperpyrexia.

It seems to be our duty not to be misled by delusive therapeutics and neglect a remedy whose chief value may be its simplicity, but to persistently endeavor to overcome obstacles which seem to preclude its use.

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PERISCOPE OF THERAPEUTICS.

By J. Lindsay Porteous, M.D., F.R.C.S., Ed.

Boric Acid in Typhoid Fever.

Tortchinsky gives his experience of 240 consecutive cases of enteric fever during an epidemic. Only nine deaths occurred, and those from getting up too soon or from dietetic errors. The remaining 231 made an excellent recovery. He began his treatment by administering from two drachms to half an ounce of castor oil with from 5 to 20 drops of turpentine oil. After the oil had operated, he gave from 10 to 15 grains of boric acid to an adult three or four times a day, and to a child from 5 grains to 10 grains 3 or 4 times a day. This may be given either in solution or dry. The rule was that the fever and diarrhea greatly decreased in four or five days, tympanitis disappeared, the stools lost their offensive odors and became natural in appearance; the urine also became abundant and natural; the tongue and skin moist, etc. Complications were rare and the duration of the disease much shortened. Small doses of acetanilid, quinine, naphthalene, or salol (2 to 5 grains) greatly added to the beneficial action of the remedy. The addition of quinine was especially beneficial in the later stages, when stupor, tremor, delirium or cerebral symptoms had set in.

TANNIN ENEMATA IN CHOLERA.

Dunbar, of Simbirsk, treats cholera mainly by Cantani's tannin enemata—repeating the injections four to six times. He begins with a solution at 38° to 40° C., but as soon as improvement sets in, reduces the temperature to 32° or even 28° C., because frequent hot injections give rise to abdominal pain and general weakness. Hot injections must not be given in bloody stools. If patient is restless or excited he orders a warm bath, with irrigations to the head. He systematically avoids any internal medication. Narcotics he thinks worse than useless, as they retard action of the gastric mucous membrane and may induce hiccough. He also objects to stimulants.

AFTER-EFFECTS OF CHLOROFORM.

Luther (Münch. Med. Woch., January 3, 1893) says that changes are found in the kidneys after death by chloroform, however produced. He maintains that albumin and casts are found in the urine after the administration of chloroform, especially if it is prolonged, in nearly all cases. He also found that when there was no vomiting the urine was normal—that of many cases examined, the after-effects were most marked in the single case in which abnormal constituents were found in the urine. That albuminuria and cylinduria go hand in hand and dis-
appear after a few days, and that the casts are mostly hyaline.

In consequence of these reasons, he concludes that chloroform should be limited to cases where it is necessary; in every case before prolonged narcosis the urine should be examined, renal disease being a more important contra-indication than heart disease (except fatty heart); that chloroform narcosis should be restricted in the case of the pregnant and lying-in, and it should be absolutely avoided in eclampsia, since it must be prolonged, and the kidneys are nearly always diseased, and that mild diuretics are of value in the after-effects of chloroform.

From our experience, we must take exception to the remarks of Luther concerning chloroform narcosis in the pregnant and in eclampsia. It is true that chloroform is given in delivery oftener than for any other operation, and we likewise assert that there are fewer deaths from it during labor than under any other circumstances. We also maintain that the kidneys are seldom the cause of eclampsia, and, therefore, granting that this theory of albuminuria, etc., being caused by chloroform, is correct, we see no just reason for prohibiting its use in this any more than in any other disease.

Interstitial Injections of Chloride of Zinc in Pulmonary Tuberculosis.

Comby (Sem. Med. January 4, 1893) reports three cases of pulmonary tuberculosis in one apex, treated with favorable results by the intra-pulmonary injections of chloride of zinc according to the "Sclerogenic" method of Lannelongue, as described by him in the British Medical Journal, July 11, 1891, p. 86. These patients received thirteen injections of a solution varying in strength from 1 in 50 to 1 in 20. He injected from 2 to 3 drops. There was no pain nor discomfort when this dose was used. He concludes from these few cases that there is no danger in injecting into the substance of the lung.

Hypodermatic Injection of Guaiacol and Iodoform in Pulmonary Tuberculosis.

Tukia (Gazz. degl. osp., October 1, 1892) reports results of 18 cases of pulmonary consumption treated by means of hypodermatic injections of guaiacol and iodoform, in combination and separately.

The technique of the injections was as follows: Wash part with a 5 per cent solution of carbolic acid, cover with a thin layer of wool saturated with the same solution; place on this a small piece of ice and allow it to remain three or four minutes. This produces complete local anesthesia. As a rule, the injections were given in the post-trochanteric sulcus or into the substance of the gluteal muscles. In the whole series of 350 injections neither abscess nor other sign of local reaction was observed.

The guaiacol used was of the purest quality, giving the characteristic purple reaction with sulphuric acid. Oil of sweet almonds was used as the excipient, as being less irritating and less liable to rancidity than vaseline. The author concludes that the dangers of injecting iodoform are nil up to a dose of 0.15 gm. pro die, if care is taken to increase the dose very gradually. When, however, doses of 2 centigrams and upwards were given, a considerable proportion of albumin was found in the urine; and in these cases serious hemoptysis was set up. Guaiacol, on the other hand, was well borne as long as a dose of 15 cubic centimeters of a solution containing 3 grams of the drug, at each injection was not exceeded. If larger doses were given they caused violent coughing, with sometimes vomiting and intense prostration.

The writer concludes that the treatment is useless in advanced cases, and of little or no advantage in incipient phthisis.

Anesthetics in the Middle Ages.

Under this head "Hospital" gives an interesting article, once more proving the old adage "There's nothing new under
the sun,” to be correct. It is often asserted (Hospital says), and it is not impossible, that the ancient surgeons sometimes produced insensibility by means of hypnotism; but there is no direct evidence on the subject. They appear, however, to have sometimes obtained a local and partial anesthesia by the application of a "lapis memphiticus," perhaps a kind of bitumen, which acted through the phenol it contained; and they certainly used decoctions of poppy and mandragn, as did also the mediaeval operators. Bernard tells us that the Salernitans rubbed up poppy-seed and henbane and used them as a plaster to deaden the sensibility of a part to be cauterized. The author of “Breviarium” (Arnald of Villanova?) gives the following recipe: “To produce sleep, so profound that the patient may be cut and feel nothing, as though he were dead. It is an "experimentum" of Magister Michael Scott. Take of opium, mandragn bark, and henbane root, equal parts, pound them together, and mix with water. When you want to sew or cut a man, dip a rag in this and put it to his forehead and nostrils. He will soon sleep so deeply that you may do what you will. To wake him up, dip the rag in strong vinegar. The same is excellent in brain fever, when the patient can not sleep, for if he does not sleep he will die.” Hugh of Duca’s method was either the original or an improved version of this. He added the juice of lettuce, ivy, mulberry, sorrel, and hemlock to the above, and boiled the whole with a new sponge. This was then dried, and, when wanted, dipped in hot water and applied to the patient’s nostrils.

Yonkers, N. Y.

SODIUM NITRATE FOR INTERMittENTS.—Sodium nitrate is used successfully in the treatment of intermittent, quotidian, tertian or quartan, by Dr. BurU (L’Union Medicate), the dose being fifteen to twenty grains, given either at the beginning of a paroxysm or during an intermission.

Clinical Record.

AORTIC STENOSIS.

During the severe epidemic of influenza of last winter, a Mr. C., aged 38, suffered from a mild attack of influenza during January, 1892. He was not sick enough to keep his bed, but was confined to the house for nearly a week. As a complication of the disease, he had a pronounced systolic murmur of a cooing nature, and of unusual loudness, persisting for fully twelve months. The murmur was so pronounced that he was conscious of it all that time, being able to hear it distinctly day after day. At night his wife could plainly hear it on laying her head on the pillow on the other side of the bed. On holding conversation with him on the street or in my office, I could hear it distinctly when standing face to face with him.

It was plainly audible on placing my ear on any part of his chest, front or back, though most pronounced over the base of the heart and along the line of the aorta.

There was, for several months, slight edema of the ankles, yet he felt able, with the exception of the first week of his attack, to attend to his duties as book-keeper for a large manufacturing establishment.

As soon as the more urgent symptoms of the influenza had subsided, I placed him upon the following course of treatment:

R Potass. Iodi. .................. 3 iii
Tinct. Strophanth. ................ 3 ii
Syr. Sarsap. Co. ........... 3 ii
Aqua ...................... 4 ad 3 iv
M. Sig.:—Teaspoonful t. i. d.

While there was no distinct history of an attack of rheumatism, yet he frequently had rheumatic pains. Under the influence of this treatment, the murmur has gradually become less harsh, until at the present time it is merely of a soft blowing character, and he expresses himself as feeling perfectly well.

My diagnosis has been infiltration and
roughening of the aortic valves, with stenosis and consequent dilatation of the heart, as shown by the beginning edema, superinduced by the attack of influenza.

The effect of the treatment has been the absorption of the infiltration and the roughening of the valves in great part at least, with the production of sufficient compensatory hypertrophy, to overcome the threatening dilatation.

D. H. Bergey, M.D.
North Wales, Pa.

SOME NEW REMEDIES.

The following clinical reports in abstract, translated from the French, are of sufficient importance to warrant early publication in this country, as they contain useful suggestions on the employment of new remedies:

ALUMNOL IN BLENNORRAGIA.

Alumnol occurs in the form of a grayish white powder, with a taste at first sweetish, then styptic, as that of ordinary alum. Its reaction is acid. It is very soluble in water, less soluble in alcohol and ether. Its aqueous solutions are fluorescent, and this fluorescence may be increased by the addition of an alkali, especially ammonia. Its solutions are not precipitated by ammonia nor by acids, tannin, resorcin, sulphate of zinc, sublimate or boric acid. With the perchloride of iron alumnoml gives a violet-blue color analogous to that of salicylic acid, but with this difference, that it is distinctly violet, while that of alumnoml is strongly blue. The Germans employ this substance in certain affections of the skin and in blennorrhagia. Eraud has used it as a dressing for wounds, and he remarks that it does not occasion irritation or pain. In acute and chronic blennorrhagia he has used it in doses of 1 to 2½ grams to 100 grams of distilled water; its effects have been neither inferior nor superior to those of any substance used in the treatment of this affection.—*Jour. de Med. de Paris*, Jan. 22, 1893.

**Butyl-hynal.**

This is a combination of butyl-chloral with antipyrine, analogous, to hynal, or chloral-antipyrine. It appears in the form of colorless crystals, light, more or less voluminous, according to the degree of concentration of the mother-liquids from which they were formed. Its odor approaches that of butyl-chloral; its taste insipid and bitter. It melts at 70° C., and is soluble in water at 15° C. (1 to 30), very soluble in alcohol, ether, benzene and chloroform. Its solution is colored red under the influence of the perchloride of iron; it gives with picric acid an abundant precipitate composed of rectangular lamellae. In contact with the alkalies butyl-hypnal decomposes into antipyrine, alkaline formate and propyl-chloroform. It reduces permanganate of potash. Its therapeutic properties—not yet studied—appear to be analogous to those of chloral.—*Rep. de Pharmacie*, Nov., 1892.

**Itching of Urticaria.**

Bourdcaux, Belgian military surgeon, recommends the following formula which he has employed successfully in the treatment of the itching of urticaria. It is also used in the pruritus of skin affections. Lime water, cherry-laurel water, and pure glycerin, equal parts. Bathe the affected parts with this solution, and cover them with a light layer of cotton without drying. The relief is almost immediate.

—*L’Union Med.*, Jan., 1893.

**Substances Incompatible with Antipyrine.**

The following substances precipitate antipyrine from its aqueous solutions:

1. Concentrated solution of carbolic acid;
2. Tannin, and preparations containing tannin;
3. Tincture of iodine;
4. The chlorides of mercury.

The following substances, when triturated with dry antipyrine, decompose it:

1. Calomel, which forms a toxic compound with it;
2. Beta-naphthol;
3. Chloral hydrate, which forms an oleaginous liquid with it;
4. Sodium bicarbonate, which, when brought in contact with it, sets free an odor of acetic ether;
5. Salicylate of soda, which also forms an oleaginous compound with it;
6. The salts of quinine and caffeine have their solubility increased by antipyrine.—Gas. des Hospitaux, quoted in Med. and Surg. Reporter, Feb. 18, 1893.

Naphthol as a Vermifuge.

Dubois has employed naphthol successfully as a vermifuge. He reports the following case: A girl, six years old, vomited constantly for five or six months, without any apparent cause. Dubois, thinking it might be due to intestinal worms, tried all the vermifuges without success. The patient vomited daily, did not take sufficient nourishment, developed fever, and began to emaciate. Then 45 centigrams of naphthol was administered per diem in three doses. In a few days the patient passed 34 lumbricoid ascaridal worms. Her vomiting decreased, and eventually she was completely cured. This property of naphthol is worthy of remembrance.—Le Bull. Med., Jan. 8, 1893.

Treatment of Alcoholism and Dipsomania.

Beldan (Le Bull. Med., Jan. 8, 1893) has come to the following conclusions after a thorough review of the subject: All writers agree that nitrate of strychnine gives results more or less pronounced in the treatment of alcoholism and dipsomania, and to a certain point is a physiological antagonist of alcohol. The better results are obtained in dipsomaniacs and not in individuals who drink considerably, and who have invereter habits of intemperance. Treatment should be pursued a long time, and it becomes necessary to employ daily doses of 0.005 mg. to 0.1 cg. in subcutaneous injections, or of 0.03 cg. by the stomach. Alcoholics support, moreover, strong doses of strych-

nine very well, and this alkaloid does not appear to have in them any cumulative effect.

Employment of Thiosinamin in Gynecology.

This substance, which is employed by Hebra in the treatment of certain cutaneous affections, has been applied by Latzko, of Vienna, to certain gynecological affections. He has employed it in forty women afflicted with tumors of the adnexes, perimetritis with salpingitis, and uterine retroflexion, with immobilization of the organ. All these women, belonging to the working class, experienced shortly a marked amelioration in their symptoms, and most of them again resumed their labors. The tumors of the appendages diminished in volume, and the retroflexion became less pronounced. Latzko employed the thiosinamin in 15 per cent. solutions, of which he injected subcutaneously 10 to 40 centigrams.—Jour. de Med. de Paris, Feb. 12, 1893.

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Recent Medicaments.

Sodium Dioxide.

Sodium dioxide (Na₂O₄) occurs in the form of a white solid, very hygroscopic; soluble in water and alkaline in reaction. Added to water it causes the evolution of oxygen with heat, and when exposed to the air it increases in weight, estimated at twenty per cent., in twenty-four hours. Brought into contact with organic matter, it may cause the latter to inflame. When added to dilute acids and the temperature kept at a low degree, there is no evolution of oxygen, but a solution of hydrogen dioxide is produced. When slowly added to water, no oxygen is evolved, and the ordinary commercial solution is said to contain about twenty per cent. of active oxygen, about seven times the strength of medicinal hydrogen dioxide (15 volume solution).
From an interesting and instructive article by Edward C. Kirke, D.D. S., (Dental Cosmos, March, 1893), giving the above data, the following extracts are taken:

"As a tooth-bleacher and sterilizer of putrescent canals and tubuli—for the former implies and includes the latter—it has an important additional property which is an advantage over hydrogen peroxide,—viz., its saponifying and solvent action upon the oils, fats, and animal tissue which permeate the dentinal structure, and which so often act as a formidable barrier to the ingress of the bleaching agents ordinarily used. This saponifying action will be seen at a glance when it is noted that the NaO₂ by the loss of one atom of O becomes Na₂O; this immediately by combination with a molecule of water becomes NaOH, or the ordinary caustic soda which is used in the manufacture of soaps.

"Sodium peroxide is, as before stated, freely soluble in water, with which it unites energetically and with the evolution of considerable heat, which can be controlled by adding the powdered compound slowly and in small portions to the water. This should always be done in making the solution, as decomposition of the material and consequent loss of oxygen results when the solution is carelessly made and allowed to become hot. It is desirable, in fact, to surround the beaker or vessel containing the solution with an outer vessel of ice-water until the compound has been completely dissolved. After having made a standard solution in this way by dissolving the compound in water to the point of saturation, other solutions of different known strengths can be made from it by adding water in definite proportions to measured amounts of the stock solution. In strong solutions sodium peroxide is a powerful caustic and solvent of animal tissue, as well as a saponifier of oils and fats. These qualities are modified and regularly lessened in intensity by progressive dilution with water. I have used in the treatment of pulpect teeth with putrescent canal-contents, solutions varying in strength from full saturation to one containing about five per cent. of the saturated solution. The most striking illustration of the valuable properties of this compound, and which will, I think, achieve for it a definite place in our list of valuable medicaments, is the effect produced upon those cases of offensive and putrescent canal-contents when the whole structure of the dentine is permeated and colored by a stinking and fermenting mass of decomposing organic matter, with often a blind abscess as an accompaniment to add to their foulness."

**SODIUM PARA-CRESOTATE.**

**SODIUM PARA-CRESOTATE.**—There are three chemical compounds known as cresotic acids, ortho-, meta- and para-, but only the latter has been employed in medicine, in the form of para-cresotate (C₇H₅NaO₇). It occurs in the form of a white, crystalline powder, with a bitter, but not unpleasant taste; soluble in 24 parts of hot water, readily soluble in alcohol, ether and chloroform. The dose for adults ranges from sixty to ninety grains daily, given in divided portions, in the form of a mixture, with simple elixir, with or without opium. For children the dose will vary from ten to thirty grains.

Sodium cresotate had some reputation as an antipyretic about twelve or fifteen years ago, but the product then employed was merely a mixture of the different cresotic acids mentioned above, ortho, meta, but principally para, and it soon fell into disuse. The pure sodium para-cresotate, however, has been well received, and promises to fulfil an important function in affording relief from various forms of disease.

Physiological investigation shows that the drug under consideration is less poisonous than sodium salicylate, and that it possesses distinct antiseptic properties; and clinical observations have demonstra-
ted its adaptability to the treatment of a number of disorders in which sodium salicylate had hitherto been employed (Demme, Fraser). It is said to be especially useful in the treatment of children, the late Prof. Demme having employed it in the Jenner Hospital (Berne) with much satisfaction in cases of articular rheumatism, typhoid fever and gastro-intestinal affections generally, and also in catarrhal pneumonia. In the case of typhoid fever, the frequency of the stools was checked; and while less effective as an antipyretic than sodium salicylate, it is said to be better tolerated by the digestive organs.

From the foregoing summary it will be apparent that we have in this new compound a formidable competitor of the salicylates, but further physiological and clinical testimony will be required before the latter can be dislodged from the favorable position they have so long held in the minds of our most experienced practitioners.

Agathin.

Agathin, a new synthetic compound, brought to the attention of the profession by Ross, of Frankfort-on-the-Main, Germany, occurs in the form of greenish-white, plate-like crystals, tasteless and odorless, soluble in alcohol and ether, but not in water. The method of preparation is by condensation—salicyl-aldehyde with α-methyl phenyl hydrazin. The dose advocated ranges from five to ten grains, two or three times a day, but it must be given for several days before benefits result from its use. A note should be added to the effect that a large dose produces more or less headache for a short time.

So far agathin has been employed only within a limited range, its chief use being confined to the treatment of neuralgia, sciatica and articular rheumatism (E. Rosenbaum).

Analgen.

Analgen (ortho-oxy-ethyl-ana-monoacetyl-amido-quinoline, C₈H₁₄N₃O₄) occurs in the form of white, crystalline needles; soluble in hot water, alcohol and dilute acids, but almost insoluble in cold water. It is a synthetic product whose formula was determined upon before manufacture, the object being to produce a remedy possessing certain physiological properties.

It is said to be antipyretic, anti-rheumatic and analgesic, and has shown very satisfactory results in doses of fifteen grains.

Antinervin.

Antinervin is the trade name given to a mixture containing acetanilide, salicylic acid and ammonium bromide, in the proportion of fifty per cent. of the first and twenty-five per cent. each of the other two. It is also known as salicyl-brom-anilide and sal bromalide. Dose for an adult, two to ten grains.

As might be expected from its composition, antinervin is a useful remedy in allaying pain and quieting nervous irritability, and may also be employed cautiously for the reduction of fever. The analgesic effects of acetanilide commend the preparation, or combination of the various ingredients, for the relief of rheumatism, but great care must be exercised when organic heart disease co-exists, since acetanilide destroys the oxygen-carrying capacity of the blood, and collapse may follow its injudicious use. Both salicylic acid—pure, from oil of wintergreen—and ammonium bromide, would have a tendency to counteract this effect, but nevertheless reports are to the effect that copious perspiration follows its administration; hence it would be well to take into account these possible complications.

Antinervin has enjoyed a considerable degree of popularity in England, Germany and Italy, and was favorably received in Scotland for the treatment of influenza, but it has not yet found a large following in this country. Judging its action in the main by that of acetanilide, the principal ingredient, it will be found
best adapted to those patients who are spare and muscular, rather than for those who are "flabby" or anemic; and as the formula is given above, it will be a simple matter to test its efficacy by ordering the combination put up in the form of capsules.

Benzol.

Benzol, or benzene, is a distillation product obtained from crude petroleum, which has lately been brought to the attention of the profession, although this, and other like products have long been favorite remedies in domestic practice, both in this country and abroad. It occurs in the form of a thin, colorless and highly inflammable liquid, of low specific gravity, and possesses a characteristic, penetrating odor.

Benzol is an energetic solvent, and doubtless to this property is due its supposed antiseptic action when used internally or applied locally. A single application suffices to destroy every vestige of pediculib pubis or capitis, and it is efficient in quite a number of chronic skin affections. This remedy has been employed with excellent results in pertussis (Robertson), and will be found efficient in the treatment of the incipient stages of catarrhal group occurring in children. Five drops are given on sugar at intervals of an hour or two.

Strontium Iodide.

Strontium Iodide, the new remedy first brought to the notice of the profession by Prof. Laborde, as a substitute for potassium iodide, occurs in the form of hexagonal crystals, and when pure, is not affected by exposure to light and air. It is prepared by the decomposition of a solution of iron iodide by strontium sulphide, the resulting solution being filtered in an atmosphere deprived of oxygen and the iron sulphide separated. The remaining solution of strontium iodide is then evaporated and thoroughly purified by re-crystallization.

The dose ranges from fifteen to thirty to forty-five grains daily, to be given in solution in divided portions.

The physiological action of strontium iodide is said to be substantially the same as that of the potassium salt, but with this exception, viz., that the former has not so far shown any of the untoward effects of the iodides in general, such as headache, coryza, increased nasal and salivary secretion, cutaneous eruptions, etc. Laborde and Malbec advance the claim that strontium iodide is speedily eliminated by the kidneys, and that instead of deranging, it improves nutrition. They have employed the salt in a number of cases of chronic endo-carditis with most gratifying results, and should their expectations be fulfilled we shall have in this new candidate for professional favor a very desirable medicament.

Epidermin.

Epidermin is the name applied to a recent surgical dressing, which is in the form of an emollient, milky-white liquid. When applied to an abraded surface the watery portion evaporates, leaving an artificial skin to cover and protect the part. If desired, the mixture may be medicated with any soluble substance which it is desired to apply locally. Although the composition of this remedy is unknown, it is said a very satisfactory substitute can be prepared in the following manner: To 15 parts of white melted wax, in a warm mortar, add an equal amount of powdered acacia and triturate; then distilled water and glycerin, 15 parts of each, are mixed and heated to the boiling point and immediately added to the first portion, and the mixture stirred until cool.

Thyroidin for Myxedema.—Thyroidin would probably be a suitable name for a glycerin extract of the thyroid gland, a remedy which has attained some prominence in the treatment of myxedema. It is evidently of some therapeutic value, whether given subcutaneously or taken internally. When cooked and eaten it produces weakness (Fox, Brit. Med. Jour. Oct. 29, 1892.) but when administered in the fresh state, it is said rapid improvement follows (Mackenzie, loc. cit.)
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JOHN AULDE, M.D., Editor.

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Editorial.

THERAPEUTIC ADAPTATION OF OXYGEN.

The principles connected with the scientific adaptation of oxygen have already been considered (American Therapist, January, 1893), and it now remains to make some practical suggestions relative to the therapeutic adaptation of this most useful remedy. Although employed in this country and abroad for quite a number of years past, it has not yet come into such general use that the public demand it; and physicians in general practice have not felt, under the circumstances, that they were required or expected to prescribe it for their patients. It first claimed the attention of the profession owing to its beneficial effects in the treatment of pulmonary affections, including under this head especially, asthma and chronic bronchial catarrh, but unfortunately a favorable impression was not created by reason of the absurdity of the endorsements which it received. While a most valuable remedy, it is certainly not the all-sufficient remedy; still, in a large proportion of cases, it is the remedy first in importance, because it paves the way for the successful employment of other indicated drugs.

As a natural result of the favorable effects in the foregoing class of disorders, oxygen readily found favor with those who considered the beneficial action that would follow the introduction of this gas into the system in sufficient quantity to enable oxidation to be more perfectly performed—in short, to increase and stimulate cellular activity, and as a consequence it was promptly adopted in those nondescript cases called "general debility," and in many instances, with most surprising effects. Physiological investigation showed that when the gas was introduced into the intestine, that blood in the veins of the mesentery quickly assumed a reddish hue, which disappeared as soon as the gas was withdrawn, and it was then but a step to its use in the treatment of anemia and chlorosis. Some times a single administration in these cases will be sufficient to start the patient on the road to health, and along with suitable internal medication and proper dietary and hygienic regulations, there are but few cases that will not yield to this treatment.

Later the use of this gas was extended to the treatment of croup, pneumonia, and other active or inflammatory affections. When the patient is sufficiently intelligent to comply with instructions, inhalations of oxygen in cases of pneumonia often produce extraordinary results, but there are thousands of physicians who will not believe it, and indeed, refuse to be convinced by ocular demonstration. In the case of children with whooping cough, if they are old enough to take the gas, it produces marvellous effects, and practically keeps the disease under subjection. A child six to seven years of age can take ten to twenty gallons per day, inhalation being practiced at intervals of two or three hours.

Probably the next departure in this line consisted in the use of oxygen as an adjuvant in the treatment of fevers—typhoid, scarlet and diphtheria. In the case of typhoid, for example, it seems as though you might restore the patient to perfect
health, the strengthening effects are so noticeable, even in those cases where it must be given in the form of enemata.

Other applications will readily suggest themselves to the thoughtful physician and surgeon, as its great, almost inestimable value has been proven time and again in the treatment of emergencies, such as sudden hemorrhage, asphyxiation, profound narcosis, etc., and there should be in every town of any considerable size some one who is competent to administer it when demanded.

The administration of oxygen is an extremely simple operation, and under ordinary circumstances can easily be entrusted to the patient. The compressed gas may be obtained in the form of cylinders, either pure oxygen, or combined in various proportions with nitrogen monoxide, the latter being well adapted to the cases in which anesthetic effects are desired. Within the past two years oxygen has been combined with the nitrous oxide when the latter could be used for the purpose of producing temporary anesthesia. A mixture containing ten per cent. of oxygen is said to be safer and less depressing than nitrous oxide alone, and the patient returns to consciousness almost instantly after the gas is withdrawn. It could not, however, be given in puerperal eclampsia during a paroxysm, as we should be unable to secure the co-operation of the patient. Using gas from a cylinder in this way, it becomes an easy matter to introduce whatever volatile medicines may be required, and this with the certainty that absorption will be prompt. The writer has found it advisable in a number of cases to introduce between the patient and the gas a solution of hydrogen dioxide, this being done with a view to obtain the oxygen gas in a nascent condition, or, what may be termed, ozonized oxygen.

A generating apparatus, such as may be found on sale in the market, will be found convenient for those who do not use it generally, but on special occasions, in which case the gas may be stored in rubber-lined silk bags for a period not to exceed twenty-four hours; stored for a longer period it will act upon the rubber, and patients will complain unless it be thoroughly washed as it passes from the reservoir; but even then it is stale and unsuitable for medication.

Still another plan for the production of nascent gas offers, viz., by the use of hydrogen dioxide in the form of a spray. To employ this successfully an air-compressor is required, as the use of the hand-ball atomizer is not adapted to continuous use. It will, however, be found admirable as a temporary expedient in emergencies and for occasional use, but as a rule patients requiring its benefits are unable to exert the necessary strength.

MEDICINE FOR MINOR AILMENTS.

If we are to judge by the amount of information published in the daily press, almanacs, circulars and ministerial commendations relative to the usefulness of numerous remedies for minor ailments, one might come to the conclusion that for this class of cases the physician's services would seldom be in demand. Nearly all druggists keep a stock of these proprietary medicines, and many of them are fully qualified, in their own opinion, to designate just the particular class and varieties of disease to which each of them is adapted. Indeed, some of them depend more upon this class of "business" than upon the legitimate demands of their profession. Just here, the question will be asked, What is the cause of this widespread effort on the part of the laity in the matter of self-medication? Is it possible that they are vain enough to suppose the physicians in their locality incompetent, or that they are better able to prescribe for their own troubles than he? The more intelligent class of citizens ought to know that these preparations are offered in many cases without any definite
idea of the diseases for which they are recommended, and many persons learn to their sorrow, when too late, that it would have been much better to consult a competent physician.

The remedy for this sad state of affairs is with the doctors; but it is not, as some would have us believe, entirely educational in character. The practitioner must not only instruct his patient as to the harmfulness of these crude preparations, but he must convince the patient that his own medicaments are not open to the same criticism, and therein lies the secret of the successful treatment of minor ailments. It is both proper and right that the physician should do what he can to prevent disease, and when disease is threatened, it is his duty to give such instructions as will enable the patient to avoid an approaching attack; but in the treatment of minor ailments, unfortunately, this course is too often neglected. Take, for example, the treatment of cough, apparently a simple malady, and from a study of the numerous formulas published for its relief, many sensible people would prefer to keep the cough rather than take the medicines. Cough may be due to so many and so various causes and conditions that the idea of publishing a formula strikes one as most hazardous. We have the cough of ordinary catarrh, the cough of indigestion, the cough due to hepatic affections, the cough associated always with bronchial irritation, the cough of pneumonia, the cough of tubercular affections, the cough of asthma, the cough due to hypostatic congestion in typhoid fever and other lingering diseases, the nervous cough, the cough due to enlarged tonsils, usually associated with digestive and hepatic disturbances, and many other coughs, from which it will appear that it is quite out of the question to prescribe for a cough unless we know something about the cause and conditions associated with it.

Perhaps it would be too much to say that the routine practice in the treatment of cough has had much to do with the present tendency to self-medication, since a majority of physicians associate opium or some of its derivatives with the name, but it may be safely claimed that opium ought to be avoided if possible. What can opium do for a cough resulting from passive congestion of the liver and intestinal flatulence? What can opium do for a cough that arises from enlarged tonsils? Certainly not much good, and probably a great deal of harm—irreparable injury to the patient if it should beguile him into the opium habit.

There is a long list of minor ailments which might be brought to the attention of the profession, whose routine treatment would bear criticism, but many would not take kindly to it, since they have found certain medicaments or combinations satisfactory from experience, and are, therefore, indisposed to adopt new ideas, however useful and efficient, simply because they do not believe in progress, do not believe in modifying their methods in any respect unless they are convinced that the innovation is perfection.

Dr. W. W. Dawson, ex-president of the American Medical Association, and for many years an active member, died at his home in Cincinnati, Ohio, February 10, 1893.

Co-education a Failure at the Columbian University.—It is reported that the above named institution (Washington, D. C.) has rescinded its action relating to the admission of women to its medical department, as they believed from their observation and experience, the course inimical to its welfare. The officers were convinced that co-education was not approved by the male patrons, and as a consequence the plan was abandoned.

Medical Legislation in New York.—According to the present law regulating the practice of medicine in New York, candidates are not eligible to present themselves for examination unless they have certificates to show that they had attended three courses of lectures before receiving the diploma. A case occurred recently, in which a graduate of Jefferson Medical College (1882) was refused permission to come before the Board, although he had been in active practice for more than ten years, and as a matter of course, the faculty and trustees of the college feel somewhat aggrieved, since this decision would bar from practice in New York some of the most successful practitioners of the country.
Current Literature.

CHOREA AND THE PHENOMENON OF INHIBITION.—It appears to me as if, in the practical study of chorea, we have hitherto overlooked the phenomenon of inhibition. The phenomena of chorea, like those of hysteria, are not phenomena of increased excitement of motor centres, but of paralysis of inhibition. The conjunction of increased muscular and nervous discharge with evident weakness of the spinal centres is explained by the fact that the motor cells are weak, but the inhibitory cells are weaker still. Sometimes in chorea in the child, as commonly in the dog, the movements are rhythmic, and although they are constant the child does not get tired. No one in health could continue this motion for half an hour without fatigue. How can this be explained? In the anatomical rooms you have learned to refer anomalies to a reversion to a lower type. You have seen how a stump is produced by evolution to a certain point for a certain purpose in the case of the animal, and that is altered by higher evolution in man. Now, I believe, that we have a physiological reversion as well as an anatomical reversion, and applying this to the spinal cord, we may have a reversion of the function of the motor cells to those of the lowest type of nerve-cell, in which the discharge of force is rhythmically continuous. Just as the beating of the heart never ceases during life, so it is the function of the primitive nerve-cell to unceasingly give off force. The strange phenomenon of the lack of tire in choreic movements then, may, in this way, be explained on the principle of reversion.

Applying these investigations to cases of chorea, it occurred to me to give quinine a trial. I may say that it has been only during the last ten days that I have thought of this subject from the clinical standpoint. I have thus far had the opportunity of employing it in only one case in a human subject. It was a child with well marked chorea, brought by her mother to the Out-patient Department. She was ordered full doses of quinine, and was brought back in four days with the report that she was very much improved. I spoke to Dr. Pearson, of the Veterinary Department, and asked him to try the alkaloid in choreic dogs. He told me in the first place that he had never found anything that would do choreic dogs any good; his experience is that chorea in dogs is incurable. Here is an English setter dog suffering with chorea. One week ago he could not stand upon his feet, owing to violent choreic movements. He had quinine given freely by the mouth, and within twenty-four hours the movements decreased. He now walks about and is apparently almost well; at least, he has very little left of his chorea. So far as practical results go, it therefore looks as if the theory would stand the test of experience; but whether our present prospect is simply a mirage or not, time alone can tell.

I now bring before you two children suffering with chorea. The first one is seven years of age, and small and poorly developed for her age. The second is ten years of age, and appears to be in a better nourished condition; but in the second the chorea is more marked and of shorter duration than the first, in which, according to the mother, it has existed more or less for four years. I will put both of these patients upon the quinine treatment, and will report the result at our next meeting.

H. C. Wood, M. D.

(Jour. Am. Med. Ass'n, February 25, 1893.)

SUGGESTION IN THE TREATMENT OF PSYCHOSSES.—I think the great principle is lost sight of that hysteria is essentially a psychosis, and is as much due to primary neurotic inheritance, environment and education as to anything else. Physicians of strong personality and tact, as is well known, do more through mental therapeutics than by any other more material remedy, and in making this asser-
tion I simply reiterate something which has been said over and over again, but has been neglected by those who have an all-abounding faith in drugs and the knife.

The rapid advances that have been made in the past few years by Janet, Richet, Bernheim, Myers, James and others, both therapeutically and experimentally, show that we possess in suggestion a means that is to revolutionize the treatment of many psychoses.

Where oophorectomy has done good in functional cases I am strongly convinced that it has been through the profound impression upon the mind of the subject rather than upon the removal of the ovaries, and in two or three cases I have been made fully aware of this, not only in the cure of imaginary troubles, but in the relief of the psychical disturbance, in one case leaving all the other neurotic symptoms as they were before the operation. Much of the credit that has been claimed by operating gynecologists results largely from this mental reformation, leading the patients to exaggerate their improvement and to magnify the weight of the burden they had previously borne, just as before the laparotomy they had gone to the other extreme in indulging in the luxury of despair. * * * * *

It cannot be denied that the temptation to use the knife in these cases is very strong, and, even though the gynecological surgeon may have doubts of the appropriateness of the treatment, he is urged by the despondent and desperate friends of the patient, who have received little hope either from previous neurological treatment or the prognosis given by well informed physicians.

What the medico-legal complications are that may arise in the future from the wholesale unsexing of women that has gone on in recent years it is difficult to predict, and how much it will enter into the dissolution or formation of marriage contracts and other legal agreements no one can say. I have al-ready heard of one case of separation that has taken place, and doubtless there are others that are unknown. The operator should, therefore, not only be careful in the selection of his subjects, but should make a perfectly clear statement of the possible results of his surgical treatment.

In conclusion, I may recapitulate by expressing my objections to the operation in any case of typical or systemic nervous disease where there are objective evidences of degeneration or coarse disease, and it is only to be thought of where all other means of mental therapeutics have failed, and only then as a form of suggestive treatment, and in a small number of cases where menorrhagia results in the malnutrition of the nervous system, such menorrhagia being intractable and not due to any accessible disease. There is no doubt but what the most conservative gynecologists have discarded the operation almost entirely. In response to a question I propounded to one of the most learned and consistent specialists in women's diseases in America—viz: "In what proportion of cases does this operation cure nervous diseases, so far as you know?" he replied: "I never remove the ovaries for nervous disorders, as I believe the fault to lie in such cases in the nerve centres." This terse answer virtually voices the sentiments of the advanced and most careful surgeons.

ALLEN McLANE HAMILTON, M. D. (N. Y. Med. Jour., February 18, 1893)

CHLOROFORM.—Having gained confidence in chloroform, through an experimental method aiming at minimum dosage, and having as the chief factor of safety exclusive attention to the respiratory movements and rhythmic breathing, I have come to trust it under all circumstances where the unconscious state is compatible with life.

The anesthesia can be produced and maintained for one or two hours with from one drachm to three drachms of chloroform.
The chest is bared, and the assistant is required to note the breathing and pay no attention to the pulse. The secret of the method is rhythmical breathing, uniform density of the chloroform vapor with the minimum quantity. This can be accomplished by covering the face with a handkerchief, pulling up a fold at the center for an air space for the chloroform vapor, and dropping two to five drops a minute, one at a time, with the quantity regulated according to the breathing. Probably benefit might be secured in every case by breathing exercises as a part of the preparation treatment.

Charles S. Morley, M. D.
(N. Y. Med. Jour., December 17, 1892)

Pharmacology of Ipecac.—The action of ipecac lies in two entirely distinct and fully understood directions, besides producing certain other as yet imperfectly understood effects. The first is its local irritation; the second, its effects, after absorption, upon the vagi. Its imperfectly understood effects are the expectorant, cutaneous and hepatic.

Its locally irritant effects are very simple and exhibited both externally and internally—externally, in the hyperemia, pulsations and even ulcerations produced in direct experiment and in collecting and working with the drug; internally, in the sneezing and asthmatic seizures dependent upon inhalation, as well as in the nature of its effects upon the digestive mucous membrane. We find that stomach administration produces emesis much more quickly than other modes. That this difference is due to local irritation is shown by the fact that agents which tend to mollify such irritation, like bismuth and hydrocyanic acid, postpone the emesis. Direct observation has shown, moreover, that there is hyperemia and increased temperature of the intestinal mucous membrane, and often purging, after contact of the ipecac or during its elimination by that tissue.

Its effect upon the vagi is indicated by the occurrence during intense poisoning of symptoms corresponding to those caused by section of the vagi—namely, sudden impeding of the lungs. When death occurs as the result of ipecac poisoning, it is usually in the form of respiratory paralysis. Moreover, if the vagi be first severed, the hypodermic administration of the active constituent of ipecac—emetine—will not produce emesis.

Some of the effects of ipecac, notably vomiting, are explained by these two properties. The vomiting is doubtless due more especially to the central action of the drug, because it is of slow action, as though the local effects were not sufficient until after the central action had come to their aid. Sometimes repeated doses will fail to produce emesis, and the subject will become narcotized.

Cerebral congestion is found to be entirely indirect, due to the strain in vomiting.

The evacuation of bile, both by stomach and bowels, is partly explained by the nature of the vomiting, in which the diaphragm is fixed from above, and the stomach, liver, and gall-bladder are squeezed between it and the abdominal walls. But, in addition to this mechanical evacuation and stimulation, it appears that the liver must be affected in some other way, for the bilious stools are even more pronounced after toleration is established and all tendency to emesis is absent.

We do not understand, or at least are not agreed, as to the expectorant action of ipecac, especially upon the bronchial lining, its diaphoretic action, or its occasional reduction of cutaneous temperature. In its expectorant action it increases the secretion of the parotid glands and of the mucous membranes of the mouth, nose, pharynx and bronchial tubes. Its action upon the bronchial tubes is especially marked in children, and is powerfully accentuated by combining with it some synergist, the result being greater than would be accounted for by
the result of the one plus that of the other. The same may be said of its action upon the skin, and it is important to note that this action is not strong, regular or certain.

Ipecac exerts no action upon the pulse, blood-pressure, and general temperature, in most cases.

Although not accepted by most physiologists, it would appear as though ipecac must relax the muscles of the arterioles by peripheral paralysis of the vaso-motor nerves, at least in certain parts.

For therapeutical purposes, and especially in estimating the comparative value of any similar agent, the important points to note are that the effects of ipecac are diverse; that usually only a part of them are desired, the others being often very undesirable, or even intolerable, and that its most useful action is usually the most difficult to secure, except by combining something with it. According as these disadvantages are shared by its associates, their degrees of usefulness and value should be accorded.

H. H. Rusby, M. D.

(N. Y. Med. Jour., February 11, 1893.)

TREATMENT OF ACUTE PLEURISY.—The modern medical treatment of acute pleurisy is by the following class of agents: First, by antiseptics, to combat microorganisms; second, by antipyretics, to combat fever; third, by evacuants, to eliminate the fluid.

Dr. Charles Talamon* has recently called attention to the action of sodium salicylate in pleuritic effusions, claiming for it the power of promoting rapid absorption of the fluid. He thinks it has a direct action on the inflamed pleura, because by the experiments of Rosenbach it is proved that the salicylates may be found in the serous cavities of the body after their ingestion by the mouth in doses of from ten to twenty grains. Whether the beneficial action on the fluid is due to the antiseptic nature of the agent, he does not state, and whether it is due to this or its diuretic action is still an open question. That sodium salicylate may be of use when the pleurisy is secondary to rheumatism there can be no doubt, but in the primary form, to depend on its success as a germicide would be hazardous. However, the salicylates may be employed as antipyretics as advantageously as other remedies; they certainly combine the indications for an antiseptic, antipyretic, and diuretic.

The practice of injecting a solution of salicylic acid or other antiseptic into the pleural cavity to combat microbes in the effusion has been suggested by some, but the treatment seems harsh and uncalled for, unless employed in connection with surgical methods for the treatment of empyemas.

Antipyretics in acute pleurisy are only indicated when the fever rises to 101° or over, and as the fever seldom attains that height for any length of time their use is greatly modified.

Quinine may be advantageously employed in pleurisy depending on malarial poisoning, and during convalescence, as a tonic. Antipyrine, or the other coal-tar derivatives, may be useful in cases accompanied by hyperpyrexia, but none of these measures is calculated to reach the cause of the disease, or to modify its pathology.

The evacuants are administered in acute pleurisy with a view to reduce the amount of effusion after its accumulation.

Under this head, the diuretics play the most important part. Digitalis may support a weak heart, but its action in reducing a pleuritic effusion is small. Milk is often used as a diuretic, but its influence over fluid in this disease is doubtful; while as a food it ought not to be neglected.

The action of purgatives, drastic or saline, and of sudorifics, with a view to reduce the quantity of liquid in the chest, is of no value; moreover, they are often dangerous.

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The pleuritic effusion is not really a question of hydropsy; the liquid of general ascites furnishes a chemical analysis quite different from the effusion of pleurisy; the latter is not simply a serum from the blood, but blood-plasma.

Frank S. Parsons, M.D.
(Med. News, Jan. 21, 1893)

Salicylates in Pleurisy with Effusion.—
1. Salicylic acid and its salts are among the most effectual agents in the treatment of pleurisy with effusion.
2. In effective doses the remedy is harmless, and with proper selection of the preparation, and care in administration, causes little or no discomfort to the patient.
3. Salicylates act most promptly in pleurisy with serous effusion of recent origin or of long standing, but they are efficient in simple dry pleurisy, and often act favorably in secondary pleurisy.
4. There is no evidence that they are useful in suppurative cases.
5. The drug acts as a diuretic, but may have an effect on the pathological process or on the cause of the disease.
6. Salicylates have a more marked action in pleurisy than have the diuretics commonly so-called.
7. "The duration of the treatment with salicylic preparations is less than with diuretics, common salt, or roborant medication" (Eugster).
8. The remedy can be used at the earliest period, and favorably affects all symptoms.
9. The drug may be given in the form of the acid, or any of its salts, in doses of a drachm of the former, or 1 to 2 drachms of a salt daily. In ordinary cases it is not necessary to give the larger doses, and 60 to 90 grains of sodium salicylate or salol daily may be considered full beginning doses, to be diminished one-third or one-half after the effect is manifest.
10. The ordinary precautions must be observed in giving the drugs, and during their administration the total amount of urine should be measured daily.

George Dock, M.D.
(Ther. Gaz., Feb., 1891.)

Jambul in Diabetes Mellitus.—In July, 1891, Mrs. L., widow, aged about sixty, presented herself, relating that for several months she had gradually been declining in weight and strength. Her tongue was moist and covered with a white coat; the saliva was frothy and slightly viscid. The skin, as she herself remarked, was dry and rough, and she complained of almost constant itching, especially marked in the vulvar region. The appetite was fair, but the digestion poor. She was fond of sweets. There was slight swelling about the ankles. Inquiry elicited the fact that about sixteen pints of urine were passed in twenty-four hours. About an equal quantity of water was drunk. And an examination of the urine disclosed the presence of abundance of sugar. The specific gravity was about 1.035.

The diagnosis being clear, the question of treatment presented itself. I explained to the patient the nature of her disorder, and wrote out for her the usual bill of fare used by diabetics, strictly prohibiting all articles of food likely to be deleterious. As to medicines, the usual remedies were employed. Directions as to diet and treatment were faithfully followed. The patient improved somewhat. The amount of urine passed was smaller and the thirst was less annoying, but considerable inconvenience was experienced in regard to the restricted diet. While the urine was diminished in quantity, the specific gravity remained unchanged or rose, and the percentage of sugar remained unchanged. This treatment was followed for several months, when I became convinced that my patient would probably not receive any material benefit from the usual remedies and that the final issue of her trouble would be death.

I now determined to use jambul. All other medicines was discontinued, and the
use of the jambul was commenced in about eight-drop doses of the fluid extract. The patient was directed to still persist in the avoidance of all articles of diet containing starch or sugar.

As the patient lived some miles in the country I did not see her again for about two weeks, when she returned to my office saying that she was much improved; that the quantity of water passed was much smaller, and that nearly all of the unpleasant symptoms had either disappeared or so diminished that she felt comparatively comfortable. She had become more fleshy, but desired very much to return to her usual articles of diet.

As a number of cases had been reported in which patients, even in the advanced stage of the disease, had been cured when little attention was given to the food eaten, I concluded to allow her to choose her own articles of diet. With this change, the treatment was continued. After two weeks she again returned, with the report that she still grew better and that the change of diet did not seem to be injurious, and that she ate starches as she wished, but was somewhat careful as to sugar.

An examination of the urine disclosed the presence of but a trace of sugar; and, later, even this disappeared. The patient continued the jambul for some weeks longer and then did not return. Since then I have seen her several times. She reports herself well and no longer has any symptoms of diabetes.

V. E. Lawrence, M.D.

The Value of Sprays in Catarrhal Diseases.—The treatment of catarrhal diseases of the upper air passages has practically become limited to such operative measures as each case demands, followed by the application of drugs in powder or solution. Ninety per cent. of all topical remedies are applied in the form of sprays. Sprays are beneficial or harmful according to the manner in which they are used. Nice judgment is required in selecting not only the drug, but the exact strength of the solution suitable for the particular portion of the upper respiratory tract. A solution which might improve the middle pharynx or larynx would, if directed into the nose, cause an intense coryza, and possibly an acute inflammation of the middle ear. The pressure used should be regulated to suit the temperament of the

had been administered about eight hundred enemas. The quantity of creasote administered was from 1 to 4 grams daily. The definite conclusions arrived at by the authors are as follows:

1. That enemata are very convenient as a means of administering creasote in large quantities.

2. That the results obtained in the treatment of phthisis with large doses of creasote speak in favor of the theories of Seixert and Höllscher, who consider this remedy as an effective means of neutralizing the pernicious influence of tuberculous toxines on the organism.

3. That all forms of phthisis cannot be treated with large doses of creasote. The best results are reached in those cases which develop rapidly when nutrition still exists, though considerably diminished; it may also serve for the fibrous form where there is complete failure of nutrition.

4. That in gradually administering augmented doses of creasote the appearance of a greenish color of the urine should serve as an indication.—Gazeta Lekarska, 1892, Nos. 35-36. (Universal Med. Jour., January, 1893.)
patient, the local condition to be treated, and the situation to be reached. Who can believe that a cold solution of some harsh astringent sprayed upon the mucous membrane of a nervous patient will be of benefit? And we may sometimes add to these unfavorable conditions a chilly patient and an underheated operating office. The oils, under such circumstances, are much better than the watery solutions. It is easy to have a water bath to heat the solutions which are to be used. Cocaine has been of great service; for a very weak percentage of this—one half of one per cent.—added to our astringent sprays will, to a great extent, nullify the first irritating effect of the topical application. Very mild solutions of cocaine—less than one per cent.—are, perhaps, as useful astringents as we can employ, and none of the uncomfortable reactions which sometimes follow the stronger solutions are seen. Mild cocaine solutions seem to clinch the beneficial effects of astringents when they are used in combination. Cocaine seems to have justly supplanted solutions of opium, morphine and bromide of potassium, and I know of no beneficial effect to be obtained from aconite preparations which cocaine does not more surely afford. The strength of the cocaine solutions can be more easily regulated than those of opium and aconite. I need not speak of the great value of mild cocaine sprays in the nose, postnasal space and larynx in aiding first examinations and in making diagnoses. Cocaine sprays have rendered laryngeal manipulation and operation easy, and have saved life in relieving laryngeal dyspnea until obstruction could be removed. The group of stimulating disinfectants represented by listerine, thymol, menthol, eucalyptol, oil of wintergreen, etc., cleanse and make comfortable the dry, congested air passages from the postnasal space down as far as they penetrate. The evaporation of their volatile elements diminishes congestion for a time at least. I have already said that solutions for spraying should not be cold, and should be propelled with reasonable pressure; fifteen pounds is sufficient for the anterior nares, twenty-five for the posterior nares, and twenty-five or thirty for the lower pharynx and larynx. The treatment of catarrhal affections of the upper air passages by the application of atomized fluids will not lapse into disuse in our day, neither will such treatment render nasal surgery unnecessary. It is quite possible, however, that our new combinations of cocaine, menthol, etc., applied in oily vehicles, will diminish the number of nasal operations which to-day seem indicated.

Clarence C. Rice, M.D.
(N. Y. Med. Jour., January 21, 1893.)

A Cancer-Cure — An "old woman" remedy for carcinoma has come under my notice within the past few years. Generally these remedies are based on mere superstition and are valueless. I have been very much interested in this one lately, because the old lady with this has succeeded in curing two epitheliomas. I promised profound secrecy, and she told me the remedy. The preparation is as follows: The juice is expressed from a large quantity of wood-sorrel (oxalis acetosella); this is poured into a pewter plate, and the whole placed in the sun and allowed to remain about one week. At the end of this time it has evaporated to a solid mass. This mass is then scraped away, and a part is applied to the diseased surface. Great pain appears in about twelve hours, and a few hours later considerable swelling is developed; both continue for about four days. On the fifth day sloughing begins, and a mass of diseased tissue falls out in one piece; later smaller portions slough way, leaving a clean, healthy-looking ulcer, which rapidly heals.

The juice of the wood-sorrel contains free oxalic acid and acid potassium oxalate. These act on the lead and tin (of which the pewter is composed), forming oxalates of these respective metals. Oxa-
lates of both lead and tin are strongly caustic, and when applied to carcinomatous tissue act, I suppose, in a similar manner as do the zinc and arsenic pastes. I simply bring the above facts before the profession as a matter which may justify investigation.

George Walker, M. D.

Parasitic Theory of the Etiology of Carcinoma.—While the parasitic theory is by no means new, the facts which tend to substantiate it are of very recent discovery—so recent, in fact, that it would be unseemly to accept them as all-sufficient. Obviously they can but constitute a mere foundation upon which we may hope to build. The other all-important yet subsidiary topics of the geographical distribution of cancer, and the influence of sex, age, part involved, civil and sanitary condition, injury, heredity, state of nutrition, and of preceding benign growth, must be constantly borne in mind. Many apparent contradictions must be explained, many conflicting statements reconciled.

The proper position for the real student, it would seem to me, is in the middle ground, between skepticism on the one hand and credulity on the other, working and waiting for the light that we have great reason to eagerly expect, and probably from the direction indicated in the course of this paper.

For my own part, I cannot help feeling that we are on the eve of great discoveries in this matter, partly, perhaps, because I have for years had a growing conviction that cancer—and syphilis, too—were parasitic diseases, due to either unfamiliar or yet unknown organisms, and that some new technical method, or some new application of old methods, would, ere long, furnish the key to the mystery. Whether we have been recently supplied with this by the investigators quoted above is as yet uncertain, though probable. How anxiously impatient, yet sanguine I am you may better appreciate when you recall that my home is (in Western New York) in a limited area, where the death-rate from cancer is greater than in any part of our continent. Roswell Park, M. D.


Food in Disease.—I will give you my conclusions:

1. That nourishing food is a great desideratum.
2. That digestibility is also a great desideratum.
3. That concentrated food should be allowed in quantity not much in excess of the requirements of the system.
4. That foods possessing high nutritive power should be associated with foods of very low nutritive power, the latter to be the bulk of the diet.
5. That concentrated foods cause constipation and irregular action of the excretive function.
6. That bulky foods, of low nutritive power, exert a marked, salubrious tendency towards keeping the bowels regular, and enhancing the health of the patient.

Fruits and vegetables, as a rule, are acceptable to most patients. They are not very nourishing (comparatively), since they contain so much water and fibre; still they are very useful in the "make-up" of a regimen for the invalid. What portion of them that is digestible, is digested, and the remainder (with some few exceptions) passes on without irritating, to swell the volume of excreta, thereby giving the intestines something material to work upon, and forcing a passage.

Don't be forever dosing your poor patient with physic; rather, choose some food which will answer the purpose.

The ideal diet, then, in my estimation, is a variety, containing a small portion of highly nutritious food, and a large proportion of food possessing easy digestibility, but low nutritive power.—Frank S. Hough, M. D., in Detroit Emergency Hospital Report.
Book Notices.


The meetings of this society during the past year have been well attended, all the papers presented of a practical character, while the discussions have been enthusiastic and profitable. It is doubtful if any local medical society can present a more attractive and instructive series of papers than that contained in the work before us. It is especially rich in the matter of clinical medicine, obstetrics, gynecology, and abdominal surgery, while the papers and discussions upon the subject of Asiatic cholera are of permanent value. The annual address of the President, Dr. John B. Roberts, embracing a great amount of historical matter, will doubtless be frequently referred to, as it gives a complete history of the society from its inception to the present time.


The fact that a second edition of this excellent treatise has been called for so soon after the issue of the first may be accepted as a favorable omen. It has afforded the author an opportunity of elaboration in respect to a number of the more practical subjects with which the work deals. Our readers will obtain a general idea of the contents and character of the work from the following analysis. The first chapter is taken up with a discussion of "Heat;" the second goes into a very thorough study of the thermotaxic apparatus, illustrated by tracings showing the effect of atropine upon the thermodic centres of the spinal cord. An entire chapter is also devoted to a consideration of the cortical thermotaxic centres. Among the other attractive sections may be mentioned, "Heat production in normal and febrile state," and "Fever."

In studying the question, "How do antipyretics act?" our author has gone into a critical examination of the facts so far known in regard to physiological and pathological action. There is also a valuable section devoted to "Chemistry," in relation to modern antipyretics, and this is followed by a discriminating disquisition upon the therapeutics of modern antipyretics, bringing to the front some of the more generally used substances of this class as well as those of more recent introduction. The last chapter will be found of especial interest to the general practitioner, being devoted to the value of antithermics in typhoid fever.


Dr. Anderson's work is encyclopedic in character, everything relating to California, such as climate, hot and cold mineral springs, health statistics and health resorts, being brought forward with interesting data bearing upon the same topics that have been previously published concerning other places which lay claim to similar advantages, and with the result that this great State rarely falls short in the comparison. Moreover, it contains an extremely interesting account of the early settlement and history of the state, together with quite a number of illustrations—which, by the way, are not very well executed—intended to give the reader a sort of bird's-eye view of the numerous attractions afforded by the state to the traveller, the settler, and to the health-seeker. We have no doubt but that it.
will meet with a favorable reception, and
will frequently be referred to by the phy-
sician when desirous of sending a patient
to that country for either a long or short
sojourn.

**Directions for Measuring the Magnified Image of the Fundus of the Eye.** In the form of ruled paper tablets. By Flavel B. Tiffany, M.D. Kansas City, Mo.: Osborn & Pitrat. (Price $1.00 per set).

The object and method of using these
tables are well set forth in a communica-
tion by the author, as follows:

"One, with a little practice with the oph-
thalmoscope, can readily project what
he sees of the fundus of the patient's eye
upon a screen behind and at one side of
the patient. Now, to calculate the size of
the disc, macula lutea or what-not, seen
at the fundus, we have only to suspend a
vertical screen of white paper, celluloid,
or even the white wall will do, checked
off by vertical and horizontal lines ten
mm. apart. By keeping both eyes open,
one eye views the fundus under obser-
vation, the other the screen. Now,
it is a very easy matter to project the
image of the fundus upon the screen,
and observe with the other eye how much
space the object under observation covers
of the screen checked off in squares."

**Correction.**—An error occurred in the
notice of Dr. Cerna's book last month,
in the statement that tuberculocidin had
been omitted. It is referred to in the
form of a note, page 161.

**Publications Received.**

Eclampsia Gravidarum et Parturientum. By J. Lindsay Porterus, M. D., of Yonkers, N. Y. Reprint, 1892.
The Prominent Symptoms of Hyperphasia, as Illustrated by Thirteen Successive Cases. By Howard F. Hansell, M. D. of Philadelphia. Reprint, 1892.
Cases of Chronic Ovarian Abscess, Illustrating the danger of delay in their proper manage-
ment. Same author.
Drainage in Abdominal Surgery; Its Unness-
ssary and Excessive Use. Same author.
The Treatment of Anal Fissure, or Ulcer of
the Rectum. Reprint, 1892. Same author.

Ligation of the Internal Jugular Vein for Profuse Hemorrhage, caused by a Sloughing Adenitis which followed Malignant Scarlet Fe-
ver. By Lewis H. Adler, Jr., M.D., of Phila-
delphia. Reprint, 1892.
Two Cases of Fracture of the Body of the
Capula. Reprint, 1891. Same author.
The Operative Treatment of Fistula in Ano.
Reprint, 1892. Same author.
A Consideration of Some Modern Therapeutic
Agents in the Treatment of Diseases of the
Stomach. By David D. Stewart, M. D., of
A Resume of Modern Methods in Diagnosis of
Diseases of the Stomach. Reprint, 1893. Same
author.
Piperazine in the Treatment of Stone in the
Kidney. Reprint, 1893. Same author.
Public Health Circulars. Issued by the Phila-
delphia Board of Health. No. II. Influence
of Milk in Spreading Disease. Reports of
the Sanitary Committee and of Dr. O. E. Shake-
peare, Port Physian. Dunlap Printing Com-
pany, 1893.
Achillodynia. By A. A. Eshner, M. D., of
Optometry. By Flavel B. Tiffany, M. D., of
Kansas City, Mo. Reprint, 1893.
The Relative Importance of Astigmatism in
the Production of Asthenopia. (Second Paper). By S. D. Risley, M. D., of Philadelphia. Re-
print, 1893.
Mydriatics in Ophthalmology. Reprint, 1893.
Same author.
The Uses and Abuses of Cocaine, with refer-
ence to the mucous membranes especially. The
Voice and Its Treatment. Hobbs' New Tonsil
Ice in the Treatment of Croupous Pneumonia.
By Thomas J. Mays, M. D., of Philadelphia. Re-
print, 1893.
Addresses delivered before the Mutual Asso-
ciation of the Philadelphia County Medical So-
ciety for the Relief of Orphans and Widows of
Medical Men. (Held Dec. 14, 1892). By Drs.
Billings, Keen and Willard, and George D.
McCready, Esq.
Conclusions Regarding the Use of Drainage
Tubes and Ligatures, and the Possibilities of
Skin Disinfection based upon Bacteriological
Investigations. By Hunter Robb, M. D., of
Baltimore, Md. Reprint, 1892.
Hysteromyomectomy for Large Myomata of
the Uterus. Reprint, 1893. Same author.
The Antiseptic Dropper. By George M.
Gould, M. D., of Philadelphia. Reprint, 1892.
Amblyopatrics. Reprint, 1892. Same author.

**Announcements.**

Mr. W. B. Saunders announces as in prepara-
tion the following works:
An American Text-book of the Medical and
Surgical Diseases of Children. By
Nursing: Its Principles and Practice, for
Hospital and Private use. By Isabel Adams
Hampton.
A Syllabus of the Lectures on the Practice of
Surgery, arranged in conformity with the Ameri-
can Text-book of Surgery. By Nicholas Sehn,
M. D., of Milwaukee.
Miscellany.

Duboisine as a Nerve.—Dr. F. Peterson (New York) advocates the use of duboisine for the relief of maniacal excitement; it is also employed by Mendel (Berlin) in the case of paralysis agitans in preference to hyoscyamine. The dose subcutaneously ranges from one three-hundredth to one two-hundredth of a grain.

Causation of Sleep.—A foreign scientist sorts a new theory of the cause of sleep. He believes the fatigue of the nervous system, which leads to this condition of the body, to be due to an increase of the water-holding power of the nerve cells. The greater the ability of the cells to hold water the less the nervous irritability of the individual would be. The greater part of the water is eliminated during sleep.

Antipyretic Action of Cold Water Applications.—Winternitz claims that the antipyretic action of cold water applications is due to the fact that this treatment causes an increase of the leucocytes in the blood—two or three times the normal number being observed immediately after a cold bath, and to this circumstance is supposed to be due the beneficial effect in all infectious diseases.

New York's Impure Water Supply.—As population increases, the water supply of large cities becomes subject to serious contamination, and on the eve of a threatened invasion of cholera, the New York Health Board, anxious to avoid a repetition of the sad fate that befell Hamburg last summer, has secured the presentation of a bill in the legislature, authorizing the city to purchase the lands and tenements necessary to enable them to maintain thorough sanitary precautions throughout the Croton water shed.

Flies as Carriers of Cholera Germs.—Observations conducted at the Eppendorf Hospital, Hamburg, show that flies exposed to the contagium of cholera by coming into contact with the intestines of persons dead of this disease, were sufficiently affected to enable a majority of them to produce, under proper restrictions, colonies of the comma bacillus.

Tar Capsules for Cough.—Tar is one of the ancient remedies for the treatment of coughs, colds, etc., and during the past ten years has again come prominently before the profession, principally through the influence of Dr. Murrell, of London. It can be conveniently given in the form of capsules—one or two grains before meals—combined with a sufficient quantity of carbonate of magnesia to make a mass. Other medicaments may be added as indicated for the treatment of cough and other affections to which tar is adapted.

A Colony for Epileptics.—The State Board of Charities of New York has selected a site and recommends its purchase by the State for the establishment of a colony for epileptics. Its main objects include appropriate treatment, education, and the employment of these unfortunate creatures in agricultural pursuits. An appropriation of $150,000 is asked for the purpose.

Operation for Epilepsy.—To decide the question of operating for the relief of this disease, an examination of the urine is necessary in order to determine whether the attacks be due to a neoplasm or hysterical. In the latter cases there is an increase in the fixed residue of urea and phosphates, while in the former, M. Cathe- leneau, of Prof. Charcot's clinic, has noted an increase of these elements.

Society Meetings.

Medical Society of the State of Pennsylvania.—The annual meeting of the above society will be held at Williamsport, Pa., commencing May 16, 1893. Dr. H. G. McCormick is chairman of the Committee of Arrangements, and any inquiries relating to the same should be addressed to him at Williamsport, Pa.

American Gynecological Society.—This society will hold its annual meeting in Philadelphia, May 16, 1893, the same day on which the State Medical Society meets at Williamsport. Dr. H. C. Coe, of 27 East 64th Street, N. Y., is president, and announces that there are ten vacancies in the list of fellows.

Pan-American Medical Congress.—The first meeting of the Congress is announced to be held at Washington early in September, its object being to attract physicians from all countries in the Western Hemisphere, many of whom will visit the United States for the first time to attend the Columbian Exposition. Detailed information will be supplied later concerning the attractions to be offered those who may wish to attend.

New York State Medical Association.—A meeting of the Fifth District Branch of this Association will be held in Brooklyn, N. Y., May 23, 1893. Members desiring to read papers, are requested to correspond with Dr. E. H. Squibb, 30 P. O. Box 760, Brooklyn, N. Y.

American Medical Association.—The annual meeting of this body will be held at Milwaukee, Wis., commencing June 6, 1893. Dr. U. O. B. Wingate, of Milwaukee, is Chairman of the Committee of Arrangements; Dr. Wm. B. Atkinson of Philadelphia, Permanent Secretary; and Dr. Hunter McGuire, of Richmond Va., President. Indications point to a large attendance and a successful meeting.
Clinical Lectures.

**PHLYCTENULAR KERATITIS IN A STRUMOUS CHILD.**

By P. D. Keyser, M.D.
Professor of Ophthalmology in Medico-Chirurgical College.
(Reported by G. H. Crabtree, M.C.C. '93)

Though we have different forms of keratitis occurring in children of strumous diathesis, the great majority of the cases are phlyctenular. These phlyctenæ may form in the conjunctiva, in the cornea, or in both at the same time. When on the conjunctiva they appear generally at the limbus conjunctivalis, either as an isolated swelling or in two or three places, and at times like a string of beads around the cornea. When on the cornea they appear mostly as a small, whitish vesicle, in some part of the superficial layer of the cornea. A favorite place is in the centre, over the pupillary area. In many cases a severe inflammation, with swelling of the general conjunctiva, accompanies attacks of phlyctenular keratitis, giving really a complication of severe catarrhal conjunctivitis and phlyctenular conjunctivitis combined.

Some cases of phlyctenular troubles get well in a short time, if properly treated; while there are others, especially when there is a high degree of general inflammation, which take a long time. The disease shows itself most frequently in the early spring and early autumn. Severe inflammatory cases are often accompanied by an eczematous inflammation of the nose, extending over the upper lip. In the last few years the treatment of scrofulous diathesis has changed considerably. While in some cases it would do very well to fill up the child with cod-liver oil, iodide of iron, etc., it will not answer at all in others. I have seen that the syrup of hydriodic acid acts remarkably well in these cases. We do not have, following its use, that inflammation of the mucous membrane of the nose, giving catarrh and creating an eczema on the upper lip, if not there, or increasing it if already present, as in the use of iodide of potassium. Another grand remedy in these cases is the sulphide of calcium given in minute doses frequently repeated—1/16th of a grain at first, every two or three hours, and sometimes increasing to 1/8th gr. or even to 1/4th every two or three or four hours. If there is any eczema of the nose and lip, wash carefully with Castile soap and warm water, then dry thoroughly and anoint with iodoform or aristol ointment (gr. x : 3).

Cleanliness is very necessary in all these cases, not only of the face and eyes but of the whole body, and I have especially found salt baths, twice or thrice weekly, of great benefit. The prepared sea-salt is best, if the patient is able to procure it; if not, a good substitute is common rock-salt, which can be obtained at any grocery store. The bath should be strong as sea-water, and of a temperature that the child will remain in it for ten or fifteen minutes. After coming out of the bath, dry the child by rubbing well with coarse towels; and, better still, if the towels are previously prepared by being steeped in strong salt-water and dried with the salt in them. In drying the child with them the salt is not all wiped off from the skin, so that some absorption can take
place. The best time to give the bath is just before bed-time—the child being taken out of the bath, rubbed off, and laid in bed.

For the eye or eyes, if there is only the phlyctena without much inflammatory action, an ointment of the amorphous yellow oxide of mercury (gr. \(\frac{1}{2}\) in 3 i of benzoinated lard) introduced between the lids night and morning will often effect a cure. If not, then calomel strewn in the eye, and the lid gently manipulated—massage of the lid—two or three times a week, will greatly aid in the absorption of the phlyctena. If there is much general conjunctival inflammation, wash out the eyes frequently with a boric acid solution (gr. x in fl. \(\frac{3}{4}\) i), and drop in a solution of zinc sulphate (gr. \(\frac{1}{2}\) in fl. \(\frac{3}{4}\) i) or silver nitrate (gr. \(\frac{1}{4}\) to \(\frac{1}{2}\) in fl. \(\frac{3}{4}\) i) two or three times daily. In this case before us we will prescribe the following treatment:

R. Hydrarg. oxid flav. . . . gr. ss.
   Adipis benzo. nitrat. . . . fl. 3 i.
M. et ft. unguent. oculorum exacta. Sig.: Apply in the eye night and morning.

And we will also give medicine internally:

R. Pil. calcii sulph (compressed) gr. 165.
   No. xxx.

Sig.: One pill to be taken every 3 hours.

The salt baths are to be given twice a week. With good nourishment, proper diet, and these remedies, with the salt baths, the patient will, I am sure, do well.

Philadelphia.

Original Articles.

THE USE OF BROMOFORM IN PERTUSSIS.

By T. Hewson Bradford, M.D.,
Gynecologist to the Out-Patient Department of the Pennsylvania Hospital, and the Howard Hospital, and Physician to the Dispensary of the Children's Hospital of Philadelphia.

The therapeutics of pertussis have been, as a rule, so absolutely unsatisfactory and unreliable that the advent of any new drug is a cause for congratulation. The remedies which have been most employed are alum, asafetida, belladonna, chloral, opium, the bromides of sodium and potassium, sulphur, and, more recently, antipyrine; but the list would include almost all the drugs in the pharmacopeia. In my own practice I have tried all these well-known agents, and latterly, during the last stages of the disease, have used antipyrine with some success; but the remedy which, in my hands, has proved decidedly efficacious and beneficial is bromoform. In four recent cases of children, varying in age from infancy to sixteen years, I had most satisfactory results. In the country settlement where I was passing the summer pertussis was endemic. And it was there that I was called in to see the following cases at the beginning of the disease.

Case 1.—The first child attacked was a strong, healthy girl of three years, who, after a few days of marked coryza, began to whoop, the attacks generally coming on immediately after eating, and producing free emesis; also occurring during the night, each time causing a repetition of the vomiting. The administration of bromoform was begun in the dose of one drop in a teaspoonful of water, three times daily, afterwards the dose increased to four times a day. I may here add that bromoform is very difficult to drop, and as it does not readily mix with water, great care should be taken that it is all removed from the spoon.

The vomiting was lessened in frequency although not entirely disappearing and the paroxysms of coughing considerably reduced; this treatment was continued with marked daily improvement.

Case 2.—A girl, aged five years, was a most severe case, the child being naturally extremely nervous and sensitive; the paroxysms of coughing were distressing and vomiting most severe and exhausting. The bromoform was administered in doses of one drop four times daily, increased to two drops, with excellent results particularly remarkable for its effect upon the
nervous condition, and in allaying the vomiting, with continued improvement in
the duration and number of paroxysms of coughing.

Case 3.—A boy, aet. sixteen months, strong and healthy, to whom the dose of
one drop three times daily was administered, with marked improvement from the
first dose.

Case 4.—A girl, aet. sixteen years. This case began with persistent coughing
at night, so much so that she was unable to sleep, and was attended with violent
vomiting throughout the day. The drug was begun at once in two drop doses. On
the second day of its administration the effect was marvellous; the vomiting
had almost stopped and that night she slept throughout without being disturbed
by the cough. In less than one week from the commencement of the attack the
disease was almost cured, and in two weeks' time there was but an occasional
slight cough, and the girl in her usual good state of health. This case created
local comment, as the severe commencement of the attack was well marked and
well known.

In the November number of the American Therapist Dr. W. Blair Stewart, in
his excellent article on bromoform, writes as follows:

"Bromoform is not a stable preparation unless handled with the greatest precau-
tion. If exposed to the air it volatilizes; when exposed to heat or light, it is gradu-
ally decomposed, free bromine is liberated, and the natural clear color is replaced
by a brownish-red.

"It should always be kept in tightly corked bottles, made of non-actinic glass,
and should never be exposed to direct light or high temperature. Always specify
a colored bottle when prescribing it. Bromoform is a very uncertain remedy for
patients to drop as they are liable to get too much or too little."

125 South 18th Street, Philadelphia.

THE PHYSICIAN FROM ANOTHER STANDPOINT:
A Ratiocinative Symposium.

By Charles H. Merz, A.M., M.D.

Perhaps there is no one in professional or social life who holds a position that is
at once so paradoxical and peculiar in the eyes of those dependent upon him for
skill and learning as does the physician. He is at once the master and the slave.
While he is ever looked up to, eagerly sought for and much believed in, he is,
nevertheless, the object of much abuse both physically and mentally. The phy-
sician is one at whom even time laughs when he attempts to engage himself in
any manner for his own advantage or personal comfort.

In spite of all the evil that has been said of the doctors, these uncomplimentary
sayings being sufficiently numerous to fill a volume, it is a question if his true re-
lation to the public is ever fully or satisfactorily understood. Even in the Old
Testament, we learn that Asa fell sick with very violent pains in his feet; mean-
time he called not on the Lord in his sickness, but rather put his trust in the phy-
sicians, the result being that he slept with his fathers. And so we might quote from
the writings of the Greek poet, mimnerus, seventh century before Christ; and the
comic poet, menander, third century before Christ; and down through the long
line of authors and poets to the present day, statements that belittle the standing
and worth of the doctor. Yet after all this fault-finding, he must be at all times
the family confidant; patiently he must listen to many an endless "tale of woe." Whether he be in good health or whether he be suffering from physical or mental
ailment, the family skeleton is brought from its hiding place, and even the grue-
some rattling of its bones must have no perturbing effect upon him; but, on the
contrary, it must draw from a mind already overburdened, and a heart perhaps
laden with its own sorrows, consolation for the past, comfort for the present and hope for the future. And, too, in the face of all the adverse criticism, the physician must ever be prepared to find that those whom he has served most assiduously and faithfully, and to whom he has devoted all his care, time and skill, may, after the manner of human perversity, turn against him and denounce him. The physician's relations with his fellow-men must be at the same time cordial and frank, but cautious and discreet. Hourly must he battle with mental disorders, far more difficult to contend with than those of physical nature. It has been truthfully said that many people are two-thirds spiritual and one-third animal. Certainly all cannot be treated alike. Each and every patient calls for some special line of treatment, some unusual exhaustion of nerve-force. Among the great, good and wise that have labored to advance mankind and honor God, stands the true physician. No talk, unless it be the "Sermon on the Mount," contains so much comfort and cheer as does the encouragement and counsel given by the physician to his patient. That feeling of true gratitude, of absolute confidence that the physician values all too lightly, is not truly realized until, when racked with pain and suffering himself or suffering with those whom he loves, he calls upon his brother practitioner and receives at his hands both physical relief and mental encouragement. Were the average physician to suffer as do his patients, he would realize the depth of confidence and trust reposed in his every word and would value it more highly.

It is doubtful if the physician even in his unselfishness realizes all that he is to his patient. The man upon whom the gods have bestowed the boon of health, never realizes when attacked by some slight indisposition, that yearning wistful confidence that the invalid, worn out with pain and struggling to win back life and hope, lavishes upon his physician. There are few that have the mental fortitude to enjoy the few remaining weeks or months of life after having been told that their case is hopelessly incurable; encouragement must always be given though hope is but slight. To the suffering patient, the physician is mentor:

"Hope, like a cordial, innocent, though strong, Man's heart, at once inspirits, and serenes; Nor makes him pay his wisdom for his joys."

Every word that falls from the physician's lips, is treasured and heeded; every hopeful glance, every expression of satisfaction, is food that nourishes and sustains. How seldom does the patient realize that many similar cases have taxed the physician's skill, patience and time that same day? On the contrary, he looks up to him as his very own, whose mental and physical powers he has a right to drain to the very dregs. After a long, feverish, restless night has drawn to a close, when the first rays of dawn are creeping up in the East, bringing the new day with them, how eagerly the patient looks forward to the coming of his physician, certain that the relief he has prayed for through the long, weary hours of the night will be supplied in some mysterious manner. How often is this confidence whimsical! And yet, on the other hand, has the physician the right to tax his strength and energy to such an extent? Should not he demand for himself the necessary hours for sleep and social mingling with his fellow-men? Surely, any disposition, be it ever so strong and even-tempered, will become warped and enfeebled when subjected to continual strain. In "differences" lies the key to success and happiness in life. God so loved variety that he has made no two blades of grass alike. In fact, the man that seizes upon the "difference" about him, has the greatest amount of happiness and pleasure in life. The constant mental pressure, the rush and hurry to cover a great deal of ground in a short space of time, the self-forgetfulness and neglect of health must bring one to his grave before
his time. Must his epitaph be no better than that ancient one engraven on the miser's tombstone:

"Reader, beware of immoderate love of pelt; Here lies the worst of thieves who robbed himself."

Every laborer has a certain portion of the twenty-four hours that is his own for the pursuit of pleasure or knowledge, or whatsoever he wills. Unions and associations are daily being formed to secure additional time for him. Yet the physician, unmindful of his own comfort, works night and day without rest, Sunday and week-day, with but little recreation. Statistics in this respect are truly alarming. The mortality of clergymen, lawyers and doctors between the ages of twenty-five and sixty-two is said to be 100, 152 and 202, respectively. It is undoubtedly true that the demands made upon physicians are so great that their mortality is greater than that of men in any other profession. The balance between work and rest must be maintained; compensation of waste by supply is a sine qua non. Pathological conditions must ensue upon the destruction of the proper relation between labor and rest.

To no man can home ties be sweeter than to the physician. Almost daily he sees the home circle broken by a loved one's absence; sees the life slowly ebbing from a bright young child; beholds the last sad parting of husband and wife. If he is not callous-hearted and absolutely pessimistic, he must each time be drawn closer to his own little corner of the universe, to his own fireside. After a day's battling with disease and discouragements surely the temptation must be strong to linger with his loved ones, "as the candle burns." When all the world is settling down to its evening repose, when rest and quiet stretch out their hands, when holy tongues have a thousand confidences to lisp, when heart and soul respond to sentiment and love, what can bring one down to prosaic reality more speedily than the ringing of the door- or telephone-bell? In a moment the scene is changed; the hour so tenderly begun is something which, search as long as he will, he can never find again. Yet his regrets must be momentary. Who wants a sentimental doctor? Sympathy and tears will do for the patient, if required; but why should the physician have mind or heart beyond? The evening looked forward to all the day long becomes midnight, and the tired healer wends his way homeward through streets crowded with revellers, whose happy faces tell their own stories of plans and pleasures realized.

Were it not for the unceasing interest and love of his profession, a certain joy in his power to ease and comfort, a broad optimistic method of dwelling on his own discomforts, the physician surely would develop into a sour, cross-grained misanthrope. It is human nature to crave laughter, brightness, loving sympathy and social companionship, and a constant deprivation of these essentials must sooner or later blunt the sensibilities, if heart be not be more powerful than reason.

Alas! what a paltry reward when the doctor has given time, strength of mind and body to a patient and finds himself superseded by some rival practitioner, perhaps as a punishment for some fancied slight or lack of attention that probably exists only in the mind of the patient. Unfortunately, it is true that in this prosaic nineteenth century, most things are looked upon from a financial basis; the old-time lofty position of the physician, than which that of princes was held in little more awe, has become degraded until the medical man of to-day is expected to supply knowledge and skill at so many dollars an hour or mile. And how often is this financial part of the question almost wholly forgotten once that recovery is assured or established.

This paradox certainly exists. While the physician is revered and held in high esteem, he is too often regarded in the light of a "dollar-in-the-slot" machine for that amount; he may be called at any
hour of the night, sent over almost impassable roads, harassed with endless tales from those whose bones and heads ache in reality no more than do his own. "This is the distinction," says Victor Hugo, "the physician's doors must never be closed, the priest's must always be open."

On the other hand, the patient's confidence is often misplaced. He opens his heart to a man who belittles his confidence, who seeks his hard-earned dollars in return for a few doses of quackery. When he learns that hypocrisy has called itself professional wisdom, the patient suffers keenly and is disposed to become distrustful—"learning from one to know all."

When the physician is worn out—what then? It may not be an inspiring subject to think of, but it deserves serious attention. While many in the profession are thrifty and saving, others lack these desirable qualities. Some are naturally spendthrifts, while others seem to live in a dream-land and never come to a realization of the stern realities of life until their purses and stomachs are alike empty.

Taking it all in all, the lot of the physician is but too often a hard one. His whole endeavor is "along the line of the humanities." For all of his arduous labors and his self-denials, humanity is immeasurably better off; he himself is often poorer, while his noble science is advanced. These may be bitter facts, but they are, nevertheless, absolutely true. The indispensable doctor, travelling night and day, year in and year out, on his heaven-ordained mission of mercy, is largely responsible himself for this condition of affairs.

There are men and classes of men, says Robert Louis Stevenson, that stand above the common herd; the soldier, the sailor; and the shepherd not infrequently; the artist rarely; rarer still, the clergyman; the physician almost as a rule. More thorough education, better preparation for practice, and a higher standard, mental, physical and moral, for those who are to enter the profession, would do much to lighten the cares and prolong the life of the average doctor.

Sandusky, Ohio.

CHLORALAMID IN THE INSOMNIA OF FEVERS.

By Herman D. Marcus, M. D.,
Resident Physician, Philadelphia Hospital.

There is probably no other general symptom so frequent in, and peculiar to, febrile diseases than is insomnia; no other which will debilitate our patient sooner than loss of sleep. During the past few years quite a number of drugs have been brought forward, recommended by greater or lesser authorities, and all these were stamped "hypnotics." Some, indeed, proved very soon of the greatest value, while others disappeared quickly and fell into obscurity.

Recognizing the necessity for a non-irritating hypnotic in the treatment of insomnia of fevers, a great many of these hypnotics must be discarded. None are without some fault, even comparatively. Of greatest importance is, undoubtedly, promptness in action. After using nearly all of the newer hypnotics, such as sulfonal, somnal, paraldehyde, chloralamid, etc., I find that none acts more promptly and safely in fevers than chloralamid. This drug is a combination of chloral-anhydride and formamide, and possesses the advantage of being tasteless, and is prompt in action. I have never noticed any deleterious effects from its use. In fact, experience has proved that even the most delicate stomach showed no digestive disturbance after continued use of the preparation.

The effect upon the respiratory organs and circulatory apparatus is nil; and although some observers claim to have noticed marked depression of the circulation by reducing the blood-pressure, my experience with it has been favorable in all
Chloralamid is undoubtedly a safe hypnotic, the presence of organic disease being no contra-indication to its use. Nephritis, gastric disorders, pulmonary lesions are by no means affected by its use. Cases in which the old reliable hypnotic, morphine, is contra-indicated are greatly benefitted by chloralamid; in fact, I have had occasion to observe some cases of pneumonia which were in no way improved by morphine, whereas chloralamid produced refreshing sleep. Pneumonia cases (both croupous and catarrhal) which suffered from insomnia for some nights, and to whom morphine was given hypodermically in half-grain doses without producing sleep, found great relief after the administration of chloralamid, this drug producing in each instance four to seven hours' sleep.

Chloralamid is best given in powder form, or may be dissolved in some alcoholic or aqueous solution. The dose ranges from 10 grains to 1 drachm, 25 to 30 grains being about the average dose.

In typhoid fever, where gastro-intestinal disturbances were especially marked—both vomiting and diarrhea being especially severe, sulfonal and morphine were apparently irritating, but chloralamid, when given in hot, peptonized milk, produced sleep and apparently alleviated the vomiting. I do not think that the hypnotic had any special influence upon the stomach; but am rather inclined to believe that the sleep produced by it had the tendency to alleviate the gastric disturbance. One of the most unfavorable symptoms of typhoid fever is sleeplessness. The patient, exhausted by the disease, seeks sleep in vain; most hypnotics are inefficient, and, therefore, when such a safe hypnotic as chloralamid is placed at the disposal of the physician we may truly be thankful in being able to relieve our patient.

In that condition, occurring in the course of typhoid fever, known as coma vigil, the exhaustion of the system is profound. The only hope of combatting this symptom is in the production of sleep to allow debilitated nerve-centres much needed rest. Our object in the treatment of this condition is to produce sleep, and such a remedy must be chosen as will not endanger the life of the patient by adding to the exhaustion the depressing effect of some hypnotics. In such instances I have been in the habit of prescribing from 15 to 30 grains of chloralamid, combined with such remedies as camphor and bromides, together with the use of the cold bath.

The cold bath as used by Brand consists in the immersion of the patient in a tub of water at a temperature of 70°F. The patient is kept in the bath and the temperature of the water is reduced to 60° to 65°F., according to the season and the condition of the patient. (During the winter it is best to have the temperature of the bath at about 85° to 90°F., in order not to shock the patient too greatly). It may then be gradually reduced by the addition of ice to 65° or 70°. This treatment is generally followed by refreshing sleep, but as in private practice the use of the bath in typhoid fever is almost impossible, the sleep may be produced by sponging and the administration of chloralamid.

In facial erysipelas, with cerebral symptoms and insomnia, chloralamid again proved the prompt hypnotic; in fact, in my hands, I have never known it to fail. I may be somewhat enthusiastic regarding the value of the remedy, but when I look back upon some of my cases and remember the failures with other drugs, and in the same cases the success with chloralamid, I think I may be well excused for such enthusiasm.

In the exhaustion of the nerve-centres due to the toxicity of the infectious fevers, for calming the excitation of the patient, chloralamid is invaluable, acting as it does without depression of the system; its use in these exhausting conditions is not attended by any deleterious effects, and whenever we have insomnia complicating
febrile disease, chloralamid should at least have a trial.

In the \textit{febrile diseases peculiar to childhood}, such as measles, diphtheria and scarlatina, the physician is often at a loss to find a remedy for the restlessness and insomnia, which is such a marked feature in this class of cases. It is a well-known fact that children require more sleep than adults; in fact, it is during sleep that nature restores the waste of the system. It is highly important when children are affected by such debilitating diseases as the acute infectious fevers, that sleep should be obtained in unlimited amount in order to allow for the recuperation of the system. The fact that children bear opium badly necessitates the employment of some other drug possessing hypnotic influences. In these cases, chloralamid, being well borne by children, may be given in doses of from two to ten grains, according to the age of the patient.

I have found following formula of considerable value in the treatment of insomnia occurring in the acute infectious fevers of childhood:

\textbf{R.} Chloralamid........ gr. iv; 
\textbf{Liq. ammon. acet.}......... fl. 3 ss; 
\textbf{Syr. acacie} 
\textbf{Aquae}, ........... s& q. s., ad fl. 3 ii. 

\textbf{M. Sig.:} For a child three years old, every four hours.

I have never seen any deleterious effect follow the employment of this formula.

We do not know as much of chloralamid as we do of chloral, but in those cases in which it has been employed, it has not been followed by the objectionable after-results so often seen in the use of chloral. Possessing the advantage of being useful in the insomnia of children, which places it above morphine in the treatment of this condition, it may be said that chloralamid, from its absolute safety, its wide range of usefulness, its freedom from deleterious after-effects, its non-cumulative properties, is one of the most reliable hypnotics at our command.


\textbf{PERISCOPE OF THERAPEUTICS.}

By J. Lindsay Porteous, M.D., F. R. C. S., Ed.

\textbf{Extract of Bilberry Leaves in Diabetes.}

Dr. R. Weil, of Berlin, has been experimenting upon the administration of the extract of vaccinium myrtillus or bilberry in diabetes mellitus.

He had pills made, each containing 0.12 gram (gr. $\frac{1}{8}$) of the dried leaves. The treatment consisted of giving one pill three times daily for three days; then two pills three times a day for three days; then three pills three times a day for three days; and thereafter, as a rule, five pills three times a day.

Results: Patient R., at commencement of treatment there was 3.12 per cent. of sugar in the urine; after taking the pills for two weeks, 1.66 per cent.; after four weeks, 1.25 per cent.; after eight weeks, 0.71 per cent.; after twelve weeks, 0.14 per cent., and finally the sugar entirely disappeared.

\textbf{Belladonna in Strangulated Hernia.}

V. B. Zagorsky gives details of five cases of incarcerated inguinal (4) and umbilical (1) hernia, in which, after failure of taxis, he resorted to the internal administration of extract of belladonna (\textfrac{1}{4} grain every hour), the results being that in every one of the cases spontaneous reduction took place after four or six doses. The effect is attributed to the powerful anti-spasmodic properties of the drug.

We would suggest that half that dose of the extract of the U. S. P. be given, as the latter is double the strength of most European extracts of belladonna.

We hail the report with pleasure, as it will be another stab at the youthful and aspiring modern surgeon, who is too ready with his knife and who too often cuts to diagnose instead of diagnosing first and cutting afterwards if necessary.

\textbf{Chloralose—A New Hypnotic.}

Recently Hanriot and C. Richet reported results of a research on the physiological action of a new substance which
they call "choralose." This is a crystallized body, formed by the reaction of anhydrous chloral and glucose on each other, with elimination of water. Taste, bitter; fairly soluble in hot water, but in coldsoluble in the proportion of 1 gram to 1 litre. It is toxic to a dog if given in a dose of 60 centigrams (gr. x) per kilo. of body weight; but in doses of 2 centigrams (gr. 1/8) per kilo. it produces marked hypnotic effects. It is then more active than chloral. It has an excitant action on the medulla, the reflex movements being considerably exaggerated. Physiologically it has a hypnotic effect on the encephalon and an excitant effect on the medulla. Experiments made on the authors showed that doses of 50 centigrams (gr. viii) or even one gram could be given to a man. These doses are, however, heroic; a dose of 20 or 40 centigrams (gr. iii to viss) is sufficient to induce dreamless, quiet sleep, without any sense of fatigue, headache or dyspepsia on waking. It is a good substitute for chloral or morphine.

Syzygium Jambolanum in Diabetes.

We have had the opportunity of using the powder of the seeds and bark of this plant in two cases of diabetes mellitus. In both cases marked benefit was derived. The sugar was reduced in quantity and the patients gained weight. Unfortunately we were unable to follow up either case as both patients left the district. Recently, at a meeting of the Royal Medical Academy of Rome, Italy, Leoni reported the results of his treatment of four cases of diabetes by this medicine. In three, the improvement was marked; the sugar and urine were soon reduced in quantity and weight of body increased. The fourth case acted differently in some respects. The amount of sugar, urine and urea was increased but notwithstanding, the bodily weight increased and the patient greatly improved in general health. Leoni concludes that the drug contains an active principle, capable in some cases of neutralizing the diabetic process, but cannot be called a specific. He gives from 10 to 100 grams a day of 24 hours.

Lactic Acid in Diarrhea.

N. V. Lojkin (Lemsky Vratch) draws attention to the value of lactic acid in chronic dysentery and acute dyspepsia. He reports a case of severe dysentery where all the usual remedies had been tried and failed, and where half a tumblerful of a 2 per cent. solution of lactic acid given twice daily, cured in nine days; the blood disappeared from the stools in a day or two.

Duoisine.

Mendel recommends this drug in cases of insanity exhibiting great motor agitation, if the restlessness be not simply a consequence of hallucinations and delusion. 0.0005 to 0.0008 gram injected subcutaneously produces muscular relaxation in a few minutes. In such cases sleep is produced, indirectly, by suppressing the abnormal motor activity. It has no direct soporific action.

Paralysis agitans is another affection in which notable temporary relief can be obtained from duoisine. In about a quarter of an hour after an injection the tremor subsides, and the patient for some hours regains the power to write legibly, to move about and to sleep. The author very seldom gives more than 1 milligram for a dose (gr. 1/50). The toxic effects are dilatation of the pupils, dryness of the throat and moderate animation of the pulse. These may be caused by so small a dose as 0.2 milligrams.

Vertigo, and unsteady gait are sometimes induced; these the author considers all due to the action of the drug upon the motor centres.

Soziodol-Sodium.

Guttmann has treated thirty cases of whooping-cough with insufflations of this drug. He blows into each nostril about three grains of the powdered drug, daily. Six patients were treated as in-patients; two of these were discharged cured within eight days from the commencement of the treatment; in the other four cases, the frequency and violence of the attacks were diminished within from three to six days. In twenty-four out-patients a favorable effect was generally observed.

Yonkers, N. Y.
SPERMATORRHEA.

By Edward C. Fraser, M.D.

We are all well aware that there may be more or less hyperesthesia of the lining membrane of the urethra, narrowing near meatus; these need special attention per introduction of sounds and division of parts at fault. It is more particularly to the medicinal treatment I am about to refer. The question is, whether these cases in the past have been given the general attention by the profession they deserve? One thing is certain, that in the majority of cases there is considerable mental depression, anxiety, worry, etc., which first needs to be eradicated from the patient's mind, by wise and judicious advice, and a reference to authorities on the subject, in order to convince him that his condition is at least not worthy the serious consideration he has given it.

I have had intelligent patients read certain portions from standard surgical works referring to this subject, explaining to them what they did not understand, and have been surprised as well as gratified to observe after such reading and explanation that their mental condition improved. After reading in print, they seem to understand more about their actual condition, making what treatment is advised more easily borne and appreciated.

For railroad hands, those who work out in the open air, I have prescribed the following with good results: Of a saturated solution of bromide of potash, a teaspoonful in a wine-glass of water before retiring; and in addition, the following pill:

| R. Ext. aloes.................. | gr. 1 |
| Ext. belladonna.............. | gr. ½ |
| Ext. hyoscyamus............... | gr. ½ |
| Powdered camphor............. | gr. ⅛ |
| Excipient.................... | q.s.  |

I have increased the dose of bromide to two teaspoonfuls, and two pills in some stubborn cases with good results. Where there has been any general debility I have given tonics, and supporting treatment in addition.

These patients were advised to keep their bowels open, and avoid all excesses. The results so far have been quite satisfactory to this class of patients.

I wish particularly to call attention to the fact that I have obtained better results with the pill and bromide solution taken before bed-time than from bromide alone. We can do a great deal for these men by judicious advice, and allowing them to read something from our standard surgical works, explaining to them what they do not understand; by so doing we act the the part of good missionaries as well as physicians, protecting them from unscrupulous pretenders and quacks.

19 West Madison St., Chicago, Ill.

GELSEMIUM,
AND SOME OF ITS USES.

By J. F. Griffin, M.D.

It is a common occurrence to meet with well-informed physicians who know absolutely nothing of the use of gelsemium. There are some who reject it simply because it was introduced by the Eclectics; others reject it because they seem to think it dangerous; while others again do not continue its use after having tried it, because they have met with failures, due possibly to having used an inferior preparation of the drug; or they were wanting in the knowledge of the proper time and method of administering it. Such was the case with myself. I was twenty years acquiring a knowledge of its virtues, and I learned only by constant trial.

I regard the medicinal preparations of gelsemium as being as much a specific against malarial complaints as those of cinchona, having the advantage over quinine and its congeners, that its antiperiodic effect is more permanent. My observation is, that malarial troubles, when overcome by gelsemium preparations, are not so likely to recur as they are when treated by the cinchona salts. When the cinchona salts are given to arrest ague, unless given with other remedies
designed to prevent a relapse, it is well known that it becomes necessary to keep up the medication on certain days, notably the seventh, the fourteenth and twenty-first, while such is [not the case with gel-semium.

There are some who deny the antiperiodic property of gelsemium, but I apprehend they do not know its proper administration, or they have used an indifferent quality of the drug. Remittent and intermittent fevers yield readily to proper doses of the medicine, associated, of course, with such other remedies as the case may call for, such as may bring about the elimination of the biliary secretion and act upon other secretory organs beside the liver.

It is asserted by some that the antiperiodic effect of gelsemium depends on a poisonous influence exerted against the protoplasm of the microscopic organisms which are said to cause the disease. However this may be, it is strictly an arterial sedative, diminishing the vascularity of the nervous centres, and in this way is an antiperiodic and nervine. If disease is due to the arrest or suspension of the activity of the tissue-cells, it may be that the remedy acts so as to bring about a reconstructive process, but I fear that we understand this so slightly that we must depend upon clinical facts and not dwell upon its *modus operandi*.

In intermittent, while I vary my methods of giving gelsemium, I ordinarily prescribe as follows: Say that I have a case of an adult who has had one or more chills, followed by fever, in which there is a distinct remittance between each exacerbation. Here I give my patient such remedies as may bring about an elimination of the secretory fluids, as is ordinarily done in such cases where quinine is given. I generally ignore quinine, and write as follows:

| R | Fluid extract gelsemium.... 3 i.
| Distilled water.... f 3 iv. |
| Mix. | Write: Give daily one teaspoonful every hour till eight doses are given, or less as directed,|

This is for an adult, being fifteen drops of the gelsemium for each twenty-four hours, and is given after the chill regardless of fever. Two scruples of sulphate of quinine may be added, and I find the gelsemium modifies the head symptoms. I refer to the tinnitus aurium. If the gelsemium is given at the outset of the fever, I generally direct it to be administered every two hours. The effect is to quiet the patient and produce a gentle perspiration—in fact, to act as an antipyretic; and, to my mind, it is vastly superior to the coal-tar antipyretics—and while I know that remedies do not cure disease, there is brought about a metabolic process of reconstruction that the coal-tar products can never accomplish.

If the patient is asthenic, or if the action of the heart is slow or the pulse is feeble, with dilated pupils, then gelsemium should be withheld. It is safely given where there is active cerebration, where the pulse is full, strong and tense and pupils contracted. The patient and the nurse should always be informed of the probable, or rather possible contingency of double vision, and instructed to cease giving the remedy when this occurs, assuring them that no harm will result from it.

I rarely give to an adult in a period of twenty-four hours more than fifteen or sixteen drops of the fluid extract, always preferring what are known as the normal fluids. It is not necessary to add that the dose must be reduced for children.

The foregoing formula, with or without quinine, is appropriate in remittent fever, and should be given during the pyrexia. If there be such a thing as a specific for supra-orbital neuralgia or for ovarian neuralgia, where these are intermittent, it is gelsemium; but believing it is better to use a combination of antiperiodic sedatives in such cases, I prescribe the following:

| R | Fl. ext. gelsemi... gtt. lxiv; |
| Quinin. sulphatis... 9 ii; |
| Ammonii picras... gr. xvi. |

Mix powders and divide into sixteen parts, putting each part into a capsule, and drop four drops
of the gelsemium into each capsule until sixteen are filled.—Signa: Commence six hours before the neuralgic attack and take daily one capsule every two hours until four capsules are taken as directed.

The following combination is perhaps better if the patient does not mind the bitterness.

R Fl. ext. gelsemii... gtt. lxvi;
Quininae sulphatis... $ ii;
Aque destil... $ $ viii.

Misc.—Signa: Commence six hours before the neuralgic attack and, shaking the medicine, take daily one tablespoonful every two hours until four doses are taken, each dose being followed by an acid drink, preferably lemonade or solution of citric or tartaric acid sweetened.

In these cases, of course, it is understood that the compound cathartic pill or some appropriate purgative may be needed, or any other remedy that the state of the system may call for, my design not being to tell how to treat these neuralgias but only my method of giving gelsemium in them.

Here, as in all other cases, the patient's physiological condition will be inquired into, and gelsemium withheld if the therapeutic diagnosis does not indicate it.

Shreveport, La.

Clinical Record.

SUBACUTE BRONCHITIS.

Apropos of the editorial remarks last month on the treatment of cough (Medicine for Minor Ailments), an account of the following case of subacute bronchitis will be both profitable and suggestive:

Mrs. M., aged 42, a large, stout woman living at a distance, sent a message one morning in the early part of March requesting advice. Her symptoms, as described by herself, were as follows: Almost constant cough, with headache and occasional vomiting, but no considerable expectoration. The tongue was heavily coated, a bad taste in the mouth, profuse nasal secretion and no appetite; there was severe abdominal pain (muscular) during each paroxysm of coughing, and along with this, more or less chest-pain, but no distinct localized pain. The bowels were obstinately constipated, probably due to the tentative employment of domestic and popular cough mixtures which she had taken. The "bad cold" began about a week before, and was due to exposure without proper clothing during the changeable weather of that period.

In making up the therapeutic diagnosis, two conditions seemed to demand attention—the cough and the pain. Now, all forms of cough are, to a great extent, symptomatic, and their persistence is often due to the irritation produced, even after the causes have disappeared. Pain, also, is a symptom, but in this particular case, it was doubtless due in part to the cough; but this was not the only cause.

To relieve the cough, in this case associated with headache, arrested secretions—except the nasal secretion—and loss of appetite, it seemed advisable to lower arterial tension; in other words it was necessary to interfere with the derangement in the circulation, and this could best be accomplished by gelsemium, a remedy which practically covers all these symptoms. Relief from pain would naturally follow subsidence of the cough, but unless something could be given to interfere with the congested condition of the serous and fibrous structures—the pleurae and muscular fasciae—complete recovery would be slow. Bryonia, in small doses, has a remarkable influence in this direction, although anyone examining the text-books of the day would learn nothing except that it is a drastic purgative.

Just as gelsemium, by relieving abnormal tension, enables metabolism to proceed within certain prescribed limits, by promoting the restoration of cell-function, so bryonia, in small doses, exerts a similar therapeutic effect upon the cell-function of serous and fibrous structures. Pain is allayed by elimination of morbid products, and that, too, without producing narcotism with its attendant train of evils.
Treatment—begun at 1 o’clock of the same day—consisted in the hourly administration of drop doses of the fluid extract of gelserium and tincture of bryonia together, and at bed-time the cough appeared to be under control and the profuse nasal secretion was arrested. The patient passed a comfortable night, and the following morning began taking the same medicine at intervals of two hours. Towards morning—although the cough was not troublesome—and during the day, the bronchial secretion was so profuse as to be quite embarrassing, and at 5 o’clock, when she visited the office, the crisis seemed to be past, and she complained only of weakness. The tongue was clean and moist, the appetite had returned, the bowels were moved naturally, there was no profuse bronchial or nasal secretion, and the bryonia being continued with other suitable medication, a perfect recovery ensued. The other “suitable medication” I regard of sufficient importance to warrant separate consideration with appropriate illustrations, and the subject will be referred to again in due time. John Aulde, M.D.

Philadelphia.

HEPATIC COLIC—REPORT OF A CASE.

Of several cases recently met I select the following: N. G., female, aged 28, bilious-nervous temperament; has had recurrent attacks of hepatic colic for four years, occurring at first two or three times a month, and the period of good health shortening till she would have one or two attacks weekly. She had gone the rounds of different treatment, and for a year past her physician had instructed her people to call him when necessary; he would give her morphine and atroine hypodermatically till relieved, when she would vomit for a day or two and recuperate for another “spell.” At last her physician moved away, and at my first visit, January 15, 1893, I found her supplied with five hundred ¼ grain morphine pills, with directions to take one every fifteen minutes till relieved. I forbade morphine under any circumstances, and prescribed colchicine, gr. 1/100, four granules every three hours daily till bowels were relieved; also hyoscyamine, gr. 1/500, one granule every three hours while awake, and if attack should occur, one granule every thirty minutes till relieved, together with seidlitz salt every other day, and strychnine, gr. 1/150, four granules, 1er in die.

Results of treatment—March 20, 1893: Patient had had no attack since beginning treatment more than to feel indisposed and say that she felt as if “one might come.” Occasionally she takes fewer hyoscyamine granules and frequently omits them altogether, and has never taken them oftener than every three hours, but takes the other remedies as originally prescribed.

H. E. Clement, M.D.

Glasgow, Iowa.

COMMENTS BY THE EDITOR.

The above report, though characterized by brevity, is still very suggestive, since it not only explains the cause for failure arising from injudicious use of unsuitable remedies, but at the same time points out the great advantage of selecting appropriate medicaments for the relief of recognized morbid conditions.

According to our author, Dr. Clement, the remedies were chosen in conformity with the Dosimetric method, which would be arranged according to Castro as follows: Colchicine as the “dominani”, treatment, and hyoscyamine as the “varianti” treatment, with seidlitz salt to relieve the bowels. Translated into ordinary terms, this means, simply, that colchicine is the direct, with hyoscyamine and seidlitz as the collateral treatment, with strychnine for its general tonic and stimulant effect.

Hepatic colic being frequently a rheumatic symptom which manifests itself from time to time, and the disorder in this
instance being complicated by a factitious disease (constipation), superinduced by the use of morphine, colchicine would naturally suggest itself. The selection of hyoscyamine was a happy thought, inasmuch as it would in great measure relieve the unpleasant nervous symptoms following the withdrawal of morphine without materially affecting the functional activity of the glandular appendages; it was likewise a useful remedy in allaying peripheral irritation of sensory nerves, which permitted the functional activity of the hepatic cells to proceed without serious hindrance. When cellular activity is restored, or even perceptibly improved, all metabolic processes are renewed. Moreover, hyoscyamine and the alkaloids of other plants belonging to the group of solanaceae—belladonna, dulcamara, capsicum, tobacco and stramonium, all show a peculiar disposition to affect the hepatic function; but this is a subject which requires more elaboration than can be given to it in a short note. Perhaps, the matter having been brought to the attention of our readers, some one will volunteer to compile a summary of the therapeutic properties of the entire group of solanaceae.

Recent Medicaments.

**Guaiacol Carbonate.**

Guaiacol carbonate, said to be a chemically pure substance, occurs in the form of neutral crystals—melting at 89 to 90° C.—and is free from taste and odor; insoluble in water. *Dose*, gr. v to viij, three times a day, gradually increasing to a drachm or more daily.

This remedy was introduced in 1891 as a substitute for creasote in the treatment of tuberculosis, and is believed to possess antiseptic properties while having no deleterious effects upon digestion. Taken into the system it is decomposed into guaiacol and carbonic acid (by alkalis), which accounts for its value in preventing the development of micro-organisms.

The reports from its employment in phthisical subjects (Seifert and Holscher, *Berl. klin. Woch.*, Dec. 14, 1891), indicate favorable results as regards cough, expectoration and night-sweats. The appetite and digestion are stimulated, the physical signs also improve, and there is an increase in body-weight.

**Kresin.**

Kresin, a new antiseptic, occurs in the form of a clear, brownish liquid, containing 25 per cent. of cresols; miscible with water and alcohol. It is said to be a solution of cresylic acid in a solution of sodium cres-oxy-acetate, and has been advocated as an antiseptic and disinfectant. It is said to be less toxic than carboxylic acid and is recommended as a general disinfectant in the strength of one per cent.

**Ledum (Wild Rosemary).**

Wild rosemary, like bryonia, has had a rather variegated experience as a therapeutic agent. Originally employed for the relief of rheumatism, gouty and cutaneous affections, it is now brought forward as an *expectorant in bronchitis*. Dr. R. Hilbert, of Sensberg, contributes to *The Medical Week*, a report covering its employment in the form of infusion for the relief of bronchitis in children and elderly people, and claims that it allays tracheal pain, characteristic of the early stage; also that it facilitates expectoration and lessens the cough as well as the viscid character of the bronchial secretion. It is said to be of especial value in the case of elderly people, since it relieves dyspnea and cyanosis, and therefore acts as a stimulant to the circulatory apparatus.

Although the forgoing indicates by no means the special class of bronchitic cases to which this remedy is adapted, and therefore furnishes the practitioner with no tangible evidence to guide him in its selection, the writer is of opinion that much good would result from the presence of a single ray of light to clear up the obscurity, viz.: That its action is mani-
fested chiefly upon the serous and fibrous structures, and that elimination takes place through the usual channels, especially through the skin.

Euphorin (Phenyl-urethane).

According to Helbing (Modern Mat. Med., 3d ed., 1892), euphorin is a white, crystalline powder, structurally allied to both carbaminic acid and acetonilide, with a faint aromatic odor and slight after-taste of cloves; insoluble in water, but readily soluble in alcohol, or mixtures of alcohol and water, such as wines.

From Treat's Annual (1893), the following lucid summary on euphorin—not to be confounded with euophen—by Dr. Curtis, is reproduced herewith:

"As a result of some two hundred clinical experiments, the following conclusions have been reached: (1) Euphorin is a powerful and safe antipyretic. It acts better when the fever is at its maximum and during the period of subsidence than in the early stage. The action of the drug shows itself in from half an hour to two hours, and lasts from three to six, or even ten hours. (2) Defervescence is attended with a feeling of warmth and moderate sweat. When the temperature rises again, the accompanying rigor is not severe. (3) It does not cause any serious secondary effects. Sometimes there is a little cyanosis, but never collapse. (4) Euphorin can be used in preference to any other antipyretic when a rapid and marked lowering of the temperature is required. (5) It answers fairly well as an antipyretic in surgical fevers. (6) It is a most potent anti-rheumatic. In acute rheumatism, its action is certain; in the chronic forms, its effect is also satisfactory, and it usually succeeds in cases which have resisted all other remedies. (7) In patients suffering from fever, the dose is 1.20 grams (gr. xviij), taken in from four to five doses. In febrile rheumatic affections, from one to two grams (gr. xv to xxx), should be given in twenty-four hours; in chronic rheumatism, one gram (gr. xv), in three or four doses. On the average, one gram of euphorin corresponds to two grams of antipyrine. (8) Euphorin has a sure analgesic action in neuralgia, unless when it is due to a specific cause. (9) Euphorin is a powerful antiseptic, its action being intermediate between that of carbolic acid and corrosive sublimate. (10) It is one of the most effective disinfectants in thrush. (11) In local applications, it has advantages as compared with iodiform, iodol, aristol, etc. It is more powerfully antiseptic and less desiccating than dermatol. (12) Euphorin, used locally in powder, or in an ointment with vaselin or lanolin, is also an anodyne, and promotes the healing of wounds and ulcers. It gives excellent results in surgery and gynecology and in diseases of the skin and syphilis."

Tolypyrin.

Tolypyrin, briefly mentioned in our January issue, has been thoroughly tried by Dr. P. Guttmann at the Moabit Hospital in Berlin, and in a long clinical report in No. 11 (1893) of the Berlin. Klin. Wochschr. he shows that the new remedy is therapeutically equal to antipyrine. Tolypyrin differs from antipyrine chemically only in having an excess of CH₃; it occurs in colorless crystals, melting at 136 to 137° C., is soluble in 14 parts of water, and very readily in alcohol. Guttmann reports that 4 grm. (in 1 grm. doses at hourly intervals) will reduce the body-temperature at least 1.5° C., and usually 2° C.; that 4 grm. tolypyrin will keep the temperature at a materially reduced degree for 12 to 18 hours, and that 4 grm. tolypyrin will produce the same effect as 5 to 6 grm. antipyrine; the reduction occurs without unpleasant symptoms. The remedy is recommended by the author as antipyretic, anti-neuralgic and anti-rheumatic.

The salicylate salt of tolpyrin, tolosal, has also been tried and reported on by Dr. A. Henning (Deutsche Med. Wochenschr., No. 8, 1893). The author states that tolosal, 3 to 6 grm. in 1 grm. doses at ½ to 1 hour intervals, "proved an exceedingly reliable remedy for acute rheumatism of the joints, and that chronic cases of long standing even were favorably relieved by several days' treatment."
THE AMERICAN THERAPIST.

A Monthly Record of Modern Therapeutics,
With Practical Suggestions Relating to the Clinical Applications of Drugs.

JOHN AULDE, M.D., Editor.

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Editorial.

THE HYPOTHESIS OF INTERFERENCE.

In these days of microscopic investigation there is danger that students may entertain wrong notions and start out with erroneous impressions owing to the study of a too limited field. This is foreshadowed in the physiological study of numerous remedies, both new and old; but it is not an unmixed evil, as will presently appear, since it enables us to take a wider and more comprehensive view of the therapeutic relations which it reflects. For example, in the last number of The American Therapist was published an extract from a lecture on Chorea and the Phenomena of Inhibition, by Prof. H. C. Wood, in which he spoke of the influence of quinine on the constant rhythmical movements peculiar to this disease. Prof. Wood advances the view that choreic movements are not due to increased excitement of the motor centres, but to paralysis of inhibition, and is of the opinion that the phenomenon of lack of tire and absence of fatigue in these cases may be explained on the principle of reversion—reversion of the function of the motor cells.

Evidence is forthcoming, however, to show that we have a more satisfactory explanation in the hypothesis of interference. Indeed, Brunton says stimulation and inhibition are not due to any stimulating or inhibitory centres, but are merely "consequences of relation," dependent on the wave-length of nervous stimuli or the rapidity of transmission, and on the length of the paths along which they have to travel; and that any nerve-cell may therefore exercise an inhibiting or stimulating action on any other nerve-cell. Chaperon taught that the remarkable power of quinine to depress reflex excitability was due to its influence upon Setschenow's centres, i.e., that drugs acting upon the higher parts of the nervous system have the power of lessening the action of the lower. Irritation of the optic lobes of a frog (by salt or electricity) will lessen or entirely abolish reflex action in the cord—to return when the irritation is removed or the cord severed below the point of irritation.*

Brunton repeated Chaperon's experiments on the frog, injecting into the dorsal lymph-sac concentrated acid solutions of quinine, and concluded that the effect was produced by reflex causes, and he showed that the use of acid alone would produce the same phenomena, all going to show that quinine acts like other irritants upon sensory nerves.

Taking into account the well-known clinical facts relating to the value of quinine in the treatment of whooping-cough and other forms of cough, croup, "ner-

*It should be stated in this connection that, from a therapeutic point of view with modern authors, irritation and stimulation are interchangeable terms. In truth, we shall probably find later on that the secret of Dr. Hutchinson's successful employment of electricity for the relief of pain—using a current that causes the vibrator to produce the note C at 540 vibrations per second—depends upon its irritating or stimulating action, and may be explained upon the hypothesis of interference, as Brunton suggests, "by supposing that nervous stimuli consist of vibrations in the nerve-fibres or nerve-cells, just as sound consists of vibrations."
vorousness" and fatigue, certain forms of hepatic disorders and splenic affections, not to mention its powers as an oxytocic, the deduction is natural that it would be useful in chorea; but the scientific facts upon which these clinical facts depend are, as yet, but imperfectly understood. Clinical observation points to a possible solution of this question, namely, the stimulating (or irritant) action of the drug upon cell-function, which we now know to be to a certain extent independent of the nerve-supply. Physiological study may, in time, enable us to demonstrate more precisely the effects of medication upon the nervous system, by which cell-function is restored, for it is evident that the nerve-supply is in the nature of a connecting link. And along with this will be forthcoming a better understanding in regard to the special or peculiar direction in which the various medicaments manifest therapeutic properties as contrasted with the lines leading to pathological effects.

In addition to this should be quoted the observations of Brunton on "Interference in Nervous Structures," (Pharm. Mat. Med. and Ther., 3d ed., p. 169):

"Supposing nervous stimuli to consist of vibrations like those of light or sound, the action which any nerve-cell would have upon the others connected with it would be stimulant or inhibitory, according to its position in relation to them. If its relation be such that a stimulus passing from it to another cell will there meet with a stimulus from another quarter in such a way that the waves of which they consist coincide, the nervous action will be doubled; but if they interfere the nervous action will be abolished. If they meet so as neither completely to coincide nor to interfere, the nervous action will be somewhat increased, or somewhat diminished, according to the degree of coincidence or interference between the crests of the wave."

He goes on to show that these effects may be modified by altered rate of transmission, that opposite conditions may produce similar effects, and also that the same condition may cause opposite effects.

To give this discussion a practical turn, let us inquire into the therapeutic properties of several well-known drugs. Both strychnine and gelsemium have been advocated for the relief of tetanic muscular contractions, and, strange to say, both have been strongly condemned; but in the light furnished by the hypothesis of interference the conflicting testimony may be easily accounted for. Both will act beneficially when they interfere with the propagation of the waves of nerve-stimuli; when the medicinal stimulus coincides with these vibrations, disease symptoms are heightened. Digitalis and chloral are useful in pneumonia, because by their combined action upon the molecular vibrations an artificial condition is brought about which is favorable to cellular activity; and so long as this artificial condition is maintained, good results will follow. It is, in fact, purely scientific treatment of the disease, although it was doubtless worked out wholly independent of scientific data and had its origin exclusively in the clinical department. Indeed, clinicians admit that if this artificial control is relaxed before the crisis has passed the derangement of function re-appears.

The practical adaptation of this observation finds a fitting illustration in the administration of anesthetics—ether and chloroform. Whether or not these substances act through the medium of Setschenow's centres is immaterial, but the fact remains that the immediate stimulant action is soon followed by a subsidence of reflex movements which, even before the period of complete narcosis supervenes, furnishes abundant evidence that they interfere with molecular vibrations in the nerve-paths.

Another illustration is found in studying the action of opium and its preparations. Small, medicinal doses sometimes, instead of causing sleep, produce incessant wakefulness, due to the fact that the artificial stimulus thus started coincides with molecular vibrations. Larger doses, by their narcotic effect upon the central nervous system, the nerve-trunks and terminal filaments, practically obtund sensation; a
condition of narcosis is produced, the treatment being in marked contrast with
the scientific medication as illustrated by the exhibition of digitalis and chloral.
Could the dose of opium be correctly adjusted, opium will produce sleep without
narcosis, simply by the use of an artificial stimulus which interferes with molecular
vibration. Now, while physicians readily
admit the stimulating effect of small,
medicinal doses of opium, many would
be sorely perplexed to find a reason, or
give an explanation, for the administration
of these attenuations for their stimulating
action in cases of profound depression of
the nervous system, and yet the rule is as
applicable to one class of cases as to the
other—providing absorption is insured—
and the modus operandi is wholly explicable on the hypothesis of interference.

THE EMPLOYMENT OF CREASOTE.

In the employment of creasote, the
physician must be careful to secure that
made from beechwood and free from im-
purities, especially the admixture with car-
Bolic acid, which might be fatal to the
patient in the dosage usually rec-
ommended. It is exhibited for its supposed
influence over micro-organisms and
their products, and, of course, will be
called for in a large number of affections
of the bowels—when patients can be pre-
vailed upon to take it. For therapeutic
effects, not more than from one to five
minims are required, although as much as
drachm has been given as a dose after
patients have become accustomed to its
use. It may be given in the form of the
liquid, simply dropped in hot water, or it
may be placed in a capsule with olive oil
or cod-liver oil, or it can be given in the
form of pills. In the experience of the
writer, the best results attend its use when
combined with something which will pre-
vent its coming into contact direct with
the mucous membrane of the stomach, by
adding it to emulsions, or administering it
in the form of capsules or pills. As a rule,
the same plan should be adopted in using
this product as is employed in the case of
similar preparations, namely, administer
in the form of a liquid when it is desired
to affect the immediate structures, as in
bowel affections; but when it is desired
to reach distant parts, give in the form of
a solid, as capsules. The apparent advan-
tage of the latter plan is probably owing to
the absorption and elimination being more
slowly effected, and also to the fact that
it is not so liable to be carried off through
the bowels, and hence absorption occurs
all along the alimentary tract.

Among reputable physicians most won-
derful results have been claimed for cre-
sote in the treatment of pulmonary affec-
tions (tubercular), large doses being ad-
ministered; but later observations indi-
cate that but little is gained from liberal
medication, and, consequently, we must
conclude that in the cases where the large
dosage was practiced with such remark-
able results, other factors were at work
which were coincidently of value with the
creaseote. In the form of capsules, each
containing one minim, two to five taken
after or before each meal will have a most
favorable action in the treatment of suba-
cute and chronic bronchitis; and the
same treatment, conjoined with other suit-
able medication and proper attention to
diet and hygiene, will be attended with
excellent results in tubercular and other
affections of the pulmonary apparatus. It
seems to be especially beneficial in those
cases of tubercular disease in which the
patients have not been properly instructed
in regard to diet and are poorly nourished.
Starchy foods, perhaps with the single ex-
ception of bread, should be strictly inter-
dicted, and the patient instructed to sub-
sist largely on meat and live out of doors
as far as possible when the weather will
permit. Exercise in moderation is not ob-
jectionable, in fact, it seems to be rather
beneficial in many cases, since it im-
proves the appetite and digestion and has
a favorable influence upon tissue-meta-
morphosis.
EDITORIAL NOTES.

Outlook for Cholera.—Advises from France, Austria and Russia are to the effect that cholera has already appeared in different places, and such being the case, we may reasonably expect that it will, in due time, reappear in this country. At the principal ports of entry, the preliminary measures—the "wind-work"—are well under way, but the greater part of the practical work will doubtless be delayed until the presence of the disease is actually demonstrated by finding of the comma bacillus. Several important matters have been decided upon by the general government in regard to the most effective quarantine measures, although but little has so far been accomplished with a view to improve the sanitary conditions of our large cities. Requiring certificates from immigrants and disinfecting their baggage, may be all very well, but such measures will prove of very little service should the disease make its appearance in either New York or Philadelphia.

The Medical Bill in Pennsylvania.—Information concerning the fate of the medical bill recently introduced into the Legislature of this State has just come to the surface. It seems that a compromise has been agreed upon and that a composite board will be appointed, similar in some respects to the New York board. As passed by the lower House of April 4, 1893, by a vote of 146 to 6, the bill provides for a Medical Council and three separate Medical Boards, Eclectic, Homeopathic and Regular. The Medical Council is composed of the Lieut. Governor, Secretary of Internal Affairs, Auditor General, Supt. of Public Instruction, Prest. of the State Board of Health, and the Presidents of the three examining boards, and will have supervision of the entire business.

The supervisory feature was a compromise suggested by Mr. Wherry, and while the friends of the bill admit its imperfections, it is, nevertheless, considered a good basis for future legislation. The members of the different boards are appointed by the Governor from certified lists of members of different medical societies, and candidates have the privilege of selecting the denomination or "school" in which they desire to be examined. A special point to be noted is the fact that the law provides that applicants for license must have studied medicine for at least four years.

Progress of The Therapist.—Although launched at a most unfavorable season (July, 1892), and wholly free from commercial connections to afford it financial sustenance during its infancy, the reception accorded to the Journal has been most flattering indeed, and the Editor tenders herewith his cordial thanks to all who have so kindly given it their moral and financial support. Less than a year has elapsed since the idea was conceived of publishing a clean, progressive and practical journal devoted exclusively to therapeutics, and the almost daily receipt of congratulatory letters from those who compose the rank and file of the medical profession in this country furnishes the most convincing evidence that our work is properly appreciated. But, while the progress has been rapid, and although the Journal has earned for itself a reputation for being both scientific and practical, it must be apparent to those familiar with its columns that the real work—the readjustment of therapeutics on a scientific basis—has scarcely begun.

Mortuary Statistics of Chicago.—The forthcoming report of the Board of Health will show that the city of Chicago is in an exceptionally satisfactory condition in respect to sanitary precautions, the death-rate having been reduced 20 per cent. during the past two years. The following statistical report will show at a glance the enviable position of Chicago as compared with other large cities of this
country: Chicago, death-rate, 1892, 18.2
Philadelphia, 21.1; Brooklyn, 21.9; Bos-
ton, 23.9; New York, 24.0.

It is to be regretted that an unfavorable report has recently appeared in regard to the Chicago water-supply, which, to those who do not understand the situation, might create with them an unfavorable impression. The drinking water now used in Chicago is taken from Lake Michigan, being pumped from two cribs located two and four miles respectively from the shore, while the water examined by the expert was taken from the Chicago river, or from the lake near the mouth of the river, and, of course, contained many impurities. But the fact is, the mouth of the river is not the mouth at all, except during a freshet, the country being so level that the course of the river has been changed, so that instead of emptying into the lake, it runs through the central portion of the State and empties into the Illinois river. The water supply of Chicago is excellent, as is shown by the statistics mentioned above.

Special Excursion to Milwaukee and Chicago.—Arrangements have been so far perfected as to warrant the announcement that through the courtesy of the Baltimore and Ohio Railway, a special excursion will be offered delegates and their families residing in the vicinity of Philadelphia, Baltimore and Washington, who wish to attend the annual meeting of the American Medical Association to be held at Milwaukee, June 6, 1893, visiting the Columbian Exposition at Chicago on the return trip. Ordinarily, these tickets do not permit stop-off privileges, but it is believed a sufficient number can be secured by granting this concession to make a formidable party. Full particulars will be given in our next issue in regard to rates, accommodations and dates, and in the meantime, applications for transportation should be addressed to Mr. James Potter, Dist. Pass. Agent, B. & O. R. R., 833 Chestnut St. Philadelphia.

Correspondence.

THE "CELLULAR-THERAPY."

To the Editor:

The able Editor of The American Therapist defines cellular-therapy as "the name applied to the method in therapeutics of exhibiting properly selected medicaments with a view to restoration of cell-function" (American Therapist, 1892, p. 137).

(1) In order to render such a therapy really "cellular," it appears to me that it ought to be based on a knowledge of, (a) the normal activities of cells; (b) the effect produced upon these activities by disease; and (c) the mode of action of drugs or other agents in the restoration of normal cell-function. But it seems needless to remark that our knowledge of these conditions at present is quite too limited to be of practical value in the treatment of disease.

(2) The Editor adds, in the same article, "Just as cellular-pathology is concerned in the study of a retrograde metamorphosis, so cellular-therapy aims to supply scientifically those remedies which experience has shown to possess certain curative properties in the restoration of disordered functions." From this it is apparent that cellular-therapy is not available as a guide in the selection of the appropriate remedy, and that, as heretofore, we have to depend on the results of experience or experiment, or the empirical method, for the selection of the appropriate curative agent. When experience has shown us the proper remedy, then cellular-therapy is to assist us in making a scientific use of it. Now, as the selection of the proper remedy is of much more importance than a scientific explanation of how the remedy acts, it does not appear that cellular-therapy offers much, if any, advantage over older methods. Of what use is it to talk about cells and cell-function, and of the relation of drugs to the same, in this connection, seeing that our knowledge on these points is of the most
meagre kind, and that the little we know
is not available for practical utility?

(3) Notwithstanding these apparent
drawbacks, the Editor in the article just
quoted (p. 138), adds, that “several years’
experience with this subject in the fore-
ground has furnished abundant evidence
of its clinical importance,” and that,
indeed, “it will prove a revelation to all
who deliberately and conscientiously study
its bearings.” Now, I claim to be one of
the latter class, and I regret exceedingly
that I am unable to agree with the Editor,
or to see in his explanations and illustra-
tions anything which is really “cellular”
or worthy of being considered “the basis
of scientific therapeutics.”

(4) We are not indebted to cellu-
lar-therapy for the knowledge that cells have
certain functions, and that various drugs
aid the excretory cells in eliminating cer-
tain materials from the organism; nor for
the manner in which oxygen is introduced
and partly stored up and partly utilized in
the process of metabolism; nor for the
fact that secretion may take place without
nerve influence; nor for the transfor-
mation undergone by certain drugs, such as
iodide of potassium, within the body.

All these and numerous similar facts,
which the Editor introduces at consider-
able length, seem to be regarded by him
as in some way associated with cellular-
therapy. I am unable to see that data of
this kind, which enter largely into the
papers so far issued on cellular-therapy,
have any real bearing upon that topic, or
serve in any way to explain or illustrate
it.

(5) Perhaps I have not made my own
remarks sufficiently plain, and as a fur-
ther attempt in that direction I will ven-
ture to add the following: A certain kind
of headache may be cured by cannabis
indica; another kind of headache by
quinine; a third by bromide of potassium
or by antipyrine, and so on. Now, if the
cellular-therapist were able to point out
the differences in the molecular structure of
the cells concerned, the altered rate of
vibration of their molecules, or other con-
dition of cell-perturbation, which in one
case called for cannabis, in the others
for quinine or the bromide, then, indeed,
we would have a therapy worthy of the
name of “cellular,” and one that would
be really “a revelation” to the student of
therapeutics. ———, M. D.

REPLY.

A careful reading of the above com-
munication discovers mental strabismus
on the part of its author, else why should
he know so little as he reluctantly admits
in paragraph (1), and so much, as he rather
boastingly claims, in paragraph (4)? If our
knowledge of “the normal activities of
cells,” “the effect produced upon these
activities by disease,” and “the mode of
action of drugs,” etc., is “too limited to be
of practical value in the treat-
ment of disease,” what end has been
accomplished by publishing the works
of such authorities as Brunton and Ringer,
of England, Dujardin-Beaumetz and Ewald,
of France and Germany, and Bartholo-
Wood, and others of this country? Can it
be possible that these well-known authors,
instead of presenting facts, have attained
to positions of eminence in the profession
through the persistent advocacy of purely
speculative hypotheses? And if this as-
sumption be correct, how does it happen
that the general practitioner knows about
the “certain functions of cells,” as regards
elimination, the storing and utilization of
oxygen, their activities in respect to secre-
tion independent of nerve influence, and
finally, “the transformation undergone
by certain drugs within the body”? “All
these and similar facts” are the evidences
which demonstrate the necessity for study-
ning therapeutics as related to the cell; and
without this knowledge all therapy is ex-
perimental, empirical and hap-hazard, ab-
solutely without the semblance of scien-
tific basis.

Cellular-therapy is “available as a guide,”
not only “in the selection of the appro-
priate remedy,” (2) but it also teaches in
no uncertain manner the proper use of the
remedy in promoting the restoration of
cell-function. Cellular-therapy takes ac-
count of the facts brought out by physio-
logical investigation and clinical experi-
ence, reconciles the apparent contradic-
tions by calling to its aid the resources
furnished by chemistry, physiology and
pathology, and with the assistance of the
microscope and our knowledge of physical life, fixes definitely and unalterably the position which therapeutic agents are entitled to occupy under certain conditions and restrictions.

The mere fact that our correspondent is "unable to agree with the Editor," (3) does not invalidate the latter’s claim that it (cellular-therapy) ‘will prove a revelation to all who deliberately and conscientiously study its bearings,’ because he has so far shown a decided unwillingness to be convinced by arguments that are incontrovertible, or by the teachings of experience.

While his remarks are “sufficiently plain” (5) and not to be misunderstood, the fact remains that his reasoning is faulty by its inconsistency, and his conclusions unwarranted by the same token, hence the argument falls; the premises being founded on inaccuracies, the rhetorical structure is lacking internal support.

Again, the selection of headache (5) as a test-case, while extremely unfortunate for the position taken, is decidedly advantageous in respect to cellular-therapy, since it presents certain well-known conditions with which the practitioner has to deal; moreover, it includes the use of remedies that have become familiar to him through long acquaintance and constant use. The mistake should not be be made, however, of assuming that either cannabis indica, potassium bromide or anti-pyrine “cure” headache; they simply relieve it for the time being. A cure is effected by removal of the cause; when the cause reappears, headache returns. Quinine relieves and “cures” the headache associated with malarial cachexia, because it is quickly absorbed by the blood, carried to the inter-cellular fluid which constantly bathes the protoplasmic cells, while these bodies in turn are stimulated (irritated), and as a result, the micro-organism associated with the disease finds itself exposed to ungenial elements, ceases to live, and with other excrementitious products is eliminated with the quinine through the usual channels.

Cannabis indica relieves headache by obtunding sensation in the cerebral centres, although it may possibly have some anodyne or analgesic effect upon the terminal filaments of the sensory nerves, explicable on "the hypothesis of interference." Both potassium bromide and antipyrine are but palliative headache remedies, acting principally upon the cerebral centres and peripheral nerve- endings, and probably to some extent upon the nerve-trunks. They do, however, accomplish something more, since by obtunding sensation (through their interference with molecular vibrations?), the nervous system fails to send notice throughout the body concerning derangements that occur at any given point, and unless given in too large dosage, or too long continued, the vegetative functions are not seriously affected. In other words, cell-function continues independent of nerve-influence. And to know this is not only sufficient for scientific purposes and for practical therapeutics, but it is sufficient for all the claims so far made for cellular-therapy.

In view of these facts, which are patent to the merest tyro in therapeutics, it seems superfluous to insist that we must be "able to point out the differences in molecular structure of the cells concerned, the altered rate of vibration of their molecules, or other conditions of cell-perturbation" as a preliminary to the establishment of a therapy based upon the recognized properties and functions of cells.—Editor.

INCREASED CELLULAR ACTIVITY, BUT DECREASED NUTRITION.

To the Editor:

I was pleased to notice in the course of your last article on cellular-therapy (American Therapist, February, 1893), an observation on what I think is a commonly taught and believed error; namely, that inflammation means increased nutrition. You well remark that inflammation is always characterized by impaired nutrition.

From this it follows that an inflamed tissue is a weak tissue, a tissue of a vitality below that of the adjoining or neighboring healthy tissues, and one that is more or less of a menace to the body as a whole. Were inflammation marked by increased nutrition, as is usually taught, then such a tissue ought to be one with powers of resistance superior to those of ordinary healthy tissues. But such, we know, is not the case. Of course, in these tissues there is abnormal cell-proliferation, but it does not follow that the vitality and resistance power of those cells is up to the required standard.

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I have lately observed a case which I think parallel to that of the abnormal activity of the microscopic cell, in the abnormal proliferation of that congeries of cells known as the body. The parallel is found in a patient of mine, a thin, weak, intensely nervous, consumptive-looking woman. She is but thirty-two years of age, yet in the last ten years she has given birth to eleven children. Here is rapid multiplication with a vengeance. She has "budded," if I may so term it, more than once a year; but what are the results? Half her children have succumbed to disease, the other half do not appear to be of strong vitality, and the mother herself will probably not live out half her days.

Ernest B. Sangree, M. D.
No. 744 South 15th St., Philadelphia.

Current Literature.

Modern Methods.—There are many indications in medical literature that the younger generation of physicians is finding practical use for the evolutionary philosophy in explaining questions of physiology and pathology. The Platos and Spencers have long to wait before their teachings percolate through to practical life, for the plain worker does not readily see how their fine theories can help him to work easier or better. But, happily, the race is gaining rapidly in catholicity and adaptability of thought, and men now receive and apply with more readiness the results of philosophical teaching. This gain has quickened the pace of the century, has widened the horizon of thinking people, and has made Spencer and Heckel familiar, not alone to the cultured, but to such as shove the plane and carry the hod. The general acceptance of the evolutionary idea is not a craze, but has been a growth, and it promises to be the working basis for the future. It appeals not to sentiment, but to reason, and it appeals to reason because it explains the origin and meaning of life as we see it, how through an unvarying and beautiful order, and in obedience to a single law, nature has woven the complex fabric of organic structure. And it shows, too, and this is the important point for the physician, how by a reversal of this order nature undoes by disease what growth has done, thus unraveling in an orderly way the complexities of structure. Many recent medical writers, notably Hughlings-Jackson, Maudsley and Mercier, have given a new interpretation to mental phenomena, both normal and morbid, because they have studied them by the light of the new philosophy. One gains vastly by having some theory on which to string his facts, for he thereby gets order and precision.

The accuracy and method of interpretation which the development theory furnishes is silently but rapidly modifying our views of mental pathology. While all investigations into the pathology of insanity are to be encouraged, there is certainly a limit to the revelations of the microscope, and we fancy it is in the unknown region beyond these limits that lie the pathology of insanity—if pathology it can be called. Gross lesions as the pathological basis of insanity reveal something to be sure, what might be called the capes and promontories of the unexplored region; but, after all, they furnish but vague information of the molecular condition of nerve-cells of which insanity is the symptom. Who hopes that the microscope will ever show us the pathological condition of which melancholia and acute delirious mania are symptoms? It will probably never reveal the mystery, for the condition is, in last analysis, molecular, and is beyond the reach of the skill of the laboratory. The explanation will, however, come, and probably through various sources; through a better knowledge of comparative psychology, through an understanding of the mental evolution of man and animals, and above all, in a thorough knowledge of the chemistry and
physics of cell-life. This kind of investigation requires technical knowledge applied to different orders of facts by many investigators working in different fields, and then the application of this vast knowledge to mental pathology.

In this note we but indicate the direction in which present tendencies point. We believe that splendid results are to follow the new method, and hope it will furnish something tangible and useful for the present theories of mental pathology, which are but a tangled brush-heap of conflicting theories and unproved assertions.—Rev. of Insanity and Nervous Diseases, Dec. 1892.

The Effect of Subcutaneous Injections of Organic Substances on Inflammations.—To determine the special action of the amide group upon inflamed tissues when introduced into the circulation, a case of lupus vulgaris was selected and first treated by the subcutaneous introduction of .03240 gm. of kreatinin, alternated twice weekly with .130 gm. of taurin, urea and uric acid. The average temperature during treatment was slightly raised, though not to any very marked degree, under the influence of such small doses. The more recent patches of lupus, however, became markedly inflamed, being accompanied with a burning sensation. On the third day after the first injection, a marked granulation could be detected around the outer edge by the aid of a strong amplifying pocket-glass. This apparently healthy granulation has continued for ten days, in which time the patch has one-half of its original area healed. The result shown at this early stage of the experiment is sufficiently encouraging to warrant not only a continuation of the treatment in this case but in other forms of tuberculosis. The only other subjects upon which these injections have been tried have been cases of pulmonary tuberculosis in a very advanced stage, where there was too much lung-tissue already destroyed to warrant the expectation of a favorable result. The fact that we apparently have an action on the lupus and no marked result with small doses on advanced cases of pulmonary tuberculosis causes me to realize that the line of experimentation must not be confined to tuberculous inflammation, but extended to the action of these organic substances on the entire group of inflammatory growths, the effect being produced, possibly, by supplying that in which the pathological tissues are deficient. This line of inquiry, which had its origin in the bacteriological laboratory of the Academy, has opened up a new and wide field of important scientific medical investigation.

Samuel G. Dixon, M. D.,

Pental Anesthesia.—Since I have been using pental one year, and made about nine hundred narcoses, I can sum up and communicate my experience in the following brief sentences.

Of course my assertions refer only to minor operations, as I have never performed major surgical operations with the material.

1. Pental is an effectual anesthetic in all cases, and for that reason differs greatly from ethyl bromide, which in some cases is ineffectual.

2. Anesthesia is induced more slowly than with ethyl bromide, but lasts longer, and the patients only regain consciousness gradually.

3. The least excitement is extraordinarily rare. As yet, I have, regarding the following results, not observed any irritation of the stomach, nausea and vomiting, much less trembling, trismus, aphasia, etc.

4. Neither the heart's action nor inhalation is quickened during the administration; however, the pulse at times, especially in anemic individuals, is somewhat weaker, whereas in very excited people it is slightly accelerated.

5. Generally two or three ccm. are sufficient for anesthesia in composed peo-
ple. Ten ccm. are adequate in most cases for the extraction of five to ten teeth.

6. Very excitable and strongly anemic patients, with a weak heart-action and an old bronchial catarrh, do not endure pental as well as healthy ones.

7. The best manner of administration is that with the Junker apparatus, the advantages being that the admission of the vapors into the lungs can be regulated, and that they are prevented from entering the eyes; also, that less is used, and the disagreeable odor for some people is not so noticeable. Professor v. Merino is at present trying through experiments to weaken the too quick effect of pental, and also to mask the disagreeable odor by the admixture of another preparation.

8. Anesthesia takes place in from one to three minutes.

Notwithstanding all these advantages of pental, I do not wish to assert that it may or can be administered less observantly than any other narcotic. All clothing about the neck, chest, and abdomen must be loosened, and the respiration continually watched by a physician or trained assistant. The dentist or surgeon cannot operate and at the same time, during the operation, observe dangerous symptoms.

Without doubt, at times unpleasant, as well as dangerous symptoms, may occur through the use of pental, as well as with all other narcotics; but whether occasioned by pental, peculiar dispositions of patients, or lack of precaution on part of the physician, and how the same may be avoided, can only be decided by observation and experience of different workers.

Pental is at present, on account of its sure effect and the wonderfully comfortable feeling of patients after anesthesia, the best narcotic for all operations of short duration.

Prof. L. Hollaender,
Halle-on-the-Saale.
(Dental Cosmos, March, 1893.)

Influence of Functional Activity upon Nerve-cells.—Metabolic changes in nerve-cells are as easy to demonstrate with the microscope, as similar processes in gland-cells; the principal changes thus far observed are: For, spinal ganglion-cells of frog, cat, dog, under electrical stimulation; for spinal ganglion and brain cells of English sparrow, pigeon, swallow, and for brain-cells of honey bee under normal fatigue: a. Nucleus; decrease in size; change from smooth and rounded to a jagged and irregular outline; loss of open reticulate appearance with darker stain. b. Cell-protoplasm; slight shrinkage, vacuolation in spinal ganglia; considerable shrinkage with enlargement of peri-cellular lymph-space for cells of cerebrum and cerebellum; lessened power to stain or to reduce osmic acid. c. Cell-capsule, when present; decrease in size of nuclei. d. Five hours' stimulation of nerve-cells requires about twenty-four hours' rest in order that the process of recovery may be completed. The appearances noted in the spinal cord of a hydrophobia patient were similar to those found in the animals, but no conclusions could be reached from one specimen of this kind.

C. F. Hoege, Ph. D.
(Jour. of Morphology, Vol. vii, No. 2.)

Blood-Serum as an Anti-diphtheritic.—Dr. Aronson, of Berlin, in a recent communication, gives some facts concerning the blood-serum which he is using as a preventive of diphtheria. His blood-serum possesses an immunizing strength of 1:10,000 for guinea-pigs; for children he employs a four-fold dose; i. e., a child weighing 20 kilograms (44 pounds) receives 4 ccm. subcutaneously. "These doses of serum will afford positive protection only if injected before infection has taken place; they are insufficient in later stages of disease."

This last statement is contradicted by a contemporaneous opinion which we quote from a comprehensive contribution "On the Importance of Diphtheritic Membranes in Relation to Therapy," by Prof. M. J. Oertel, of Munich, in the Berlin. Klin.
Wochenschr., April 3, 1893, as follows:

"Lately BEHRING and WERNICKE have published a method of treatment which considers the general disease as the end and goal of therapeutic effort, the so-called blood-serum treatment.

"In my investigations into the pathogenesis of diphtheria I have proved that the necrobiotic tissues lose their toxicity, and leucocytes may penetrate them without being infected, when the complete liquefaction of the tissues, and discharge of fibrinogenous lymph and serum, has taken place, and usually also if superficial areas are ruptured and the necrobiotic and degenerated tissues exude to the surface of the mucous membrane. On the other hand BUCHNER has demonstrated that blood-serum contains principles which weaken the procreativeness of bacteria and make the metabolism [katabolic] products impotent, and even destroy the bacteria. Later investigators, particularly BEHRING, have proved that this property of blood-serum to counteract the bacterial poison, may be progressively intensified, so that by repeated inoculation, a completely immunizing strength can be obtained, potent even against super-virulent bacteria-cultures. The injection of blood-serum from such animals afforded not only protection against virulent infection, but aborted the already present infection and made it harmless, and, therefore, proved a specific cure for the indicated disease."

TREATMENT OF DIPHTHERIA.—Dr. W. E. PUTNAM, of Whiting, Ind., writes to the Medical Record: I wish to make known a plan of treatment in diphtheria which I have just carried out successfully in the case of my own children, aged two, four, and five years respectively. I used a spray of peroxide of hydrogen, full strength, to which I added one part per thousand of corrosive sublimate. I reasoned that if others can give one-half grain of sublimate a day internally, I can use a grain a day in my atomizer, knowing that the child will spit out ninetenths of it. I also used a little oil-stove, a tin tea-kettle, and a piece of hose three feet long. In the kettle I put turpentine and lime-water, in the proportion of a table-spoonful to a pint, and then steamed the child, placing the end of the hose six or eight inches from his mouth.

**Therapeutic Memoranda.**

**Gypsum in Treatment of the Cord.**—Some time ago, Cholmgoroff made extended observations to determine the value of gypsum and other substances in the treatment of the umbilical cord, and came to the conclusion that this substance was worthy of further investigation. He claims that it is entirely free from bacteria at first, although later on they may be found in the stump, which he thinks is a result of infection from without. These germs included those which are non-pathogenic and pathogenic. The former include the sarcinia lutea and bacillus subtilis; the latter are staphylococcus albus, s. aureus, s. citreus, and streptococcus pyogenes. Gypsum was not only found the best protective against the germs, but the most perfect mummifier and dessicant. This author also determined that the pathogenic bacteria of the cord were identical with those seen in puerperal affections, but they were absolutely independent of such complications in the mother.

**Myrrh in Diphtheria.**—Hoadley, of Chicago, claims that uncomplicated cases of diphtheria, if taken in the beginning, can be brought to a successful termination by the internal employment of myrrh, as expressed in the following formula:

R. 
Potass. chloras.......5 j;
Tr. myrrhae...........f 1 ij;
Acidi carbolici.......gtt iv;
Mel despumatum......f 3 iv;
Aquea...q. s. ad.... f 3/4 iv.

M. Sig.: Give 15 drops every half-hour, or oftener, according to the severity of the attack.

When there is much depression of the vital powers, he adds to this treatment small doses of the tincture of the chloride of iron, and he is particular to have the mixture properly compounded so that none of the virtues shall be lost.

**Glycerin Adulteration.**—Commercial glycerin, so-called, is liable to be contaminated by the presence of arsenic, and a case of poisoning in which the sophisticated character of the glycerin was supposed to be responsible has been reported
by Jaroschi to the Prague Medical Society. The patient, a man, had been induced to take large quantities of glycerin, and shortly afterwards became seriously ill, suffering from vomiting, painful defecation and pains in the calves of the legs; but under suitable treatment, the glycerin of course being discontinued, the patient was not long in recovering.

Hot Air Inhalations.—Hot air inhalations in tubercular affections have been tried with rather indifferent success, according to Weigert’s method, within the past few years. The high temperature of the inspired air—320° to 570°F., the length of time—fifteen minutes to one hour, from a physiological standpoint are objectionable; and while favorable results have been reported by some, these instances do not fully meet the exceptions where hemorrhages have been ascribed wholly to their administration, and besides, the permanency of the improvements is doubtful. There is a consensus of opinion that, while this treatment may be measurably prophylactic, or possibly palliative, it is by no means curative.

The Pharmacology of Colchicine.—Ferrer has shown that the action of colchicine upon the nervous system is very marked. Under its influence there is progressive failure of reflex activity, which, he thinks, is dependent on a depressant action upon the sensory nerves, as demonstrated by a number of carefully prepared experiments, all of which were confirmed by later studies. The same observer has also noted that the remedy exerts a decided influence upon the temperature, although whether the fall of temperature is dependent upon the general state of depression which is present, or to some direct influence upon the nervous apparatus, he was unable to determine.

Upon the circulation the influence of colchicine is comparatively slight; in the course of the experiments made by this author, it was found that when moderately large doses were given, there was a fall of arterial pressure and a slight slowing of the pulse; but this latter effect, he believed, was not due to stimulation, but to depression of the heart, which he essayed to prove by section of the pneumogastric, with the result that as rapid a rate of the pulse followed as normally occurs when this nerve is cut.

One of the most useful rheumatic remedies, colchicine, has not fully supplied the demands of the clinician, owing to the depressant action above described; but by combining it with salicylic acid, smaller dosage is sufficient for therapeutic effects, and, eventually, colchicine-salicylate will take a high rank in the treatment not only of rheumatic disorders, but in all forms of diseases where the rheumatic diathesis is a factor.

Salol as an Antiseptic.—Salol is most valuable in the treatment of rheumatic affections, and has also been used on account of its antiseptic properties to correct the fetid breath and disinfect the stools in typhoid fever; although, in respect to rheumatism, it has not altogether displaced the salicylates, it has encroached considerably upon their employment. Salol has also been used successfully in the treatment of the diseases incident to the summer season in both adults and children. Great hopes were entertained in regard to its utility in the treatment of cholera, but the reports so far published have given no great encouragement for the hopes that were entertained.

Pilocarpine in Threatened Mania.—Among the practical discoveries in therapeutics is the value of pilocarpine in threatened mania, and this is cause for congratulation, since the physiological action of the drug furnishes a scientific explanation of the manner by which the benefits are secured, namely, by stimulating the excretory functions. Willoughby, some time ago, reported the case of a man who was usually a sound sleeper, but for several weeks had been unable to obtain needed repose; during short doses he would talk business, his appetite had
failed, and for several days before his visit had scarcely slept or eaten. The patient was found in bed in a dark room with wet cloths on his head, singing, shouting, gesticulating, snapping his fingers, talking wildly and seeing illusions, with a temperature of 104°F. After failure to procure sleep by the use of chloral and liquor opii sedative in substantial doses during a period of six hours, it was decided to use pilocarpine, one-sixth grain being injected into the arm at ten o'clock. Within five minutes profuse perspiration and salivation occurred, and the next morning the patient was perfectly calm and rational, the skin cool and moist, temperature less than half a degree above normal, head clear and appetite returning.

Quinine in Meniere's Vertigo.—Its influence upon the character of this disease goes to show the effect which quinine has upon the vaso-motor system, and this is further confirmed by the results following galvanization of the cervical sympathetic. Large doses of quinine cause congestion of the entire aural tract, and up to a certain point increased nutrition follows, provided this effect is not too long continued. When vertigo of this nature is found to be due to functional disturbance, full doses of quinine for a period of three days, and then omitted for the same period, will be found of signal value. Calcium sulphide during the interval will favor the absorption of morbid products dependent upon the quinine congestion.

Sparteine in Cardiac Affections.—Sparteine cannot be expected to accomplish much in cardiac affections in which degenerative changes of considerable importance have taken place in the heart muscles. The views at present held in regard to sparteine are very contradictory, but this may be due to the fact of its being used in cases accompanied by considerable degeneration, and consequently good results have failed to follow; whereas in other cases it has been used where the failure in compensation was comparatively slight, and success has attended its administration. Some who have employed it assert that they have been compelled to discontinue it and resort to adonis, digitalis or strophanthus.

Iodine for Gonorrhea in Women.—Sinclair has found the intra-uterine injection of iodine tincture, accompanied and followed by vaginal injection of weak mercurial solutions most efficient in the treatment of gonorrhea in women. When the tubes and peritoneum are involved, perfect rest is insisted upon and hot vaginal injections continued until the invasive activity of the gonorrheal virus has subsided.

The Vitality of Micro-organisms.—Some years ago Uffelman made an extended series of investigations with a view to determine the vitality of pathogenic organisms, which will be especially interesting at the present time, when we are on the eve of a threatened invasion of cholera. These investigations were confined to the micro-organisms associated with typhoid fever and cholera, and the evidence was apparently clear that in a suitable temperature the former may remain active for months, or even years. Clinical observations are to the effect that cholera bacilli will live but a comparatively short time.

As found in fecal masses the typhoid bacilli appear to possess a remarkable degree of resistance, and when the temperature is continued at 62.5°F. or over they multiply with great rapidity, although at 50°F. these micro-organisms do not increase in number. The cholera bacillus does not under similar circumstances maintain its vitality at the farthest longer than four days, and generally not more than twenty-four hours; a temperature of more than 61°F. seems to favor their growth more than one of less than 48°F. The presence of urine in the fecal matter is a factor yet to be considered, as it is not now known whether it has a tendency to increase or diminish their vitality.
Book Notices.

Fermentation, Infection and Immunity, a new theory of these processes, which unifies their primary causation and places the explanation of their phenomena in chemistry, biology and the dynamics of molecular physics. By J. W. McLaughlin, M.D., of Austin, Texas. Cloth, 12mo., pp. 240. Austin, Texas: Eugene von Boeckmann, 1892. (Price, $2.50).

In order to become thoroughly familiar with the arguments advanced in discussing questions relating to fermentation, infection and immunity, one must read and re-read and reflect upon the almost numberless causes at work, as our author has embraced a wide scope in his investigations. The object of the book is to develop the ground-work of what is termed the "physical theory" of disease; and in order to do this, it becomes necessary to study the structure and physiological action of cells, as well as their relation to fermentation and infection; and it must be confessed the arguments bearing upon these topics are exceedingly seductive, even if at times rather hypothetical.

From a study of the molecular nature of albuminoids and the self-limitation of acute diseases, the discussion turns to the consideration of natural immunity, which is claimed to be a "result of progressive development of molecular structure, from primordial protoplasm to specialized cells, by natural selection, adaptation and inheritance." The chapter following this section is devoted to the subject of artificial immunity, and the various methods advocated for securing the same, the different theories being passed in review. To enable the reader to get a faint glimpse of the views presented, the following quotation must suffice (p. 207 et seq.):

"The ease and clearness with which the physical theory philosophically explains the phenomena of fermentation, infection and immunity, is certainly significant of its truth, and in no instance is this more effectively shown than in its explanation of the different behavior of leucocytes of the immune and non-immune organism towards infectious bacteria. This problem, which we have seen, cannot be satisfactorily explained from the standpoint of phagocytic immunity, becomes, however, a very simple matter when investigated from that of the physical theory. The first, and an important difference between the two theories, is that relating to the rationale or modus of formation of ptomaines or bacterial products. The phagocytic theory regards these as secretions or excretions of infectious bacteria; the physical theory believes they are derived from albuminoid molecules of the body which have been disrupted, or changed in molecular structure by the wave-impacts—dynamic energy—of virulent bacteria. The first theory requires but one factor—pathogenic bacteria; the second theory requires two factors—the pathogenic bacteria and susceptible albuminoid molecules. The second difference between the two theories is that which relates to the immediate cause of immunity. The phagocytic theory places this in the behavior of the leucocytes of the organism; it is believed these cells defend the organism against bacterial invasions by means of inherent or acquired qualities, and that these latter are transmissible from parent to progeny. The physical theory places the immunity of the organism in the molecular structure of its albuminoids; when these produce waves that move in unison with those produced by pathogenic bacterium they are susceptible albuminoids, and can be disrupted and converted into bacterial products—tox-albumins—by this microbe. But, if the waves of albuminoid molecules do not move in unison with those of the pathogenic bacterium, then such albuminoids are immune from this microbe; it cannot shake apart and convert them into poisonous albumins.

"When, now, pathogenic microbes are introduced into a non-immune organism, they immediately proceed to shake apart, by their dynamic energy, the albuminoid molecules whose waves vibrate in the same periods as those of the bacterium, and the molecules liberated by this action at once re-combine into poisonous albumins, which paralyze or drive away the leucocytes and infect the body. But, when this same microbe is introduced into an immune animal, we may expect a different state of affairs; the albuminoid molecules of this animal do not move in unison with those of the bacterium (the cause of this has already been explained), therefore, they are not disputed by it, and no poisonous albumins are formed which paralyze or drive away the leucocytes. On the contrary, they flock to the locality, from the law of physiological leucocytosis, and speedily devour the microbes."

The volume before us is well calculated to call forth praise from the thousands of practitioners throughout the world who have long held the late Dr. Agnew in such high esteem. As an accomplished and conservative surgeon, and a good citizen, perhaps no one in this generation has been more thoroughly appreciated and honored, and the history of his early trials, and later successes and signal triumphs in his chosen field, is now presented in a manner that will attract and fascinate the reader, and it will do much to stimulate those who, following in his footsteps, are well-nigh exhausted by the heat and burden of the day. The rising generation of physicians as well as surgeons will be better physicians, better surgeons, from having familiarized themselves with the life of D. Hayes Agnew, since it will furnish an incentive for them to surmount the difficulties and avoid the pitfalls which beset them on every side.


Treat's Annual has become almost a necessity for the active, progressive and conscientious practitioner, who is too often handicapped by lack of time for close inspection of the current medical literature. The information here contained is condensed and compact, and fairly reflects the trend in medical thought and practice both at home and abroad. A large corps of contributors is employed to gather the harvest and sift the grain from the chaff, by which the consultant is immediately started in the direct line of investigation. The promptness of its appearance, and the "handy" size, makes it very acceptable to all who wish to keep pace with the times.


The season is now approaching when reliable information on the subject of cholera will be in active demand, and nowhere can it be so conveniently and authoritatively obtained as in this monumental work by the indefatigable Shakespeare. In addition to the author's own observations in his study of the disease in Spain, Italy and India, there is included nearly all the later information covering the pathology and treatment of the disease obtainable at the time of publication, and it will no doubt be accepted as the most complete work of reference upon the subject.


The idea of presenting a text-book on the practice of medicine which shall embody the views of a number of recognized authorities in this department, is at once attractive and unique, since it brings within the scope of a single work a sort of bird's-eye view that appeals at once to the student and practitioner alike. The editor, Dr. Pepper, has been fortunate in securing the active cooperation of teachers peculiarly well-fitted for this delicate task, and it is almost superfluous to add that it is has been especially well done.

Very properly, the initial chapter is devoted to the subject of hygiene, by Dr. J. S. Billings, and it is no discredit to the other contributors to say that this section is the most interesting, and perhaps, the most valuable in the book, although all the contributors give a very full and practical exposition of their respective subjects.
Prof. DeLafIELD takes diseases of the kidneys and lungs; Prof. Fritz, that of the peritoneum, liver and pancreas; Prof. Holland, the urine (chemistry and microscopy); Prof. Janeway, the circulatory apparatus; Prof. Lyman, diathetic diseases; Prof. Osler, the blood and spleen; Prof. Peffer, fevers; Prof. Thompson, tuberculosis, etc.; Prof. Welch, inflammation, fever and bacteriology; Prof. Whittaker, scarlet fever and other diseases of children; Prof. Wilson, diseases of the air-passages and pleura; Profs. Wood and Osler, nervous diseases; and when finished, the work will be a complete encyclopedia of modern practice, as taught on this side of the Atlantic.


The contributions of the members of this society to medical science, while not extensive, are practical in character, and the present volume includes a number of good papers, and, also the usual reports upon progress in different departments. With a membership of nearly five hundred, and the usual contingent of local members at points where meetings are held, the interest will increase, and no doubt the status of the physicians of this great State, measured by their contributions to the "Transactions," will be materially enhanced.

Publications Received.


Irritation from the Local Use of Iodoform. By J. ABBOTT CANTRELL, M. D., of Philadelphia. Reprint, 1893.

A Case of Eczema with Urticaria as a Complication. Same author. Reprint, 1892.

Psoriasis and Syphilis. Same author. Reprint, 1893.


In the Matter of the Surgical Operation Performed at the State Hospital for the Insane, Norristown, Pa. The resolution of the Board of Public Charities. The reply of the Board of Trustees, and the final action of the Board of Public Charities, approving of the action of the Board of Trustees. Hospital Printing Office. (No date).


Aix-le-Bains, Savoy, France. A descriptive circular for the tourist and invalid. By THOMAS LINX, M. D. (No date).

Miscellany.

Infant Feeding. — A very important thing (Med. Era) is the way the milk goes down into the child's stomach. Some bottles are so constructed that the milk goes down too fast. Every child who sucks at the breast has to work for what it gets. One of the great troubles in artificial feeding is, the milk is cascaded into the stomach and immediately cascaded back again. Most of the sick babies are made so by some prepared stuff being cascaded into their stomachs in enormous quantities. Quantity is a great element in these disorders, and I have known too much food to make babies sick, even where the food was fresh milk. I generally tell the mother to put a piece of pure, clean sponge into the nipple, so that the child must work with its gums and lips to draw the milk, and thus obviate the too rapid flow.

Deaths Under Anesthetics.—Gurli reported to the last Surgical Congress at Berlin, the following statistics of deaths under anesthetics. They are made up from the observations of 62 operators, who anesthetized 1,066 persons, with 39 fatal results, showing 1 death to 2,500 narcoses. The following were the anesthetics used:

Chloroform..............94,123 narcoses, 36 deaths.
Ether........................9,431 " no deaths.
Ether and chloroform 2,891 " 1 death.
Ether and alcohol.....1,381 " no deaths.
Bromoform with ethyl.
bromide..................2,151 " 1 death.
Pental......................21 " 1 death.

In 2,913 cases the narcosis lasted over an hour in an operation for utero-vaginal fistula, 4½ hours; in a case of tetanus, 9 hours. In 25 cases, of which post-mortem examinations were made, cardiac diseases were found. The author urges careful examination of the heart before administering chloroform.—Cond. Extracts.

News From Japan.—The Medical Review furnishes these two items:

Saiz-Seki-Gaku-Sha, a private Japanese Medical School, has commenced a medical periodical to be published on the 15th of every month. The editors are the professors of the school.

The Osaka, Japan, City Council has decided to establish a medical school, the buildings, which are to consist of chemical and physical laboratory, dissecting and lecture rooms, etc., are to cost 54,285 yen, and it is expected to pay this amount from the income of the Osaka Hospital during the next five years.
Antiseptic Garments in Hospitals.—The Assistance Publique directs that an antiseptic blouse is to be worn in medical wards, surgical and lying in wards, by each chef-de-service. The house surgeons and dispensers, the dressers and students, can have one by paying a dollar. The subordinates in hospitals must pay for the blouse, except in isolation wards; there the administration pays. The ordinary students are provided with a white aseptic blouse, and are strongly recommended to have clean hands.—Med. Rev.

The Facetious Editor of the Post-Graduate illuminates a page of heavy criticisms with the following:

The same good woman, who recently expressed her misgivings about the advisability of feeding so much of this scandalized milk to babies, and especially to girl babies, was very much disturbed last autumn, during the height of the cholera excitement, to find that nevertheless Hamburg steaks were being served daily at her hotel.

The Chicago World's Fair.—At a meeting of the joint committee of the Chicago medical profession on the world's fair entertainment, held at the Sherman House in November, 1892, the establishment of a bureau of information and service was delegated, with approval and indorsement, to Charles Trux, Greene & Co., the committee reserving to itself the duty of such social entertainment of visiting physicians during the continuance of the exposition as might seem desirable. This action was confided at the final meeting of the joint committee, on February 25, 1893, and, on application of the Practitioners' Club and the South Side Medical Club, the matter of social entertainment was delegated to them, with full authority to act in the capacity of entertaining bodies, with the retention of the chairman and its American and foreign secretaries already appointed: Chairman, Dr. C. Warrington Earle; American Secretaries, Dr. Archibald Church, Dr. G. Henry Cleveland, Dr. John C. Cook, Dr. J. C. Culbertson; British, Dr. Sanger Brown; German, Dr. F. C. Hotz; French, Dr. Fernand Henrotin; Spanish, Dr. E. J. Gardiner; Italian, Dr. A. Lagario; Swedish, Dr. K. Sandberg; Canadian, Dr. R. D. McArthur.—N. Y. Med. Jour.

Prof. Dewar's Experiments with Oxygen.—The remarkable results attending the studies of Prof. Dewar, incidentally referred to in November of last year, (American Therapist, p. 120), are of sufficient importance to warrant publication of the following report: "The facts brought into prominence by Prof. Dewar are somewhat astonishing to those who fancy that the properties of matter are independent of its circumstances. Gravity and inertia excepted, all the properties of matter, it is found, vary with its temperature. Prof. Dewar's audience saw the air we breathe—a mixture of oxygen and nitrogen—converted by cooling into a liquid with total loss of its chemical properties. Pure oxygen by similar treatment was reduced to a condition of absolute inertness, in which it was incapable of supporting combustion or entering into combination with such eager substances as phosphorus and sodium. Oxygen that would be ordinarily accounted pure was seen to give a precipitate on being liquefied. This precipitate, on being filtered out, was found to be frozen carbonic acid. When the liquid oxygen was further chilled by evaporation in a vacuum to a temperature 200 degrees below zero a second precipitate fell, the nature of which is unascertained. All that can be said about it is that it is not oxygen. It is a curious fact that it has been so far found to be impracticable to solidify oxygen by the cooling effected in its evaporation, as was long ago done in the case of liquefied carbonic acid gas.

What is this thing heat, the withdrawal of which removes the properties by which we distinguish one kind of matter from another? If a temperature 200 degrees below the zero of the Fah. scale destroys so many properties of oxygen, what would be left if the temperature could be reduced 100 degrees further? If the absolute zero were reached—the point of no heat, where atoms cease to move—what wonders might we not be confronted with? Even gravitation might, perhaps, be shown to have some relation to heat. Such, at least, are the questions the experiments with oxygen at low temperatures must suggest to every mind. It is shown, however, by Prof. Dewar's investigations that while chemical properties are in abeyance at low temperature, certain physical properties are unaffected, or even reinforced. Liquid oxygen has high magnetic properties and offers high resistance to the passage of the electric spark. It absorbs electrical energy to an enormous extent. It is readily converted into ozone and in that condition dissipates stored-up energy with explosive violence when the temperature is raised above the boiling point of liquid oxygen. The retention of optical properties was shown in the dense and well-defined bands of its spectrum. Under ordinary conditions oxygen absorbs little heat, but at low temperatures it absorbs a great deal. From this it is inferred that oxygen must divide with watery vapor the credit of absorbing and distributing the solar heat that enters our atmosphere. Its transparency to the blue rays of the spectrum is of interest in connection with the power of sulphur, its chemical neighbor, to transmit the yellow rays, and of selenium to transmit the red rays. To the speculative mind the Professor's facts are not a little disturbing. Things are not what they seem. Make them a little hotter, or a little colder, and they are unrecognizable. Matter, like man, is, it seems, altogether a creature of circumstances."
Gentlemen:—This little girl, seven years old, had measles just before Christmas—at the same time that a brother and sister had the same disease. They were all decidedly ill, but made a good recovery. Some little time after getting about, this girl had earache, and later a discharge from the ear, and pined considerably, having poor color, little appetite, some fur on the tongue, and some acceleration of the pulse. Under tonics containing iron, quinine and strychnine, with local treatment for the ear, she got well enough to begin school again, and seemed, according to the observations of her parents, entirely restored. On the second day of March, eighteen days ago, she came home from school with considerable headache. Next day she still had the same symptom, and vomited several times. She went on in this way until I saw her on the 7th of March, the headache having persisted almost constantly, day and night, and the vomiting having been so frequent that all the food and domestic remedies which had been administered had been rejected.

You will please note the fact that such continued and severe headache, especially when occurring in a child, should always excite suspicion of an intra-cranial lesion. I forgot to say that the child had complained also of some little pain in the ear several times when the headache first began. When I first saw her the patient had passed but little water for a few days, and that was very muddy looking and concentrated. The bowels had not moved. The child was listless and dull; seemed annoyed by any disturbance, and showed signs of pain on being touched—there was hyperesthesia. There was no hot head; the skin, though a little dry, was not hot. The temperature was 101¾° F. I pronounced the case cerebral meningitis.

Remember that when we qualify meningitis as cerebral, that we use the term in contradistinction to spinal. The meningitis is limited to the membranes of the brain, not necessarily to that part of them which cover the cerebrum. I also believe this to be a case of that variety which is called pachymeningitis—affecting the dura, because it was probably set up by a chronic inflammatory process in the ear—an extension inward, so to speak. Besides, the rather slow, almost subacute process, would indicate that at least the principal part of the inflammation has fallen on the external membrane. Then you will see, as I say more about the case, that the symptoms of compression, which would have been likely to be prominent, if the serous membrane and the vascular membrane—the pia-arachnoid had been much affected, have not been so marked in this case.

Now let me say more about the progress of the case, and how it was treated. On my first visit I prescribed several 3 grain doses of calomel, at intervals of 4 hours, to be followed by and alternated with drachm doses of rochelle salt. After purgation, this was to be followed by sodium bromide, gr. iv., with ext. ergot. fld., gtt.
v., every four hours. Ice in small pieces was ordered to be given for the vomiting, constantly or as freely as the child would take it. A mustard plaster was ordered, first to the back of the neck and then to the stomach. The room was to be kept darkened, all noise and excitement avoided, and milk and broths only to be given when the stomach had settled.

I found next day that practically everything had been rejected; there had been no action of the bowels, and but little urine passed. The headache still continued, the pulse was 120, the abdomen somewhat retracted, and the mind apathetic. An enema was given, which acted promptly. The hair was cropped off closely, and the ice-cap applied. From this time forward there was no more vomiting, but the headache was always present when the patient was awake, and sufficiently conscious to speak of her symptoms. She was for the most part not deeply comatose; she could nearly always be easily aroused, and when spoken to or handled, showed signs of irritation and annoyance. The actual hyperesthesia, however, was not so marked after the end of the first week. The temperature was seldom above 103° F., and the pulse was down below a hundred for several days, about the end of the first week. The urine was at this time sufficient in quantity, and of good color, and though sometimes voided into the bed, generally passed into a vessel. The bowels were a few times evacuated, apparently without her knowledge, but generally this was not the case. She continued to get such medicines as ergot, bromides, some chloral, mercurials, and iodide of potassium.

In this way the case wore on, occasionally the symptoms somewhat remitting, so that hopes of recovery seemed to be justified. But for the last three days she has been sinking steadily. The pulse has been 150, and even more frequent; there has been something like an approach to the Cheyne-Stokes type of breathing at times. Now you see her with a pinched, pale face, feeble respiration, and a pulse of 116. You see the pulse has slowed again; it is small, almost thready. The temperature is up to 105° F., and will no doubt steadily rise till some time after death, which I confidently expect to occur within some four or five hours. The pupils are dilated. They have generally been contracted in the course of the disease, You will notice that the feet roll in, a sign of special weakness of the outward rotators of the thigh; there are no superficial reflexes present. In this case there has been no retraction of the head, and there has been but little paralysis.

The next case I show you associates several very interesting conditions, and more or less obscure still, as they have not been much studied until within the last few years. The woman is 52 years old. About ten weeks ago, after she had nursed a daughter through an attack of typhoid fever, and was worn down somewhat from this cause, she sustained a severe nervous shock, and probably some physical injury, although the latter was insignificant. I want you to note especially the condition of previous depression, and the emotional cause, fright. She was crossing the street, when an explosion of some kind shattered, and hurled about her and probably against her, the plate off a manhole. The explosion was accompanied by a noise like a pistol-shot. She fell to the ground dazed. She was helped into a drug-store near by, when it was found that the right knee was slightly bruised and cut, and she felt as if the right side of her face had been struck, but there was nothing to be seen but a superficial redness. She spent several hours at the drug store, very much agitated and confused, but at the end of that time took a street car and rode within a square of her home. She had been helped on and off the car, but was not further accompanied.

She went to bed, and her physician, Dr. Snively, found her pulse about 130, and this rapid rate has ever since continued, in spite of all special medication looking to its reduction. For about two weeks she
was so helpless that she could not get out of bed alone, and slept poorly. She had great soreness and pain, with a feeling of stiffness in the muscles of all parts of the body.

At the end of this time the involuntary, convulsive movements, which you now see, commenced, and about the same time the thyroid gland began to enlarge, and the legs grew hard and thick, looking like edematous parts; but, as you see, when I press on them, no pitting occurs. It is also evident that the skin is not especially affected, but rather the subdermal parts. It is therefore a myxedema, not a seleroderma, nor an ordinary edema from effusion of serum into the connective tissue. Instead of serum, a mucoid substance has been deposited in the areolar spaces, and in the connective-tissue generally. The connective-tissue corpuscles have also proliferated. A slight amount of this same condition is present in the tissues about the eyebrows, which, by the way, is a favorite situation for its development. When marked here, and in the rest of the face, it gives a peculiar, heavy expression to the patient.

The convulsive movements, you see, are very extensive and irregular in seat and distribution. Nearly all the muscles seem to be jerking, more or less; but now the movements are most in the lower limbs, or in one of them alone, now in the arm, now in the face or neck muscles, and so on. They might be called a very coarse tremor, or a convulsive tremor. They are not as writhing as choreic movements, and less in range; they are not as rhythmical as the tremor of paralysis agitans and wider in range; they are less jerky than the incoordination of Charcot's disease. The knee-jerk is exaggerated, and there is ankle-clonus. Pressure on almost any muscle, or a light tap, produces, as you see, a distinct clonus. Such a condition as this has been named myoclonus multiplex.

This case is one of remarkable interest. The combination of conditions is unique.

You have the large thyroid and rapid pulse which occur in exophthalmic goitre; but the prominence of the eyes is lacking. Then the myxedema and myoclonus multiplex associated with these. The relations of myxedema with thyroid degeneration or extirpation of the thyroid gland should be kept in mind. Generally, it is true, we have atrophy of the gland; but then a degeneration of an organ, even if the volume is increased by the presence of connective-tissue at the expense of the parenchyma, will have functional consequences equivalent to primary atrophy.

The relations of all these diseases, which are here at least partially exemplified, to depressing emotions as a cause, is a point which I hope has not escaped you. This woman was depressed, and in that condition was terribly frighten, and the result is what you see. Such cases teach a most valuable lesson in the correlation of diseases.

As to treatment, it has been found that electricity is most valuable in controlling the myoclonus. I will order a current of voltaic electricity which she can distinctly feel; probably it will be about six or eight cells, to be used once a day. The positive pole can be put to the cervical region of the spine, the negative for a few minutes to one foot, then the same length of time to the other; then in the same way to the hands, making the application for about fifteen minutes in all.* I will give a pill containing gr. 1/4 of ext. cannabis indica, three times a day. She must have the whole body gently rubbed every day. Her diet must be highly nutritious, but carefully regulated and adapted to her digestive capacity. Her bowels must be kept open, and her clothing must be warm and comfortable, but not oppressive. She should be kept free from mental excitement, and must rest in bed.

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* After a week's use of this treatment she had materially improved, the tremor being much diminished, the edema less, and the pulse slowed o 110.
Original Articles.

PHLEGMASIA ALBA DOLENS—AND THE CHAIN COCCUS.

By Hal C. Wyman, M.S., M.D.,
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A Polish woman, aged 21 years, was attended in labor with her first child by a midwife who was not distinguished for neatness and cleanliness. The patient had been married a year and had never had any sickness until attended by the midwife. The accouchement was tedious and the midwife labored with the perineum, but it ruptured to the verge of the anus. Three days after delivery, the bowels having moved freely and the babe nursing kindly, she began to suffer pain in the calf of the right leg, which soon commenced to swell. The right forearm and the left arm, a few hours later, began to swell. The right leg continued to swell until, from toes to groin, the whole limb was greatly increased in size. The midwife was summoned, but after the use of hot fomentations for twenty-four hours, gave up the case and a physician was called. He detected fluctuation in the right forearm and left arm, and the general condition of the patient indicated serious constitutional disturbance.

On being called in consultation I found the edema and swelling as above described. The temperature was 104° F.; pulse, 120; and respiration 34 per minute. The skin was moist, the quantity of urine normal, but it contained about fifty per cent. of albumin. Fluctuation and the boggy feel, characteristic of pus was noticeable in each arm and over the sacrum. The perineum was granulating and covered with a slimy ichor; the lochia had ceased and the infant was now twelve days old.

Before opening the abscess, I introduced a sterilized hypodermatic needle and drew off a quantity of pus. The point of the needle was then quickly thrust into test-tubes containing a sufficient quantity of sterilized beef-tea and gelatin to make reliable stab-cultures. The needle was then sterilized by heating, and after exposure to the air near the patient, was thrust into other tubes as a control test. These tubes were then exposed to a temperature of 98.5° F. in an incubator. After the expiration of twenty-four hours, the gelatin in the upper third of the tubes which had received the subcutaneous fluids became liquefied, and a colony of a dark brown color occupied that part of the gelatin disturbed by the needle. The microscope showed this colony to consist of chain cocci (streptococcus erysipelatus). These organisms were found in all the swollen parts, except in the right leg, near the point where lymphatic fluid discharged from the incision.

Treatment of the case commenced immediately the culture media were inoculated, and consisted in first opening the abscesses, and washing out the cavities with a fifteen volume solution of hydrogen dioxide, diluted one-half with pure water. The discharge was very copious and consisted of thin pus, and the hydrogen dioxide solution was used once every four hours. The diarrhea was treated by the exhibition of tincture of the chloride of iron, commencing with five drops; the amount was gradually increased by adding one drop to each dose until the dose amounted to fifteen drops, well diluted with water. The patient also took quinine sulphate in doses of two grains every four hours. Into the abscess cavities, after washing out in the above mentioned manner, was injected once in four hours, six ounces of the following solution:

B. Sodium chloride, 3 j; sodium sulphite, 3 j; sterilized water, O j.

This solution was rapidly absorbed, which increased the tone of the heart's action and diminished the frequency of respiratory movements.

The diarrhea was particularly troublesome. Tincture of iron speedily colored
the alvine evacuations, but the bowels continued loose until the abscesses had entirely healed. The patient's appetite appeared to improve after each injection of the sodium solution; she ate ordinary food at regular intervals, but in smaller quantity than usual. This I considered somewhat remarkable, in view of the heavy, dry coating upon her tongue. The albumin disappeared from the urine with the healing of the abscesses, and recovery was uneventful.

This note is intended to call attention to two points in connection with the disease known as phlegmasia alba dolens, viz.: The demonstration of the chain coc-cus in the suppurating subcutaneous fluids, and the value of copious hypodermatic injections of saline antiseptics.

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RUBEOLA—COMPLICATIONS AND TREATMENT.

By R. B. McCall, M. D.

The average physician's first impression of measles is the not unpopular one shared by profession and laity, namely, that the disease is somehow intended to worry children, and can by no possibility be the means of abridging their lives. To-day, by many it is believed to be a harmless malady, needing little or no skilled attention. Opportunity, guided by intelligent observation and thought, has in a great measure dispelled this illusion, and the popular mind will erewhile learn to value it more by its complications. Insist that its management be no longer entrusted to blind chance and officious ignorance. People should be taught that from neglect and a lack of appreciation of its gravity and involved possibilities for evil, arise the many disabling consequences and appalling loss of life.

As an epidemic, measles seems to observe the law of periodicity in its recurrences, appearing to return to the same locality every five or seven years. As an illustration, writer may state that under his observation it appeared epidemically in the years 1877, 1882, 1887 and 1892. In that of 1877 two facts were conspicuous: (1) The unusual number of adults attacked, and (2) the very frequent occurrence of alarming and dangerous attacks of epistaxis. In the following epidemic of 1882, symptoms and course were mild and free from complications of any kind or degree.

It is recorded as a fact that pertussis commonly precedes or follows an outbreak, suggesting relationship, the nature of which cannot be precisely stated; doubtless it is of causative dependence, because if coincidence merely, it must be granted that the sequence of events is one of considerable uniformity. Contrary to ancient faith that a single attack confers immunity, clinical record supplies numerous instances of repeated invasion.

Diseases that bear a resemblance, real or fancied, are mistaken for it and called by its name, notably rötheln, whose clinical features have a misleading likeness to the prodromal stage; but any one who has carefully observed this exanthem need not confound it with rötheln, roseola, scarlatina or variola. Remittent character of fever, pronounced catarrh of nares, fauces, pharynx, larynx and bronchial tubes, lachrymation, sneezing, coughing and hoarseness distinguish the early stage, and are diagnostic. Nicer discrimination may be required to differentiate mixed, neglected cases. Rarely the disease may be found running a concurrent course with scarlet fever or diphtheria, but when so complicated the association appears to be one of co-existence; there are the catarrh and eruption of the one with the distressing cynanche, ear involvement and rash of the other.

Recently the writer was asked late at night to see the son of a farmer, just returned from a business trip to Cincinnati, where at the time smallpox was prevalent. Friends apprehended he had that disease, but a glance into mouth and
throat discovered a slight initial catarrh, which, with absence of lumbar pain, assured me I had a case of measles. In a few days the family of eleven were down, all sick of the malady.

Study and observation have led us to attach great importance to the prognosis, because of the many persistent complications, which, if they do not always determine a fatal issue, entail disabilities that may continue through life. In children who have inherited a strumous or syphilitic taint, the outlook is certainly not encouraging; by an attack the latent energies of these potent dyscrasias are called into renewed activity. The conjunctival lesions that in healthy subjects promptly yield to suitable treatment, in such congenial soil as that mentioned take deep root, become fixed, and a low form of chronic or subacute conjunctivitis is established; lids become infiltrated and granular; cornea is ulcerated and vision impaired. In such cases naso-frontal catarrh, with its unpleasant concomitants of ulceration and purulent accumulation and discharge, takes place instead of short-lived coryza.

Pneumonia, sometimes precursory to phthisis, primary phthisis pulmonalis, exhausting diarrhea from intestinal ulceration, are also some of the deplorable results. As a fair approximation to the truth it may be stated that a surprisingly large percentage of those who have the disease in adult age die within the few years following.

As a complication to other diseases its influence is unfavorable. Thus, in pneumonia, it supplies all that is required to hinder reconstructive agencies, increases the destructive changes going on, and so places obstacles in the way of the removal of waste-products, impairing the functional fitness and activity of eliminating organs of the body. In diphtheria and scarlet fever, writer is convinced it can have but one result—to protract suffering, magnify danger and greatly embarrass our efforts. In the country it is exceptional to meet with typhoid types not infrequently seen in the cities with their overcrowded population, where poverty and general unsanitary conditions prevail, and poor food, bad air and unwholesome water are the rule. However, under the most favorable circumstances, this disease has many complications and sequelæ on which entire interest of the case centres, from which fact it would not be fair to infer that measles, per se merits no serious consideration, but only that it must be thought of less practical moment.

Epistaxis may be called a complication. I have seen the hemorrhage so copious and resulting prostration so alarming as to give rise to grave fears and suggest the advisability of active surgical interference. Two cases in particular in epidemic of 1877, one a young woman, the other a man, bled intermittingly for four days in succession, and plugging of nares was not done because of absolute refusal to permit it; and although nearly exsanguinated, with marked pallor of face and surface and feeble heart action, there was no mental impression of danger, no manifest perturbation. It might be supposed there pre-existed in these cases constitutional tendency to bleed, but there were wanting appreciable indications of hemorrhagic diathesis. Free use was made of cold, ice and compresses dipped in ice-water; a solution of Monsel's powder (ferri sub-sulphas) was a favorite, and used with advantage. Cold to forehead and nape of neck was helpful; a device that succeeded well was immersion of lower limbs in water of temperature high as could be tolerated. It may be remarked en passant that these suggestions find few opportunities for verification.

It is claimed that antipyrine is valuable—it should be tried; to use it, dip a bit of absorbent cotton in saturated solution and introduce into nares.

Diarrhea is the rule, occasionally alternating with constipation, but seldom of such import as to demand active thera-
A useful collyrium which has been employed with benefit is: Zinc. sulph. and morph. sulph., each \( \frac{1}{2} \) gr., aq. rosæ \( \frac{3}{4} j \); dissolve and instil a few drops ter in die. I have under observation a few cases of sore lids that date from an attack of measles in 1882, which have received no treatment; conjunctivæ are red, though not perceptibly thickened, and vision is slightly impaired.

Cases of this description are found everywhere, of slightly impaired sight, which by neglect or ill-treatment have been added to the long list of trivial casualties that in after-life hasten the development of premature decay.

Instances of *naso-frontal catarrh* consecutive to attacks of measles are beyond computation; at first, coryza, with stuffing of nares, frontal headache and heaviness, inflamed and turgid Schneiderian membrane; then succeeds deeper structural lesions that only by most judicious attention can be kept from engendering evils that may continue through the remainder of life. For this condition solutions of cocaine hydrochlorate will be satisfactory. Thus, for the first stage: Cocain. hydrochl., 5 to 10 grs.; aq. rosæ, fl. \( \frac{3}{4} j \). Solv. Sig.: With a small syringe inject a quantity and repeat till Schneiderian membrane is partially anesthetized.

After subsidence of acute stage, usual methods by atomizing, douching and insufflation may be tried. For offensive discharges inject weak solutions of carbolic acid (acid. carbol. gtt. x., aq. pur., \( \frac{3}{4} j \)) or mixtures of campho-phenique and vaselin, (1 dr. to 1 oz.). Patient may fill one nostril, compress the other, then forcibly inspire through that one containing ointment; thus it will be made to reach the interior. Listerine may also be used full strength. Indications for the employment of iron, strychnine and cod-liver oil will always be present where anemia has supervened; the combination known as elixir of iron, quinine and strychnine is eligible for the
purpose. *Gastric and intestinal indigestion* must be looked after and corrected.

Presumably all complications are more easily controlled in the country because of superior sanitary conditions in the way of pure air-supply and healthful out-door exercise.

Subacute irritation of larynx which involves mucous investment of vocal cords, and is characterized by hoarseness, often remains long after imperfect convalescence, and is one of the most intractable of the sequelæ. Direct applications to interior are the only means that promise sure relief, and these, it must be confessed, are not always resorted to; and occasionally when they are, structural changes have taken place that must be permanent. Patients distrust any procedure that has for its object invasion of the windpipe; therefore they decline to have anything of the kind performed; or doctor may be timid, or not supplied with necessary outfit; all the same, the consequence is, patient has sore throat, is hoarse, and voice is spoilt for many years, possibly for life. Hence, early cure of laryngeal catarrh must be urged on the ground that by neglect the foundation of some or many of the destructive organic lesions that develop here may be laid. That marvelously aggressive microscopic creature whose principle business in life is to organize diphtheritic membrane, finds in the products of catarrhal action materials and conditions adapted to its work; therefore inattention to this much over-looked complication may prepare the way for invasion of a fatal malady at a time when its influence is beyond effective reach of art; further, it may serve the extension of tuberculosis (i. e., tubercular laryngitis).

The efficacy of cocaine is verified by the prompt relief to pain and congestion afforded by its application. By diminishing exquisite sensitiveness of parts, trouble, if not abated, will more readily yield to other agencies. After cocaine, or if it has failed to afford the expected measure of relief, let diseased surface be atomized or brushed with solution of iodol, of moderate strength at first, and usually the most gratifying mitigation will follow.

*Bronchitis* has been found one of the most obstinate incidents, and in this climate hard to fortify against and difficult of control. It may be truthfully stated that in winter we have no cases of measles uncomplicated by bronchitis, and it is equally true that the accompanying catarrh during warm months does not include inflammation of bronchial tubes. Cough at first is hard and dry, expectoration scanty or nil; there is soreness along sternum and in sub-clavicular spaces; breathing modified, sometimes difficult.

Bronchial catarrh is generally manifest in prodromal stage, but may come on subsequently, or not develop till after disappearance of eruption; may end in resolution or persist and prepare the way for consecutive invasion of bronchopneumonia or phthisis pulmonalis. In a percentage of cases, minute bronchial ramifications are invaded, whence symptoms impart the most serious aspect; cough becomes a succession of quick, short, gasping barks, dyspnea intense, distress appalling. *Indications* are to diminish engorgement and promote resolution by favoring expectoration of morbid products. To this end apply to chest large mustard cataplasms; for young children made weak, or use spiced plaster; camphor stupes afford great relief. Administer ammonium carbonate, ammonium muriate in simple syrup, flavored, or in syrup tolu; either answers admirably as stimulant and resolvent. Employ one of following formulae:

- **R** Ammon. carbonas....... gr. xxx; Syr. simp., vet tolatuni. f $\frac{1}{2}$ ii.
- **M. Sig.**: Half teaspoonful for a young child; one or two teaspoonfuls for an adult.

When pulse is full and strong:

- **R** Ammonii carb.............. 3 ii; Syr. scillae
  Spt. aeth. comp.,
  Syr. tolatuni.............. $\frac{3}{4}$ i.
- **M. Sig.**: One-half to one or two teaspoonfuls repeated as indicated.
In absence of dyspnea, let a child have from ten to twenty drops of a stimulating mixture, consisting of ext. pinus candens, Hoffman's anodyne and comp. spirits of lavender, equal parts. If cough is hard, benefit will be derived from antimon. et. potass. t, one grain, with ten grains of potassium chlorate in four fluid ounces of mint-water, of which a teaspoonful is a dose. If chronic form is assumed, with or without asthmatic respiration, grindelia as in annexed formula will be found of value:

R Extr. grindelia robust...... f 3 iv;
Glycerini
Syr. tolu.................. aa f 3 i.

M. Sig.: A fourth or half teaspoonful for young children.

Occurring in measles, pneumonia must be regarded as fraught with great danger; a quickening of respiration, sudden elevation of temperature, accelerated, laboring pulse after a chill in the night are suspicious, and should lead to prompt investigation, by which the peculiar physical signs of the disease will be discovered; and attendant, perplexed by doubts, will go to work confidently and energetically to apply suitable remedies. When of catarrhal variety it has without doubt followed too early exposure; engorgement is great, and may, by its obstructive influence, overwhelm a struggling heart. No time should be lost in giving support; stimulants and derivatives must be vigorously employed. Place large sinapisms to thorax, smaller ones to wrists and ankles; give brandy per orem or hypodermatically, or, the subjoined, will be found worthy of approbation—Hoffman's anodyne and comp. spirits lavender, each one fluid ounce. Give teaspoonful to an adult and proportionate doses to children.

As soon as it will be borne, let twenty grains of quinine be taken and repeated, and two or five grains to young patients.

The foregoing has seemed well-fitted to serve writer—no ill-consequences from over-stimulation. The physician must remember the indications are: to sustain, to promote removal of obstructions, and to secure resolution. If the former are quickly and effectually established, the latter must follow. Quite from beginning quinine in large or small doses, alcoholic and ethereal stimulants, derivatives and eliminants where heart’s action is perceived to be feeble, with adequate alimentation, are the agents of treatment. As an antipyretic, use specific tincture aconite twenty drops in four fluid ounces of water, a teaspoonful every one or two hours; or a half or two grains of acetanilide in powder or capsule, pro re nata.

If of silicous type, Norwood’s tr. veratum virum in minute doses may be given every hour or two till pulse and temperature are reduced. In the armamentarium of materia medica there is nothing superior to Norwood’s; it will do no harm if judiciously employed; indeed, it may be said that in such cases as described, it is incapable of producing harm. One is surprised by the magical results that follow its prudent, faithful use; pulse sinks, temperature drops, skin is bathed in warm perspiration, tightness of thorax relaxes, and a delightful sense of relief and composure take place.

Opiums may be needed to relieve pain, procure sleep and tranquillity of mind. Should chloral hydrate be preferred or opiates be contra-indicated, annexed formula will be found useful and safe, the bromide doubtless augmenting the value of chloral.

R Choral hydrat......... gr. xl;
Kali brom.................. 3 i;
Aq. menth. pip............. f 5 ii.

M. Sig.: To a child, from one-half to one teaspoonful.

However, the opiate used with most satisfaction with children is Dover’s powder; it is anodyne, composing and diaphoretic.

Whatever has been said of catarrhal may with equal truth be affirmed of croupous pneumonia, qualified by the statement that its approach is insidious, therefore, not detected so soon; and it is more apt to be found in typhoid states of the system. It
may be distinguished from former by lack of causative dependence on antecedent catarrh, by a more profound aspect, the vital resources plainly being more heavily taxed; destructive changes, resulting in accumulations of waste-products in the blood, blocking of excretory outlets, features strikingly manifest. Alcoholics, such as egg-nog, milk-punch, brandy, etc., are indicated from the outset and throughout course of disease; give milk day and night; beef-tea if well borne; artificial peptonized foods are valuable. Opium, chloral hydrate, kali bromide, sulphonal and chloralaminid will procure relief from pain and induce sleep.

The relation of phthisis to measles is important, but stepmotherly in character, as the latter's only care seems to be for the rapid development of former, without in any wise being responsible for its existence. Would it be an exaggeration to say that of all the cases of the disease occurring in adult age, a large percentage subsequently die of pulmonary consumption?

Facts justify the conclusion that if sanitary surroundings are favorable, it were better children should be exposed than adults have disease with the risk of calling into energetic life the latent forces of the great scourge of the race. It must be hailed as a hopeful sign that the public realize the danger in store for those who grow up without the discipline the disease confers. Much can and must be done in the management of childhood with regard to this and other ailments in their determining influence on the future welfare and growth of infant and physical well-being and usefulness of man and woman. A duty incumbent on physicians is to wisely counsel those whose lives are placed in their hands to use every proper means to protect the child's body and mind against the inroads of disease, by suitable alimentation, clothing and habits. Pulmonary consumption touches its victim, and he dies; in many this disease has been latent from infancy; let such have measles, death will surely follow.

Can a physician acquit himself of responsibility who leaves untried counsel, remedy or device, whereby he may guard his client against imprudent exposure at a time when exposure means disaster? Let it be remembered that measles without complications is nil, with complications everything; therefore it should be thought of, talked and written about until a lively sentiment of appreciation of its manifold importance is awakened in the professional mind. Viewed in the light of its numerous complications, it must be ranked among the gravest in the entire catalogue of human maladies. Underwriter's observation quite a number have died of this complication, and in no instance can it be said that treatment appreciably modified course or termination; it served to palliate, nothing more; to take away the sting, which, however, is one of the aims of medical art.

As a rule the coughing, thoracic soreness and diarrhea of rubellar disease continue right along, being joined by a group of symptoms that point clearly to the nature of the supervening disorder—hectic, night-sweats, rapid emaciation, privation of strength, broncho-vesicular respiration, bronchophony, pain and dulness of apices; this is the life-like picture that too often confronts attendants. Stimulants, tonics, alimentation—this is the therapeutics. If pleuro-pneumonia be present, opiates will be found of signal advantage, relieving annoying side pain and procuring repose. When there is insomnia, chloral hydrate, potassium bromide, chloralaminid or sulphonal are indispensable. For the night-sweats nothing equals agaricin in one-eighth grain doses; it may be taken in granules of one centigram or one milligram, repeated till object is attained. If it does not disturb stomach let small doses of potassium iodide be taken in syrup flavored with peppermint.

Syrup of hypophosphites, with quinine and strychnine, is a popular pharmaceutical; it may be given alternated with cap-
sules of creasote or with a palatable emulsion of cod-liver oil. Consumptives must be fed, and to devise a suitable dietary is not the least of the physician's tasks; he should recommend a generous diet, yet one that would impose the least tax on the energies of digestion. Should the patient fortunately amend, enjoin outdoor exercise, afoot, horseback or in carriage; sunshine and air will kindle a glow on cheek, quicken the blood-currents and expand the relaxed air-cells; a new impulse will be sent to brain, nerve and muscle; new-born life and hope will fill the despairing heart.

Hamersville, Ohio.

FAMILIAR REMEDIES MAY BE POPULAR FALLACIES.

Geo. B. Hope, A.M., M.D.,
Surgeon Metropolitan Throat Hospital, New York.

There are especially three remedies of which we hear continually as indicated in the treatment of disorders of the throat and nose, that cover a large proportion of cases in their several departments. Two of these have become practically household formulas, owing to the uniformity with which their suggestion comes from the prescription blanks of the majority of medical advisers. Whether this is the result of a common sentiment in which unconsidered use takes its foundation, or whether we must believe that intrinsic merit has established a more than passing value, is perhaps an open question. At all events, it can hardly be claimed that remedies so freely employed are not subject to criticism when applied to so wide a range of general conditions as to be largely surrendered to the indiscriminate use of the patient.

The first and most important of these—because the most persistently employed in chronic affections—is the salt water solution, to relieve symptoms of both hypertrophic and atrophic rhinitis. The fact is too generally lost sight of that the pitui-
tary membrane, physiologically associated with respiratory functions alone, must suffer structural change when brought in repeated contact with foreign substances, no matter how bland. The theory of saline solutions being closely allied to the natural secretion is only true in one of its minor elements; but it has undoubtedly served to open the way to an exaggeration in the degree of saturation and volume of fluid as to lead to results of the most harmful character. The total amount of alkaline salts in the normal nasal secretion reaches at most from ten to eleven parts per thousand, and may be taken as a contrast with the ordinary saline douche as employed. Were it not that the salt solutions are distinctly irritant, and, in the instance of hypertrophic obstructive conditions, provoking a temporary contraction of the erectile tissue of the turbinated bodies, while in the opposite state of atrophic rhinitis stimulating a capillary circulation with the abstraction of moisture, the popular claims in its favor would hold but slight importance. Unfortunately one must look equally to final results as to present conditions. Certainly the extreme cases in which thickening, inspissation as objective features, besides a permanent injury to the sense of smell, are those in which this treatment has been the most conscientiously and effectively pursued.

If all "sore throats" are not aborted by chlorate of potassium it is not because the laity is ignorant of its place in the pharmacopeia, or our own profession has ceased to hold steadfastly to the teachings of the ancients. In the mild erythematous angina limited to the faucial pillars or oral pharynx, it is possible that a resort to chlorate of potash may be beneficial to a certain extent, but in acute naso-pharyngitis it unquestionably falls short of the majority of placebos of far less nauseating if less positive effect. The direct action of concentrated or repeated applications is to induce a superficial infiltration of a granular character, best exhibited along
the free margin of the pillars, with a dusky-red color of the neighboring mucous membrane. One may occasionally find associated with this treatment, instances of a considerable degree of edema of the uvula to be distinguished from that of the ordinary inflammatory product by a relative absence of transparency. These results are more generally apt to follow the use of troches carrying the ordinary dosage of four or more grains—prolonging and intensifying the topical action.

Guaiacum, although not a popular remedy in the sense of the preceding, has received the commendation of an "almost specific" in attacks of acute tonsillitis at the hands of Sir T. Watson, Mackenzie and other prominent authors following their lead. While one cannot fail to be impressed by such high testimony, it is difficult to appreciate the theoretical or clinical grounds on which its recommendation is based. In the first place, it is questioned whether the fundamental etiology of tonsillitis does reside in a rheumatic disposition to any extent. On this proposition the utility of the drug is evidently placed. The writer has taken pains to follow out this line of predisposing causation, without meeting with any evidence pointing to a rational association between the two diseases. In the second place, the gastric disturbance accompanying acute tonsillitis should be a sufficient appeal against the inordinate use of offensive remedies of this class without, at least, a positive assurance of corresponding benefit.

34 W. 51st Street, New York.

GELSEMIUM IN CHOREA.

By C. L. Gregory, M. D.

I would like to call the attention of the profession to the use of gelsemium in chorea. I have been using this remedy during the past six years in these cases, and have yet to record my first failure to cure. I was led to try it in an obstinate case of this disease, which had resisted every remedy exhibited, by reading an article in some medical journal, the name of which is not now remembered, claiming that it would cure chorea. I had tried rest, the milk diet and all the more prominently mentioned drugs, including a six weeks' use of Fowler's solution, without the least benefit, and I was greatly puzzled to decide what to do next. The case was a thirteen-year-old girl; the movements were exceedingly annoying, interfering with rest and nourishment to such an extent that I feared she would not recover. Her heart was much weakened, and she was having a slow fever, tending toward the typhoid type. I put her on five-drop doses of tincture gelsemium every four hours, using it alone. In forty-eight hours there was perceptible improvement, and in ten days she was on the high road to recovery. In one month she seemed as well as ever, and has remained so, with one exception, to the present time. Three years ago she again showed symptoms of chorea, when I promptly placed her on three-drop doses of the gelsemium, and in two weeks she was again well. In her first attack, I gradually reduced the dose to one drop t. i. d.

During the past six years I have treated eighteen cases of chorea with gelsemium alone, and without a failure. Two cases were girls who have since married, and in each instance have had a second and third attack, which was promptly controlled by the gelsemium, when pregnant with the first and second child. One of them has had a fourth and severe attack, but recently, which was also cured in less than two weeks by the gelsemium. I do not now insist on rest, diet, etc., but depend wholly on this one remedy. I use a strong tincture made from the green or recently dried root, and I insist that the preparation must be good. No muddy fluid extract or tincture made from the dried out and stale roots will answer the purpose.

I think it is a remedy well worth ex-
tended trial, but my experience with it has been too limited to give more than a hint of its value. Doubtless there are many cases which it will not cure, but I am inclined to think that if a first-class preparation of the green or very recently dried root is used, it will promptly cure a majority of them. I much prefer it to Fowler’s solution.

Yreka, California.

**THE ROLE OF THE CELL.**

By J. Wellington Byers, M.D.

Modern science clearly establishes the fact that the treatment of disease is no longer to be considered as a mere process of empirical drugging, but a method of placing and maintaining the organism in a condition most favorable for nature to effect a recovery. Having reached this conception, the necessity has arisen for a more accurate and exhaustive knowledge of those agents and agencies denominated *Nature*, in order that they might be intelligently assisted and followed as occasion demands. Indeed, it may be said that a large proportion of our former knowledge bearing upon the occult conditions of the organism in the presence and under the influence of disease, has been an approximate rather than a real knowledge. Influenced by this fact, investigators have, during recent years, undertaken to reopen some of those questions heretofore regarded as quite unsolvable; results of this have been to add material facts to our general fund of information and also to furnish us with a class of data which gives clear and distinct ideas in regard to the life-history and behavior of the body-cells. From these it is learned that the cells are the seats of all the functions of the body, both nutritive and correlative, and that health and disease must be considered as terms referring not to the organism as a whole, but to the cells or groups of cells in particular of which it is composed.

For the first time in history physiolo-
gists are now in a position to pronounce in regard to the great conservative func-
tions of the organism and the processes by which they are maintained. From ex-
periments made in connection with the questions of immunity and vital resistance, it has been demonstrated that it is the ultimate cells, through their physiological activities of chemotaxis, phagocytosis, cell-proliferation and the generation of bactericidal products, which resists, arrests and cures disease. From this point of view the body may be reduced to very simple elements—cells and intercellular substances or products. In the light furnished by them we possess distinct conceptions of the *modus operandi* of health and disease, the entire series being those involved in conditions of the cell.

It now remains for pharmacology, through physiological experimentation, to search out and discover the means and methods of influencing and controlling the behavior of the cell, and in this way use them for therapeutic purposes. That this will be accomplished there are sufficient evidences already present. As a basis for future development, it has long been known that each organ or group of cells is endowed with certain powers of reaction or irritability, which is the cause of its performing certain functions when acted upon by suitable stimuli existing in its environment. This is true to a degree that every cell, whether it be isolated or joined with others, is influenced by the nature and character of its environment and that it is possible, through alterations in the latter, to bring about corresponding changes in the former. In this way some or all of the vital activities of the cell may be modified, accelerated or retarded.

Medicines, as well as poisons, affect particular organs or tissues to the exclusion of others. Thus opium acts on the brain, strychnine on the spinal cord, and turpentine on the mucous membranes. These are specific or elective physiological actions, and are produced in health and disease. Why it is that this preference ex-
ists is not satisfactorily determined. We know the result, and this is sufficient for all purposes here concerned. It is not demanded that we shall completely understand the ultimate bio-chemical changes which transpire in the protoplasm of the cell in order to be able to employ and control its functions as agencies sui generis. The cell exerts its curative and protective influences in its individual capacity, and it is not essential to the success of any efforts of pharmacology that we should pass beyond this stage in order to fully understand the intricate and complex phenomena of physiological chemistry. To know the cell in relation to its nutritive and correlative functions is sufficient for all purposes now under consideration. Equipped with these facts, investigators will eventually succeed in ascertaining the exact scope and influences of given agents, and from this data the indications will be furnished for its employment as an auxiliary for therapeutics. The necessary facts for the preliminary foundation of a system of rational therapy have been discovered as set forth above. It remains for these to be developed, and the data filled in which are to bind physiology, pathology and therapy into one solid phalanx of practical art. The outlook indicates that the key to the situation lies in physiological experimentation.

Charlotte, N. C.

PERISCOPE OF THERAPEUTICS.

By J. Lindsay Porteous, M.D., F. R. C. S., Ed.

TASI.

Tasi or Tasis (Morrenia brachystephana), one of the Asclepiadæ, a native of the Argentine country, has been highly spoken of as a galactagogue. It is used in the form of an infusion of the leaves and root, fresh or dried, and as a decoction of the fruit. Thirty grams of tasi-root are infused in 200 grams of water; this amount may be taken in tablespoonful doses during 24 hours. A decoction of forty grams of

the fruit in twenty grams of water can be taken in the same manner. It has a sickening effect when swallowed, and leaves behind it a bitter taste. Among fifteen women suffering from insufficiency of milk, eleven were much benefited by tasi; in two the effect was doubtful, and in two, nil. The length of time after delivery had no effect on the rapidity with which the secretion was restored.—(E. Del Arca and J. Sicardi.)

PENTAL, A NEW ANESTHETIC.

C. G. Velez (Rev. de Med. y Pract., Feb. 7, 1893), has used pental as an anesthetic in 108 cases—mostly dental—with perfectly satisfactory results. When the patient required to be some time under the influence of an anesthetic, he was allowed to regain consciousness and then once more placed under the influence of pental; in half a minute narcosis was complete. In one case it was administered three times in thirty minutes. Its effects soon pass off and the patient is able to walk, the only sensation left being drowsiness during the rest of the day.

Fifteen centigrams of pental given on a mask of coarse wool will induce narcosis in one minute. The oftener it is taken the better it acts. The pulse is at first accelerated, but recovers its normal condition in a few seconds. The sleep induced is quiet, the eyes are open and fixed, and the face retains its natural color. As a rule, consciousness is not altogether abolished, and there are no disagreeable after-effects. Pental being readily inflammable, it should never be used at night. Velez thinks it may, with advantage, take the place of chloroform and ether in many operations of short duration.

THIOSINAMIN.

Latzko (Inter. klin. Rundsch., February, 1893), has used thiosinamin in forty gynecological cases, such as large tumors of the uterine appendages, slight perimetrical and salpingitic inflammations, displacements of the uterus, etc., and found that it had a softening action upon cicatrices.
All trouble in uterine retroflexions ceased after a short period of treatment with it. The large growths became smaller, and all the patients—who belonged to the working classes—could resume work in a short time.

**Strophanthus in Pruritis.**

Azua has found the tincture of strophanthus useful in pruritis due to stasis of the circulation in the papillary layer of the skin, as observed in some cases of cardiopulmonary diseases. He tried it in seven such cases, and in one of itching caused by jaundice. In the latter it had no effect whatever, but in the others a cure was effected by giving twelve drops twice a day for seven or eight days. He cites the case of a man aged 70, suffering from emphysema and dilatation of the heart who had most troublesome pruritis for months. One weeks' administration of this drug completely relieved the itching. Such being the case, Azua believes that strophanthus exercises a specific action on the nerve-endings.

**Lactic Acid in Diarrhea.**

N. V. Lojkin draws attention to the great value of this medicine in chronic dysentery and acute dyspepsia. He reports a case in which several drugs had failed to cure chronic dysentery, but which was entirely cured in nine days by administering half a tumblerful of a two per cent solution of lactic acid twice daily. The blood disappeared from the stools in a day or two. Another case, one of acute dyspepsia, he reports as being cured in twenty-four hours, only two doses having been given.

**Boric Acid for Boils.**

Alison claims good results in general furunculosis by giving from ten to fifteen grains of boric acid for eight or ten days, divided into two doses daily. At the same time, four or five times a day, the inflamed areas are washed with a hot solution of boric acid in the strength of four per cent. Between the applications of this lotion, compresses are applied to the diseased parts, which had been wet with the same solution of boric acid. By this means the author thinks it possible to avoid surgical interference.

**Cocaine and the Milk Secretion.**

Guénél reports that in treating a case of cracked nipple with a 1 to 50 solution of cocaine hydrochlorate, he found that the secretion of milk was stopped by the application. The breasts became flaccid and the nipple lost erectility. The functional activity of the breast was restored on discontinuing the use of cocaine.

**Adeps Lanné, or Lanolin.**

This excellent base for ointments has hitherto not found the amount of favor it deserves. It is often sold as a dark, fatty substance, disagreeably sticky. To be pure it ought to be of a pale, yellow color, thin, unctuous consistency, and slight, but not unpleasant odor. By the most recent process of preparing it, it has a lower melting point, due probably to absence of waxy matter, and is almost neutral in reaction.

**Carbolic Acid in Pills.**

When the use of this acid is called for in intestinal troubles, such as typhoid fever, the emetic action on the stomach is reduced to a minimum, according to Prof. Charteris, of Glasgow, Scotland, by coating the pills with keratin. Pills so coated and placed in an acidified solution of glycerin and pepsin are not affected, but immediately break up in an alkaline pancreatic solution.

83 Warburton Ave., Yonkers, N. Y.

Hot Milk is a most nutritious beverage—a real luxury the value of which but few people know. Many who have abundance of milk never think of using it as a drink. A drink, did we say? That's a mistake. We should eat milk instead of drinking it. That is, take it in small sips. Why? Because the casein of the milk, when it comes in contact with the acid of gastric fluid, coagulates and forms curd, and, if swallowed in large quantities at once, a large curd is formed which the stomach handles with difficulty. The gastric fluid can mingle so much more readily with the small curds that result from sipping the milk.—Dietetic and Hygienic Gazette.
TREATMENT OF CHRONIC ALBUMINURIA.

By Louis Lewis, M.D.

When not due to change of structure in the kidneys, or complicated with serious disease of the lungs or heart, specific fevers, or inflammations, the presence of albumin in the urine comes under the category of functional derangements, and as such is more or less amenable to treatment, according to the triviality or gravity of its primary cause. Cold bathing, alone, may evoke it, and the remedy consists in restoring the body-heat and uniformity of the circulation. It may result from excessive exertion, or over-fatigue, in which case it gradually subsides under the influence of complete rest. It may arise from dyspepsia, or from superabundance of lithic or of oxalic acid, and must then be treated as a consequence of mal-assimilation. Intemperance or extreme indulgence in "the good things of life," especially animal and other nitrogenous foods, can produce it pro tem.; or continued excess may render it constant.

Dyspepsia and innutrition may thus be its sponsors, and treatment must be directed to removal of their raison d'être, by lessening the amount of albuminoid food, and correcting the disordered functions. Whenever such foods are imperfectly assimilated, albumin will find its way into the urine. It is therefore imperative to discover which of these aliments are allowable and which should be excluded. Fish, fruit, poultry and cheese are never objectionable; table salt is to be recommended as a general condiment. Oatmeal and buckwheat and all vegetables, except peas, beans and rhubarb, asparagus and lentils—which are too grossly albuminous —may be used. Beef, mutton, and other nitrogenous meats are admissible in moderation; for they provide better nourishment and more nervous and muscular power than any other foods. An insufficiency of animal diet may cause defective nutrition, and thus provoke albuminuria and even structural disease of the kidneys; but when meat distinctly augments the loss of albumin, it must be withheld until assimilation is better performed. Pepsin here renders notable service; its natural rôle in the gastric juice is to convert the albumin of nitrogenous foods into peptone, and when this digestive process is feebly executed, it may be vastly improved by the administration of good pepsin. Benefit may also be expected from small doses of arsenic, in the form of either Fowler's or Clemens's solution. Milk, plain or skimmed, is excellent as a food and a medicine in the majority of cases—as much as can be tolerated daily without provoking antipathy. Should the milk disagree, a little saccharated lime-water may be added. The nutritive qualities of milk go to counterbalance the diminution of weight consequent upon loss of albumin; and it is also helpful by virtue of its diuretic action, which is probably due to its large percentage of potash. (Small doses of copper sulphate are said to assist in sustaining the body-weight.)

In albuminuria associated with lithemia, Vichy water is a good drink; here milk may not prove beneficial, for the lactic acid increases the evil. Sodium phosphate is worthy of trial in such instances, as it serves both as a laxative and is a ready solvent of lithic acid. Astringent medicines, as lead, gallic acid, alum, tannin and ergot should not be generally employed with a view to check albumin—except when owing to renal hemorrhage—for its excretion is an effort of Nature to rid the system of an excess; but nitroglycerin, belladonna, chloral and chloride of gold have their uses in palpitation, high arterial tension, uremic symptoms, such as headache, dilated pupils and threatening changes in the kidneys.

Our chief solicitude in all cases is, to secure proper assimilation and to assist the removal of albumin by encouraging derivative action in the skin and digestive canal. The first object is attained by at-
tention to the nutritive functions; the second is achieved by hot-air baths, sudorific medicines and purgatives, thereby resting the kidneys and lightening their labors. The “massage” process that completes the Turkish-bath is, when properly performed, of immense value in helping debris through the surface; for the skin is often obstinately dry and resistant in chronic albuminuria. Water, plain or distilled, should be taken without stint; it is a typical solvent and diluent and unirritating diuretic, and washes out the “flotsam” or floating wreckage of the tissues. The old-time drink, called Imperial, is also a reliable diuretic; it consists of a drachm of bitartrate of potash in a pint of water, flavored with lemon and sugar. A poultice of flaxseed and mustard over the loins excites early diuresis, when wanted, and relieves renal congestion. A little good beer is not necessarily injurious to those who desire it, especially lager beer, for this is purposely deprived of its albuminous principles by slow fermentation at a low temperature. A pinch of sodium bicarbonate will neutralize its acidity without detriment to its flavor.

Diuretin, a combination of theobromine with sodium salicylate, appears to directly influence the epithelium of the kidneys without damaging effect. It increases the urine and diminishes uric acid and albumin; but it is not recommended where the heart is involved. Fifteen grains represent an ordinary single dose. Citrate and acetate of potash also act upon the renal epithelium and further the process of disintegration. Perchloride of iron is of undoubtedly efficacy in chronic and subacute cases, but must be guardedly prescribed in the presence of congestion. Quinine, morphine, and potassium chlorate are inimical to albuminuria, also mercury and potassium iodide, unless indicated by the presence of syphilitic manifestations. A flannel binder should always envelope the loins; the feet should be protected by woolen hose and warm shoes; and all available means should be adopted to maintain the integrity of the latent perspiration. Persons subject to chronic albuminuria should take things easy—“quieta non movere;” they should shun intense study, protracted muscular exercise and physical strain, and regard their condition with due caution and respect; but without the needless alarm that a little albumin usually creates. The mere presence of albumin in the urine no more indicates renal disease than sugar alone implies diabetes. In defective action of the liver, excessive use of saccharine food, transitory nervous states, and in syphilis, gout and pregnancy, sugar is frequently found in the urine; and under many similar conditions, albumin may be detected when the kidneys are perfectly sound.

These persons are not “in a parlous state,” but are nevertheless in a condition that calls for some caution in the way they live and the food they eat. They do not deem themselves sufficiently ill to submit to medical surveillance, nor do they care to adhere to a rigid regimen and iron-bound rules of living; but with a little more discretion they might so live as to minimize their risk, and stave off more serious consequences, without materially depriving themselves of the gastronomic pleasures of existence.

Albumin—the bête noir of this condition—forms the principal item in the bill of fare required for the maintenance of strength and energy. It is a prominent ingredient of the blood and tissues, and has to be continually supplied in the shape of food to make good the constant loss by the wear and tear of daily life. Cattle and poultry obtain it from grasses and grains, to deliver it over to us at second-hand, in the concentrated forms of meat, milk, and eggs. We also receive it more directly through many vegetables and fruits. We cannot well get along without albumen, and our energy of brain and physical powers are both upheld by the foods that contain it. In fact it is very questionable whether man can excel in
intellectual or physical ability without an albuminous diet. Instances are not wanting to show that good beef and mutton have had their influence in the making of famous men. "Now tell me, all ye gods at once, upon what meat doth this our Caesar feed, that he hath grown so great?" And Caesar loved his beef.

Grasses and grains only contain a small percentage of albumin, and oxen and sheep are kept busy all day in order to supply their needs. And not only is the percentage small, but it has not the nutritive qualities of the concentrated form in which we receive it from animals. To cut off our meat supply on account of a little loss of albumin, is like refusing to go to church because we lack a little faith.

Meat should be lightly cooked; for too much heat coagulates the albuminous principles, and so lessens its value as a food. Fat should also be eaten with the meat; for, while the latter provides albumin, the former contains none, but it supplies hydrate of carbon, a producer of animal heat and a converter of flesh into assimilable food. Eggs and milk contain both albumin and fat, so, being both flesh-formers and heat-producers, they present a typical food.

Skim milk is generally more digestible than whole milk, as it contains the same proportion of nitrogen, starch and sugar, but only about half the percentage of fat. Milk suffices for our nutriment for the first year of existence; and though we doubtless require a stronger diet as we grow becomes more developed, there is no reason to discard the food that "chaperoned" us through the season of infancy. And when the stronger foods are badly assimilated, through disease or disordered function, then milk again provides an able substitute that fulfils our requirements and counter-balances waste.

36 No. Nineteenth St., Philadelphia.

TO DEODORISE IODOFORM.—The _Pharm. Zeitg._ recommends adding one half per cent. carbolic acid and one per cent. essence of peppermint to iodoform to completely mask the odor.

Reports of Societies.

MEDICAL SOCIETY (London).

DIAGNOSIS IN CHRONIC ALBUMINURIA.

The meeting on February 20th, 1893, was devoted to the consideration of the prognosis in chronic albuminuria. Dr. Ralfe, in a singularly lucid paper, showed how much less grave was the prognostic importance attached to the presence of albumin in the urine at the present time as compared with that which was the rule when Bright first illuminated this department of pathology. There are two reasons for the more hopeful nature of the diagnosis now-a-days. One is that we have learned to recognize that in a certain proportion of cases, estimated by Dr. Ralfe as from one-third to a half of all cases of albuminuria that come under the practitioner's notice, the presence of albumin in the urine is not associated with organic mischief. These are the cases of so-called "functional albuminuria." Then, too, the routine examination of the urine in all cases has led to the existence of renal disturbance being recognized at a much earlier period, before irreparable mischief or damage has been done to the renal structure. Under these circumstances the treatment of albuminuria is a much more hopeful undertaking than in cases where the extent of the kidney lesions is only revealed by the supervision of other symptoms of extreme prognostic importance, such, for example, as albuminuric retinitis, dyspnea, or the dreaded uremic convulsions. By that time the chances of prolonging life are of necessity very much curtailed. In considering the prognosis one's decision must be influenced by a variety of circumstances in reference to the cause, whether acquired or inherited, due to specific poisons such as scarlet fever or diphtheria, or to lead poisoning, etc. Here as elsewhere, too, the constitution of the patient is an important factor, and the pre-existence of syphilis is generally of bad augury,
the vascular changes being precocious in their appearance, and the duration of life when once perceived rarely exceeding eighteen months. Gouty nephritis is a peculiarly insidious disease, running its course to within a measurable distance of the fatal termination without the urine being found to contain more than a trace of albumin. It is obvious, therefore, that the quantity of the albumin present is not a prognostic factor of the first importance.

Intermittent albuminuria in middle-aged persons is a symptom of some importance, because, though not necessarily entailing any marked departure from health, it is but too often the prelude to more serious manifestations. With regard to the rigid milk diet which many regard as the panacea for chronic nephritis the author remarked that it is often badly borne in patients who have reached an advanced stage of the disease, and especially if arterial degeneration be marked. It is most useful in acute or subacute nephritis, particularly when associated with dropsy.

Dr. Stephen Mackenzie observed that with proper dietetic restrictions the lives of persons the subjects of granular kidney and chronic albuminuria may be indefinitely prolonged. He, however, insisted on the gravity of the associated anemia, which it is important to combat from the first.

Dr. F. de Haviland Hall related a case showing, or tending to show, that though cerebral hemorrhage is the most frequent, the hemorrhage may take the form of intense hematuria thus averting what would probably be a fatal hemorrhage in the brain. He deprecated the tendency shown by some medical advisers of life assurance companies to underrate the importance of albuminuria in certain cases. In persons past middle life, at any rate, it is a fact of grave significance. Properly treated, however, he admitted that such patients may live for years.

Dr. Symes Thompson urged the necessity for further observation in order that medical men may be enabled to distinguish between the cases in which albuminuria is a symptom of ephemeral nature and those in which it possesses a grave importance from a life assurance point of view.

Dr. Routh pointed out that, at any rate in females, it is necessary to make sure that the albumin found in the urine is not of extra-vascular origin, and he mentioned a case of supposed advanced renal disease which turned out to be a case of hemorrhagic endometritis.

Dr. Lauder Brunton mentioned that in one American life assurance office the proportion of albuminurics among persons presumably healthy was as high as 1 in 2, though in his own experience it had not exceeded 2 per cent. He maintained that if the subjects of so-called functional albuminuria are admitted at all to assurance, it should only be at an enhanced premium. He insisted on the insidious nature of the albuminuria in the typical gouty kidney, but pointed out that with careful treatment and proper attention to warmth to the surface, they may live for years.

Dr. Hawkins narrated a very instructive case of a gentleman who has been suffering from more or less intense albuminuria ever since the year 1870, without the condition having given rise to any very marked cardio-vascular disturbances.

Dr. Ralfe, in reference to the admission of the subjects of functional albuminuria to assurance, pointed out that it is too early as yet to formulate an opinion as to the results of that policy.—*The Medical Press*, Feb. 22, 1893.

**Clinical Record.**

**BETA–NAPHTHOL IN TOXIC ANEMIA.**

A certain form of anemia, occurring in young females with a tendency to chlorosis, has its origin in a perverted nutrition; these cases are probably caused primarily by a sluggish liver; and are usually associated with biliary catarrh. They are very
obstinate, resisting the usual chalybeate
treatment and growing steadily worse, a
cause of pernicious anemia being the re-
sult. Many cases of the so-called essential
anemia that are at once given up as hope-
less might be saved if the family and per-
sonal history were more carefully taken
up and considered, and the physician thus
put on the right track as to the original
cause of the disease. This condition has
been designated fecal anemia by Sir An-
drew Clark, which name is appropriate in-
asmuch as the fatal termination—usually
the case—is due to septicemia, the result
of auto-infection from absorption of pto-
maines from the germ-laden intestines.

Treatment upon the principles of anti-
sepsis applied to the seat of the origin of
the disease offers, in the majority of cases,
the best hope of correcting the trouble,
and in my hands beta-naphthol has yield-
ed the best results, proving superior to
salol, bichloride of mercury, sulpho-car-
bolate of zinc, etc. Having used this drug
in a large number of cases I have come to
regard it as the most useful antiseptic
we have for internal administration.

The following typical case illustrates the
manner of its exhibition and the results
when treatment is persisted in:

F. L., female, aged 18, American; was
called to see patient in May, 1892; found
her suffering from a severe attack of asth-
ma, which was controlled after two days'
constant attention. Family history, neg-
ative. Personal history: born in 1874,
difficult labor, very constipated from birth;
very delicate as a child, always pale and
anemic. Was attacked by asthma in 13th
year, and has had two to four attacks each
year since. Menses began at 14, scanty,
painful dark colored, and for four years
has been troubled with a persistent nausea
at meal-times, usually ending in vomiting;
appetite poor and capricious.

Physical examination: Small of her age;
weight about 100 lbs.; complexion pale,
watery, with chlorotic cast; pulse averaging
90, small and weak; hemic murmur at base
of neck, right side; also at base of heart,
apex-beat normal in position, but weak.
After recovery from attacks of asthma the
lungs present no signs of disease; the ves-
cular murmur is clear and distinct over
both lungs, front and back; the liver dull-
ness extends below the ribs and to the
median line in front; urine specific gravity,
1030; color dark straw; no sugar, no
albumin, but earthy phosphates in abun-
dance. She is weak and nervous.

Prescribed the following:
R. Pepsin. puri..........................5 i;
Acid. mur. dill .............................3 ii;
Aqu. dest. q. s. ad........................f 3 iv.
M. Sig: Teaspoonful in water one-half hour be-
fore each meal.

Also ordered, pil. aloin, strychn. et bellad.
No. xxx.

Sig: One pill each night at bed-time.

After ten days of the above treatment
together with a selected diet and good
hygiene generally, the patient was much
improved. I then discontinued the treat-
ment and prescribed the following:
R. Beta-naphthol..........................gr. ii;
Ferri sub-carb..........................gr. i;
Pulv. ext. nucis. vom..................gr. ¼.
M. et. ft. in pil. no. i.

Sig: One pill after each meal.

I subsequently added to the above podo-
phyllum, gr. ¾, which kept the bowels
regular and was continued.

This treatment was followed for four
months without interruption, and the im-
provement at the end of that time was
truly remarkable. The patient was then,
and is now, as strong and well as any per-
son of like size; she has gained in strength
and weight steadily, and has had no nausea
or vomiting, and no attack of asthma since
beginning the treatment, about a year ago;
her heart is strong and regular, 72, with
no murmur; her skin is clear and cheeks
red; in fact she looks the picture of health.

Some authors ascribe to beta-naphthol
the property of rapidly increasing the red
blood-corpuscles, which may be the case.
I am, however, of the opinion that the
aseptic condition of the alimentary tract,
thus favoring the perfect digestion and as-
similation of the food, does more to in-
crease the red blood-cells than any such
therapeutic action of the drug. Certain it
is, however, that it is a reliable and certain
intestinal antiseptic and deserves recogni-
tion and a high place among drugs of that
class.

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Wellsboro, Penn.
THE AMERICAN THERAPIST.

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JOHN AULDE, M.D., . . . . Editor.

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Editorial.

A LESSON IN THE PATHOLOGY OF SNAKE-BITE.

The pathology and treatment of snake-bite are still but imperfectly understood, and yet a considerable number of physicians in this country are liable to be called upon at any time to meet an emergency of this character. A surgical operation is not always expedient, owing to the time which elapses between the occurrence of the accident and arrival of the physician; and cauterization has proven useless. Treatment by ammonia, whiskey and other diffusible stimulants, while meeting with popular favor, is proverbially uncertain, and scarcely anyone now has confidence in isopathy.

An instructive lesson in the pathology of snake-bite comes to us from Australia, and is worthy the close scrutiny of our readers. Dr. Skinner (Australian Medical Journal, March, 1893), reports the case of a girl, seventeen years of age, bitten by a tiger-snake, whose poison is said to be nearly identical with that of the cobra. The following summary presents the salient pathological features previous to the fatal termination, which occurred forty-five hours after the accident:

The patient was at first stupefied by the shock, and did not realize her true condition until an hour later, when the snake was discovered in the bath-room; she was then able to recall its presence, but the only evidence showing that she had been attacked, was in the shape of a slight wound of the second toe of the right foot. During the interval a quantity of brandy, given to overcome the faintness, had been vomited along with some blood-stained liquid. The first symptom, therefore, was hematemesis, an indication that the snake-venom, like morphine and some other poisons, finds its way into the stomach.

As soon as the nature of the injury was discovered the leg was ligatured, and four hours later Dr. Skinner arrived on the scene, when deep incisions were made, and free bleeding favored. Sucking the wound had already been practiced, and this operation was again repeated, the sucking being continued for twenty minutes, and the patient showed a disposition to sleep; but an hour and a half later, the free bleeding required attention, and thus we have the second symptom in the shape of increased fluidity of the blood.

About eighteen hours after the bite, other symptoms appeared, namely, fever, stiffness of the neck and difficulty in swallowing. Dyspnea followed, but all these latter symptoms were promptly arrested by the hypodermatic administration of one twentieth of a grain of strychnine. Thirty-two and a half hours after the bite, the first urine was passed — six ounces, specific gravity, 1.028 — which was of a dirty-brown color and contained one-third its volume of albumin. The fourth symptom, therefore, in the order of their discovery, was albuminuria, indicating serious organic mischief in the renal structures.

When the formidable character of the disease was fully recognized, as shown by these constitutional changes, strychnine was repeatedly administered in much larger doses, but without the benefits resulting from its first exhibition, and the patient died from dyspnea, the action of
the heart continuing for ten minutes after respiration had ceased. In all, about four-fifths of a grain of strychnine had been given in the course of nineteen hours, and the mind remained perfectly clear, the patient conversing with her fingers, by means of the deaf-and-dumb alphabet.

The fact that the urine contained a large proportion of shrunken red blood-corpuscles, points to the specific action of the poison upon this fluid, which was thus deprived of its oxygen-carrying capacity, although the report conveys no information to the effect that cyanosis was present. And it is quite possible that this marked destruction of the blood may have been responsible for the symptoms which preceded in the order mentioned, although it is said the toxic action of the poison is not usually so long delayed, and that frequently there is hematuria. A slight convulsion occurred just previous to the arrest of respiration.

The results of treatment show conclusively that strychnine, while of service in overcoming certain symptoms in the progress of the disease, is unreliable as an antidote to the poison, notwithstanding the favorable reports promulgated by Dr. Mueller. In the light of the facts heretofore recorded, there is reason to believe that hypodermolysis, as practiced by Wyman (see page 272) in phlegmasia alba dolens, might have been of some service, had this method been adopted simultaneously with the treatment by strychnine. Again we must not overlook the important discovery of Prof. Kauffmann, of the Veterinary School of Alfort (American Therapist, August '92), that a 1 percent. solution of chromic acid hypodermatically acts as an antidote to the snake-poison. The great value of this lotion was duly recognized by the grant of the Orfila prize to Prof. Kauffmann during the past year.

In conclusion, however, when the air is full of reports and rumors concerning the remarkable advances in therapeutics promised by a study of sarcology it is possible to turn defeat into victory, by making a thorough study of the toxic and therapeutic properties of this peculiar secretion. That it contains valuable properties that may be turned to therapeutic account, there can be no doubt. If the almost infinitesimal amount deposited in the tissues was sufficient to produce such havoc in the case related, it seems quite probable that, by attenuation, it can be employed with benefit to mankind.

EDITORIAL NOTES.

Sarcology.—Prof. Wallace Wood, in a recent issue of the New York Medical Journal, indulges in some facetious observations relating to the changes foreshadowed by recent methods in therapeutics, which "bring the practical physician and medical profession generally to fields and pastures singularly and utterly new. Not only is the materia medica left behind, but no one longer deals with anatomy or physiology, or with organs or tissues, or cells or molecules; he is brought face to face with the naked flesh, and the miracle of transubstantiation is reduced to a formula." He pictures in glowing colors the time, when all medication will be based upon the employment of the four elementary, cardinal kinds of flesh, namely nerve, muscle, vessel and gland, and suggests that when these four radical and elementary extracts of the organism, in the form of neurine, musculine, vasculine, and glanduline can be "injected into the blood, or placed by means of capsules at the rootlets of the organism in the duodenum, they ought to mend, reconstruct, or build up exhausted, broken-down, or worn-out organisms, and constitute a true and scientific elixir vitae, realizing in part the dreams of ancient philosophers."

Readers of this Journal will recall the fact that the method here outlined, was inaugurated about forty-five years ago, under the name of "True Isopathy," and upon its revival, the Editor suggested "Organopathy" as a suitable name for it. Perhaps "Sarcology" suggested by Prof. Wood, is a more comprehensive name, and will readily be adopted by the adherents of this method of practice.
Popular Fallacies.—That the superstitious reverence for popular fallacies is productive of great and permanent injury to the laity, is patent to nearly all physicians; but unfortunately, too many practitioners are, themselves, subject to rather whimsical notions, and their beliefs die hard. In view of this sad state of affairs, special attention is directed to the contribution of Dr. Hope in this number, in which our author takes strong grounds against the use of several popular remedies by the laity, remedies too, which are very frequently recommended to be employed by the physician. Undoubtedly, much harm has resulted from the indiscriminate use of the salt solution in the case of naso-pharyngeal catarrh, but that is as nothing compared with the injury to the kidneys sustained by those who almost invariably take to the use of potassium chlorate for all forms of throat affections. Every physician should take it upon himself to do what he can to arrest this injurious practice.

Albuminophobia.—Perhaps the most important missionary work which the conscientious physician can undertake, would be a systematic study of the subject of albuminuria with a view to afford his patients, when such come before him, the most enlightened treatment, and at the same time admonish them in respect to the absence of danger in a large proportion of the cases. It has so long been considered a fatal malady that we take great pleasure in directing attention to the subject as presented by Dr. Lewis, in the present number of the Journal, and also his thoughtful contribution under the above caption in the March number of the American Therapist. So-called functional albuminuria is so liable to follow certain indiscretions in diet, exposure, and a number of other causes, that those so afflicted should be made aware of the effects that are liable to be produced, and thus they could avoid them.

Physicians Unprotected.—Although physicians are supposed to hold inviolate the secrets of their patients, it appears, in some of our states at least, as though the lawyer had his brother professional man at a great disadvantage. In the great state of Pennsylvania, for example, the physician can be brought on the witness-stand and compelled to divulge any secrets which may have come into his possession in his professional capacity. In addition to this, however, he becomes amenable to legal penalties when he fails to report to the authorities any infraction of the laws of the Commonwealth, and is thus placed in the position of a detective to serve without pay. It would be appropriate that State medical societies should take some decisive action upon this matter; so that the physician may be placed upon an equal footing with the lawyer.

“Doing Too Much Good.”—The communication from Dr. Field in the Correspondence Department of this number reminds the Editor of an interesting conversation he had with an old, experienced, and highly respected physician not long since. In recounting his varied experiences in the profession, he had recently begun to note, that too many of those who had previously employed him, were now wont to call on him when attending the Hospital, an institution which he had sacrificed much time to assist in helping in every possible manner. It looked to him as though the hospital practice had created a disposition on the part of otherwise good citizens to become paupers, and he was therefore in doubt as to whether he had pursued the proper course; in fact, it was even possible that he had done “too much good.”

Excursion to Milwaukee.—Delegates to the annual meeting of the American Medical Association from Philadelphia, Baltimore, Washington, and other points in the vicinity of the above places, who desire to attend the Milwaukee Convention in a body in the early part of June, should make application to Mr. James Potter, D. P. A., Baltimore and Ohio Railroad, 833 Chestnut Street, Philadelphia, at as early a date as possible in order that suitable accommodations can be secured for the trip. A most delightful trip is anticipated, and the advantage of special accommodations will readily be apparent to those who have travelled much in this or any other country.
Correspondence.

EDUCATING IN THE WRONG DIRECTION.

To the Editor:

Sir: The medical and surgical literature of to-day is teeming with the descriptions of desperate cases successfully treated that would, a few years ago, have been thought to be beyond all human aid, and would have proven speedily fatal, thus showing that the practice of medicine and surgery is rapidly becoming a science, passing from the empirical and unknown to the positive and known. The progress of medicine and surgery, with the exception of the past few years, has been painfully slow. Men of brains and thought in the years of the past, by their love and untiring zeal for the work, occasionally caught gleams of great truths, but seemed to be unable to teach and demonstrate them to the satisfaction of their confreres, and so they were lost sight of and forgotten for the time being. It is said that great minds run in similar channels, and this is demonstrated by the fact that many of the great principles that have recently been developed in the practice of medicine and surgery were discovered, or partly discovered, by master minds of long ages ago. The medical profession of to-day, and the world at large, are greatly indebted to such men as Pasteur, Koch, Sims, Hamilton, Senn, and a score of others I might mention, for the great work they are doing and have done to bring our beloved profession to its present high standing. The profession, on the whole, honor and appreciate these men. But how is it with the world at large? Surely there is no class of professional men who sacrifice so much for suffering humanity, and labor so hard for the public good, and yet who seem to be so little appreciated and so poorly paid for their services. There is not a physician in this country that has accumulated a million dollars by the practice of medicine, while men in other professions, with no more skill or ability, have piled up their millions. In the first place the law-makers of this country have given the physicians’ interests scarcely a second thought. In fact, what legislation has been done has been against rather than in their favor. The physician has been made responsible for everything, the patient for nothing—not even, in most cases, for a small fee for the doctor’s services. A number of states have passed laws trying, in a crude way, to regulate the practice of medicine within their domain. Many features of these laws are objectionable. Laws regulating the practice of medicine should be uniform. The idea that a man qualified to practice medicine in one state is disqualified in another is simply preposterous. We have a law known in this state as the Pharmacy Law. It allows any school-boy who can pass an examination before its board to fill a doctor’s prescriptions, deal out drugs behind the counter, etc., etc.; but should the doctor attempt to do any such thing without having first satisfied this honorable board that he is capable of filling his own prescriptions and selling drugs, etc., he would be liable to arrest, and would be arrested for violating the law. Such a law is simply characteristic of the weak, brainless politicians who enacted it, and is an insult to the medical profession of the state. Physicians seem very slow in asserting their rights, and I believe they are imposed upon, much more than is absolutely necessary, by the rank and file; and to illustrate how the physicians’ services are sometimes appreciated in comparison to the services rendered by other professional men, I will give a brief history of a single case:

Mr. J. got into trouble with Mr. W., his neighbor, over a line fence, and the trespass of stock, etc., which, through malice and stubbornness on Mr. J.’s part, ended in quite an extensive lawsuit. Just after the suit was ended Mr. J. was taken violently ill with la grippe, complicated with inflammation of the bowels.
Old Doctor S. was called, and at once expressed a doubt as to Mr. J.'s recovery, but promised to spare no pains or skill in caring for him. Mr. J.'s life hung in the balance for many days and nights, but through the determined and untiring efforts of the old doctor, Mr. J. made a good recovery. Some time after Mr. J. got able to be about, he said: "Wife, I believe I'll go over to town and see Lawyer Brown and settle up that law business with him."

"Well," said his wife, "perhaps you had better call around and see Old Doctor S., and find out how much we owe him."

Mr. J. started out, and when he entered the lawyer's office there was a broad, genial smile on his face.

"Why, how are you, Mr. J.?," said Lawyer B., getting up to shake hands with him, "I didn't expect to see you looking so well."

"Ah!" said Mr. J., "I'm feeling tip-top—in fact, I am feeling better than I have for the past two years. By the way, I thought I would call around and settle up my bill, if you have time to look it over."

"Certainly," said the lawyer. "It is just $125."

"Ah!" said Mr. J., counting out the gold, "I guess Old Williams won't want to law with me any more. It does such old fellows good to teach them a thing or two—eh, Lawyer Brown."

"You bet it does," said the lawyer, blandly.

"Well, good-day; and I'm very much obliged to you," said Mr. J. as he passed out.

Happening to think what his wife had said about going to see the doctor, he turned around and leisurely made his way to the doctor's office. When he entered the door his face was as long as the moral law. With a long sigh he dropped into a chair near the door.

"Well, good morning, Mr. J.," said the genial old doctor. "How do you feel to-day?"

"Oh!" said Mr. J. "I'm all done out. Can't hardly drag one foot after the other. That last medicine I got of you didn't do me a bit of good. I guess that attack or else all that strong medicine you gave me has done me up for this world. Thought I would call around and see about how much I wasowing you, anyway."

The doctor looked over the account and said:

"Twenty-six dollars, Mr. J."

"Ah! M-m-m. Well, ain't that bill a little steep, doctor? You know money is pretty scarce nowadays."

"Well, said the doctor, "I see I made you about thirty visits and furnished all my own medicine."

"Ah!" said Mr. J. "Didn't think you came that many times. Well, I was feeling so bad there for a few days I kind o' lost track of it. Here's five dollars, and I'll try and get the rest some time."

Now, gentlemen, this case is not overdrawn. It is simply an every day experience. Have physicians, by their generosity, charity, self-sacrifice and heroic devotion, been educating people in the wrong direction? If so, it is time to call a halt.

Elroy, Wis.

F. T. Field, M. D.

The Therapeutic Memoranda.

Euphorbia Pilulifera in Asthma.—The value of this drug in a large percentage of what are recognized as chronic asthmatic cases is not generally known to the profession. In order to further the good work it is suggested that this remedy be given a trial. The dose is from twenty to thirty drops in water, and where indicated, the iodide of potassium may be combined with it—five grains to be given with each dose of the euphorbia. There are some objections to its use, among which should be mentioned the fact that some patients cannot take it, and as the coloring matter affects the kidneys, it should be given with caution when these organs are diseased. The most flattering reports have been published relating to its therapeutic value, not only in this country, but abroad, and it is said to form the basis of several proprietary remedies for asthma.

Gelsemium in Acute Nasal Catarrh.—When a patient "takes cold," and suffers from profuse nasal secretion, gelsemium is prompt in affording relief, which it does through its influence upon the circulation. It has a decided advantage over many other remedies, since it does not derange, but rather tends to improve digestion; it
produces no disagreeable local action, and does not in any way act as other remedies which may be given internally for a like purpose, e. g., belladonna, opium or its alkaloids, or quinine, and a few drops of an assayed fluid extract is all that is required. The dose is one drop, at intervals of half an hour, until the desired effect is produced. In children it is especially successful, but it must be given to these little fellows in very minute doses, say about one-tenth of a drop for a child one year of age.

Baunscheidtismus in Eczema.—It frequently happens that inveterate cases of eczema prove rebellious to all forms of local and internal treatment, and even where the indications point to the fact that the disease is practically under subjection— and yet fails to disappear—the delay being apparently caused by some disturbance of the trophic nerves, very gratifying results will follow the application of the instrument devised by Baunscheidt. The writer met with one of these peculiarly stubborn cases recently, the disease affecting the face, neck and anterior portion of the chest, and was rewarded by complete and immediate cessation of the itching and “picking” by the production of a dozen or more “spots” throughout the affected area. A suitable counter-irritant for use in connection with the instrument will be found in the combination of croton oil with olive oil in the proportion of one of the former to three of the latter.

Cholera Remedies.—As the summer draws near and the possible dangers from cholera become more apparent, the number of remedies begins to increase, and should the disease actually present itself, the probabilities are strong that we should have more remedies than patients, since we have reason to believe that the disease will not find lodgement in American soil. Notwithstanding the great mortality which attended its appearance in Hamburg and other Continental cities last year, the danger to Americans is comparatively slight, as we not only know how to combat the disease to the best advantage, but we have not the same unsanitary conditions to assist in its spread as may be found in the older countries. Still, it must be borne in mind that eternal vigilance is the price of success, and every good citizen should be advised to consider himself a select committee of one to abate all nuisances in whatever shape they offer.

Current Literature.

Hypodermatic Medication in Syphilis.—

* * *

The specific claims made by those who have been exploiting the method are as follows (Sukhoff, Damman, Elsenberg, Lang, Balzer, Lewin):

1. “The practitioner remains ‘master of the situation’ throughout.” This is one of the glittering rhetorical generalities indulged in occasionally by our Continental colleagues, which may mean anything or nothing, and to which a definite reply is always difficult. In this instance, under the most limited interpretation possible, it is not warranted by the facts.

2. “The drugs needed may be easily obtained in the pure state.” This is not peculiar to the hypodermatic method.

3. “They may be prepared for use by the physician himself.” This, if ever an advantage, is scarcely worth mention.

4. “In the use of the soluble salts of mercury a precise dosage is obtainable.” It may be safely asserted that the varying degrees of local reaction affecting the rapidity and the thoroughness of absorption do not give rise to as much variation in the dose as do the differences in absorptive power in the skin and the gastrointestinal mucous membrane.

5. “It saves time and labor on the part of both physician and patient, rendering visits more infrequent, etc.” This is doubtful, and not very important, if true.

6. “It necessitates but little alteration in diet, habits of life, etc.” Such alteration, under ordinary methods, is practically only that indicated by the general rules
of hygiene, and would be beneficial to most persons, non-syphilitics included.
7. "The patient's skin and digestive organs remain unaffected, except in rare instances." This is true, but is offset by the pain, the liability to abscess, and other objections to be described later.
8. "Stomatitis is of rare occurrence." This is not correct. The evidence goes to show that with equal care it is more likely to occur during hypodermic medication, and when it does occur comes on more suddenly and is more intense and uncontrollable than under either of the other methods.
9. "It enables the patient to conceal the disease." This may have some little force when the method is compared with the inunction treatment, but is certainly a very minor point in any event.
10. "It lessens expense." This is likewise of little importance, as the difference is not great.
11. "It is more likely to effect an entire and permanent cure, and does so in the shortest time and with the minimum amount of mercury." This is, after all, the most important claim that is made, and if it could be established would warrant the adoption of the method to the exclusion of all others. I am of the opinion, however, that it cannot be substantiated, and at any rate am certain that the time has not yet arrived for a final and judicial decision upon the matter. The evidence is contradictory, and is open to the suspicion of bias upon both sides, but especially and notably upon that of the advocates of hypodermics.
12. "In the presence of grave and imminently threatening visceral troubles it affords the readiest and surest way of producing a powerful influence." This may possibly be admitted, although in the great majority of cases there is ample time for the employment of inunctions.
13. "In doubtful cases it shortens the time required for the 'therapeutic diagnosis.' " This is scarcely to be included among the advantages belonging to a system intended for routine treatment. It is especially claimed for the hypodermic use of calomel, and will be discussed in connection with that drug.

The objections to the method may be more briefly mentioned, as I believe they are all well founded.
1. It is painful, and in many patients excites apprehension, and is strongly objected to. It might be added that the measures advocated to obviate or lessen pain, viz., the precedent or simultaneous administration of morphine or cocaine, are in themselves highly objectionable, and certainly to be discouraged.
2. It is occasionally, though rarely, dangerous, and sometimes rapidly fatal. This is undoubted.
3. It is liable to be followed by certain local complications, which are: a. erythema; b. painful nodosities; c. cellulitis; d. abscess; e. sloughing. * * *
4. It cannot be properly carried on by the patient, but always requires the intervention of the surgeon. * * *

The chief subdivisions of the hypodermatic method are based upon the solubility or insolubility of the mercurial preparations which are employed, the leading member of each group being respectively the corrosive chloride and the mild chloride.

The technique of their introduction is practically identical in both classes.

a. The solution or emulsion used should be sterilized.

b. The skin of the region selected for the puncture should be cleansed with soap and water, then with alcohol or turpentine, then with a 1 to 20 carbolic solution, and finally with 1 to 1000 sublimate solution. The hands of the operator should be similarly prepared.

c. The needle, which should be larger and longer than the ordinary hypodermatic needle, and the syringe itself, should be washed in 1 to 20 carbolic solution for at least fifteen minutes before using.

Any form of syringe may be employed, the essentials being that it is capable of
complete sterilization, works easily and smoothly, and holds the necessary quantity of fluid. For some of the preparations employed a rubber syringe and a silver or gold needle are of advantage. For many of them the ordinary hypodermatic syringe, with the larger needle, will suffice. * * *

In the light of the evidence presented above it seems to me safe to assert that:

1. The hypodermatic treatment of syphilis has not as yet shown results which warrant its adoption as a routine method to the exclusion of or in reference to other methods, but, on the contrary, has some apparently insuperable disadvantages and even dangers which render it improbable that it ever will be so adopted.

2. The circumstances under which hypodermatic medication should be employed may be summarized as follows: 
   a. Those cases in which other methods of treatment have been tried and failed. 
   b. Those cases in which, owing to idiosyncrasy or intercurrent disease, the skin and the digestive tract cannot be used for the introduction of mercury. 
   c. Those cases in which, owing to grave and advancing lesions, rapid mercurialization is absolutely necessary. 
   d. Those cases in which obstinate localized lesions can be most directly reached by this plan. 
   e. Possibly those cases referred to by Jullien, in which early differentiation between syphilis and malignant disease, or tubercular ulceration, is extremely important, should be included in this list. I certainly feel inclined to employ the method in all doubtful cases which admit of it, particularly in those conditions of the tongue which often leave the surgeon for a considerable time in doubt as to their exact nature. Anything which promises to shorten this period of doubt by rendering the therapeutic test more rapid and more certain would be of great advantage. I should, however, in such instances feel obliged to use potassium iodide by the mouth at the same time.
   f. A theoretical possibility of the employment of mercury hypodermatically has suggested itself to me, but I have not as yet actually employed it. It may be that its use by this method will aid in shortening the period of doubt which often intervenes between the appearance of the primary sore and the development of general adenopathy or of the exanthemata. If, in the presence of a sore of uncertain character, the employment of mercury hypodermatically resulted in rapid cicatrization, no local treatment being employed other than cleanliness, it might occasionally throw light upon the case without being open to all the objections which attend the systematic and slower administration of mercury by the mouth. It is possible that the idea is worth a trial in exceptional cases, but I do not think it should be adopted as a routine practice.

3. As to the choice between the two great classes of mercurials, the soluble salts are to be preferred to the insoluble in the large majority of cases, as more exact in the matter of dosage and much less dangerous and less likely to be followed by local disturbances. They are always to be used when there is need for rapid mercurialization.

The insoluble salts should probably be reserved for those cases in which frequent visits to the surgeon are impossible and in which no contra-indications exist. In cases of defective kidneys, diabetes, profound anemia, marked atheroma, great debility, etc., such methods are dangerous, and the case, even if urgent, will probably do better under some other form of treatment.

4. Finally, as to the special preparation to be employed: Among the soluble salts the bichloride is probably to be preferred. The results from its use are not strikingly different from those obtained from the other compounds of this class, but its stability and great solubility and its germicidal qualities seem to warrant its selection. The disadvantage is the pain which it causes, but the evidence in this direction shows that in the hands of im-
Partial investigators, not responsible for the introduction of the particular substance employed, each of the salts on the list produces a considerable amount of pain and a not inconsiderable number of accidents or complications. Probably the bichloride is freer from objectionable features, in respect especially to the production of suppuration, than any of the salts of mercury.

Among the insoluble salts calomel and the yellow oxide are to be preferred. It would appear that the latter is a little less active, but at the same time much less irritating. Gray oil is the most available form of administering metallic mercury.

J. William White, M.D.

(Abstract of a paper read before the Philadelphia County Medical Society, March 22, 1893.)

Should we Treat Fever?—The following conclusions are presented:

1. That fever is the expression of some disturbance of the thermal centres.

2. That while this disturbance may be traumatic, it is usually the result of the existence in the organism of certain auto-genetic or heterogenetic (infectious) products that have the same affinity for the thermal centres that certain vegetable alkaloids have for certain cerebral centres.

3. That fever does not exercise any beneficial effect in limiting an infectious process; this is a fact that has been known clinically for years by the occurrence of cases of infectious disease that pursued their usual course without any rise of temperature.

4. That it is the general experience of clinicians that the relief of fever exercises a beneficial influence on the general condition of the patient, though the apyrexia does not indicate that the cause of the pyrexia has been removed.

5. That in many febrile conditions the causative principle has produced a thermotaxic paresis that is at once relieved by some suitable antipyretic.

6. That in continuing the employment of antipyretics we are not losing sight of the possibility of obtaining, either synthetically or derivatively, compounds that will, when administered in the specific diseases, have the same inhibiting influence on the further development of the microorganisms of those diseases that certain alesins, toxalbumens, or toxins have. The action of such compounds should be as specific in each infectious disease as is the action of quinine in paludal fevers.

S. T. Armstrong, M.D.

(The Med. News, Feb., 1893.)

Nutrition the Sine Qua Non in Tuberculosis.—Without fear of contradiction, it may be asserted that tissue building—the establishing of healthy cell-life—is the foundation treatment of every case of tuberculosis, not only in the incipiency but in the advanced stages as well.

This proposition is not antagonistic to the germ theory; rather has the knowledge of the existence and important rôle of the bacillus led us to a better understanding of the necessity of proper nutrition.

Nutrition is a sine qua non in all cases of tuberculosis. In some instances its necessity is more evident than in others; in acute cases, other needs may be more urgent, but the rule holds good, the tuberculosis must be nourished. In “thin living and thick dying” we find tuberculosis a connecting link. Many accept this theoretically, but put it in practice but poorly.

Feeding is not nutrition. The best of diet may not be assimilated— may do harm rather than good. The practice of stuffing, so honestly advocated by some authors not long ago, has been rapidly abandoned. Years ago every case of phthisis got a bottle of cod liver oil; now it is given only to selected cases. Nutrients are chosen which can be appropriated and food is given in such a manner and of such kinds which may easily induce complete assimilation.

There must be a demand for nutrition before assimilation can be satisfactorily performed. There must be the ability to appropriate food that is taken, else the defective cell in a remote part of the system will profit little thereby. Just here, I believe, is an important point in the treatment of tuberculosis. The best of food and the most reliable nutrients are taken
and still the waste in many cases goes on. There is either want of assimilation or a want of gain from the process.

There is need for "respiratory food" as well as for that in the alimentary tract. Oxygen must be taken into the system and the cells empowered to use it in the nutritive changes which we aim to accomplish by proper feeding.

William Porter, M. D.

(St. Louis Clinique.)

Useless Medication.—That there is a very large amount of useless medication in vogue in the treatment of these diseases, seems evident, and that some plans of treatment are actually harmful is more than a possibility. Of course, experimentation in studying the effects of therapeutic agents is necessary to the advancement of medical science, but such experimentation should be coupled with accurate observation. Empiricism should not be confused with experiment. Our first consideration should be for the welfare of the individual patient. Since, when our case is once established, we cannot abort it and have no specific agents with which to combat it, our first object should be to look well to all the general conditions of the patient and his surroundings. Such considerations as the bath, spongings, diet, hygienic measures, climatic influences and the like should be thought of first. Put the patient in the most favorable condition to resist the disease. The public must be educated to expect more wholesome advice and less useless drugging. Let us remember, that much of the medication in vogue is a matter of fashion and changes almost as rapidly as the seasons. The truly scientific advances in medicine never change, because they are founded on truth and not on theory.

Where is the dreaded plague which once devastated vast populations? Science has stamped it out with its agent—hygiene. How is it that cholera and yellow fever do not spread like the prairie fire and destroy thousands of our inhabitants as they used to do? Science has fenced them in with its agency—quarantine. How is it that cases of small-pox appear but do not spread their contagion to our communities? Science has placed its shield, vaccination, about us. What has become of puerperal fever, with all its dangers to life and home and happiness? Science has sent its agent, asepsis, to prevent it.

(Med. and Surg. Reporter.)

Book Notices.

Psychopathia Sexualis, with Especial Reference to Contrary Sexual Instinct. A Medico-Legal Study. By Dr. R. von Krafft-Ebing, Professor of Psychiatry and Neurology, University of Vienna. Authorized translation by Charles Gilbert Chaddock, M.D., Professor of Nervous and Mental Diseases, Marion-Sims College of Medicine, St. Louis. Philadelphia: The F. A. Davis Company. 1893. Sold only by subscription. (Price, $3.00.)

There is no doubt that this book was honestly intended by the author as a contribution to science. As such it has a great value. The physiologist, the alienist, the pathologist, and the medical jurist will find for it constant use. It confirms powerfully the theory that the most ready path for nervous impulses is along routes which have been repeatedly traversed, and that the direction of this path will depend much on the nature and intensity of impressions, at a time when the capabilities of consciousness first arise in particular spheres. It will help to solve questions of responsibility for conduct in many cases, where hitherto the light of medical science had but little penetrated, if at all.

The power of the book to injure those who read it more out of curiosity than from a true interest in science might probably have been lessened if the detailed account of some of the cases had been put into the author’s own language, instead of that of the patients themselves. The copious interpolation of Latin phrases and sentences still leaves so much that borders on the disgusting, that one is inclined to wonder whether even the devotee of science could have altogether suppressed his aversion had they appeared in English. The book does not need to be recommended to readers. It will attract them by hundreds of thousands. We would recommend that it be read as honestly as it was written, and believe that then it will do much good. S. W.
The Disease of Inebriety from Alcohol, Opium and other Narcotic Drugs: Its Etiology, Pathology, Treatment and Medico-Legal Relations. Arranged and Compiled by the American Association for the Study and Cure of Inebriety. Cloth, 8vo., pp. 400. New York: E. B. Treat, 1893. (Price, $2.75.)

This book traverses a large subject and treats it in a scientific and fairly dispassionate manner. The association referred to was founded twenty-three years ago by physicians connected with inebriate asylums. Its study of the drink problem has therefore been more philosophic and its utterances less intemperate than those of many temperance reformers. Still, the teachings of the associations are sufficiently radical. For example, in this book under the caption, Duty of the State in the Care and Treatment of Inebriates, are found the following suggestive sentences: "The State considers 'becoming a drunkard' a personal right, and 'being a drunkard' a crime. Science holds 'becoming a drunkard' a disease."

The author, who is Dr. Crothers, secretary of the association, treats of inebriety in the comprehensive sense of the word which includes the diseased conditions due to the prolonged use of various stimulants and narcotics. It does not, like the familiar temperance lecture, limit itself to denunciations of the "rum traffic," ignoring the closely allied drug habits which are more seductive and many of them scarcely less disastrous in their results. The forms of inebriety produced by an excessive use of opium, ether, cocaine, chloroform, coffee and tea, nicotine, eau de cologne, arsenic and ginger are discussed intelligently, though most of them with less frankness than would have been desirable.

A disproportionate share of the book is devoted to the consideration of alcoholic inebriety, the evils of which are at least comparatively well known, while the less-understood and more treacherous cocaine habit receives a rather scant amount of space, and no reference is made to numerous sedative drugs which have recently become popular even with the laity, and to a corresponding extent dangerous. It is to be hoped that Dr. Crothers or some equally well-equipped writer will next give us an exhaustive work on the subject of drug-tipping, which is growing into an evil of gigantic proportions, threatening to undermine the constitutions of untold numbers of people and sap the vitality of generations to come. However, the work under consideration is a most valuable one as it is, and every one would be the better for a careful perusal of it. B. R.

PUBLICATIONS RECEIVED.

Descriptive Sketch and Drawings of two cases of symmetrically placed opacities of the cornea, occurring in mother and son. By Charles A. Oliver, M. D., of Philadelphia. Reprint, 1892.


When is the Administration of Ergot Admissible in Parturition? By T. Ridgway Barker, M. D., of Philadelphia. Reprint, 1893.


The Value of Javal's Ophthalmometer for the Correction of Astigmatism where marked Amblyopia is present. By A. Britton Deynard, M. D., of New York. Reprint, 1892.


The Addresses at the Inauguration of Charles Kendall Adams, L. L. D., to the Presidency of the University of Wisconsin, January 17th, 1893. Madison: Published by the University.
Miscellany.

RUSSIAN CHOLERA EXPERIMENTS.—Dr. Fedoroff, of Moscow, has published some experiments made by him during last summer in the treatment of cholera by means of subcutaneous injections of a fluid prepared by adding cholera bacillus to an extract of thymus gland. The results were so satisfactory as to justify further experiment.

PATENT MEDICINES IN NEW YORK.—The following is the text of a bill as introduced by Mr. Southworth:

An Act to confer upon the State Board of Health power to analyse and examine drugs or medicines, known as patent or proprietary medicines, and regulating the sale thereof.

Section 1. In addition to the powers now conferred by the State Board of Health, said Board is hereby empowered, and it shall be its duty, upon receiving a fee therefor of $50, to cause an examination and analysis, to be made by a practical chemist of any drug, medicine, or mixture of drugs, herbs, or medicines commonly known as patent or proprietary medicines, and shall ascertain and determine whether the use of the same is apt endanger the public health, and it shall not be lawful for any person or persons, or corporation to sell or offer for sale any such drug, medicine or mixture not prescribed by a regular physician, unless the same shall have been so examined and approved and certified in writing as not dangerous to the public health by the State Board of Health.

Sec. 2. This act shall take effect immediately.

THERAPEUTIC SOPHISTRY.—From an aggressive article on Antipyretics (St. Louis Clinique, April, 1893) by Dr. S. S. Wallian, of New York, the following is copied: The bulk of standard medical literature (more from tradition and mere habit than from real belief, or a sense of propriety), is based on the ancient and mythological assumption that disease is an individual entity, a vague something endowed with relentless malice, with power and volition, so that it can attack and may be attacked, be aggravated and appeased, can vanish and be vanquished. In other words, judging by the current phraseology of medical writing, disease, like the now nearly obsolete idea of the devil, is a sort of pathological lion, forever roaring in the frightened ears of mankind and seeking whom he may devour. This conception of the nature of disease, not now literally adopted by any intelligent mind, like the theory of a personal devil, was born of the same superstition which gave us all the various systems of mythology; and while we practically ignore and discard it, our literature is still permeated by its wierd and meaningless phraseology, and has led us into a very labyrinth of therapeutic sophistry.

ELEVENTH INTERNATIONAL MEDICAL CONGRESS, Rome, Italy, September 24 to October 1, 1893.—It is announced that the North German Lloyd Steamship Company offers a reduction of 25 per cent, to physicians going to and coming from the Eleventh International Medical Congress on the steamer Werra, which is to sail from New York on August 5th and September 9th, and on the steamer Fulda, on August 19th. Both steamers sail to Genoa. The same reduction will be made for the return trips in October and November, on the same steamers, and for the Company’s Saturday (from Bremen, Sunday from Southampton) steamers.

The Hamburg-American Packet Company offers a reduction of 25 per cent., both going and coming, for all its steamers during the year 1893.

The Compagnie Generale Transatlantique offers the rates which are allowed French officers, that is, $65.50 for an $80 accommodation and $91.50 for a $120 accommodation.

THE PAN-AMERICAN MEDICAL CONGRESS.—The following information will interest our readers:

1. The first Pan-American Medical Congress will be opened under the presidency of Professor William Pepper, M.D., LL.D., president of the University of Pennsylvania, at Washington, on September 5th, and will adjourn on September 8, 1893.

2. The countries officially participating in the congress are restricted to the Argentine Republic, Bolivia, Brazil, British North America, British West Indies (including B. Honduras), Chile, the Dominican Republic, Honduras (Sp.), Mexico, Nicaragua, Paraguay, Peru, Salvador, Colombia, Costa Rica, Ecuador, Dominican Republic, Panama, some of the Spanish West Indies, the United States, Uruguay, Venezuela, the Danish, Dutch, and the French West Indies.

Distinguished representatives of the profession from other countries are expected to be present as guests and participate in the proceedings.

3. The general sessions will be held in number, one for opening and one for closing the congress being all that will be held, unless some necessity arises for a change in this particular. This arrangement will permit members to employ all of the time in the scientific work of the sections, which are as follows:


The evenings will be devoted entirely to social features, the detailed announcement of which will be made by the committee of arrangements.

4. Membership is limited to the members of the medical profession of the Western Hemisphere, including the West Indies and Hawaii, who shall either register at the meeting or shall serve the congress in the capacity of foreign officers. No membership fee will be accepted from any member residing outside the United States. The membership fee for residents of the United States is ten dollars. All registered members will receive a copy of the Transactions. Prominent students of the allied sciences will be cordially received as guests and as contributors to the proceedings upon invitation by the executive presidents of sections. Ladies’ tickets will be sold, and they will be entitled to registered members only and will entitle the holders to reduced fare and to admission to all entertainments. Physicians of the United States should register at once by remitting ten dollars to Dr. A. M. Owen, treasurer, Evansville, Indiana.
The author of this book (noticed in the April number of the American Therapist) has brought together a large amount of information which is highly interesting, and has presented it with so much skill and force, as, on a first reading, to pre-dispose one to accept it without question.

The theory, itself, is not quite new. It was suggested in a crude form some centuries ago, and in recent times was ably presented by Liebig, lacking some important particulars which additional knowledge has made available. The author claims that his theory differs from that of Liebig, not only in the conception of the nature of ferments, but also in the philosophy of their action (p. 5).

On "the physical theory," molecular vibrations, of a purely physical kind, do the work at present attributed to the vital activity of the living and growing cells of the various organized ferments, including bacteria. Just as different kinds of complicated machines perform different kinds of work, which will vary with the construction of the machine, so "the character of the work which a bacterium can do depends on the arrangement of its invisible parts, as that of the machine does on the arrangement of its visible parts."

And just as "the sun gets its force from the atomic and molecular vibrations of its component parts," so "the bacteria cells obtain their force or energy from the same universal source, atomic and molecular vibrations, which they derived in part from the light and heat of the sun" (p. 63).

Furthermore, "the distinctive energy on waves of a cell, say a yeast-cell, can influence those substances only whose waves bear a certain relationship to those of the yeast-cell; they must be equal in their periods, direction, and perhaps in other characteristics, before those on one side can influence those on the other. The nature of this influence will again depend on whether the two sets of waves coincide in trough and crest. If they do, the waves will supplement each other and their amplitude will be enlarged, if they do not, they will antagonize each other and their amplitude will be diminished, or it may be, the waves will be destroyed by mutual antagonisms: it will be remembered that all this actually occurs in waves of sound, of light, and of water, and if analogy has any merit, it can also occur in waves of molecular energy" (p. 64).

The reader will please notice the particular necessity for the equality of the wave periods, "before those on one side can influence those on the other"; the importance of which will by and by appear.

Coming now to the practical application of this theory, we are told that in the case of alcoholic fermentation (which may serve as a type of the acetic, lactic and other fermentations), when yeast and grape sugar are brought together in the fermentable solution, "the waves of the yeast falling many million times in a
second upon those of the sugar molecules will increase the amplitude of these, which, in being driven back upon their atomic constituents will force the atoms further and further apart, until they will be finally forced beyond their chemical bonds and the sugar molecules will be disrupted, that is, they will be resolved into their atomic condition. It is evident that the liberated atoms cannot long remain in this free condition; chemical law will speedily force them into other combinations."

And now we find that the products of fermentation are derived from a re-combination of the atomic constituents of the fermentable substance which was disrupted by the molecular bombardment of the ferment. It is apparent that the ferment products which can form against this influence must have molecular waves that cannot be influenced by those of the ferment; for it is evident that the same influence—which continues to act—that disrupted the fermentable substance, will surely prevent the formation of another having equal vibrations. It follows, therefore, that the products must have waves which do not coincide in time with those of the ferments” (pp. 65–6.) (Italics mine). The same idea of a difference in the wave periods of the ferments and of the products is repeated on page 227.

All that is here predicated of the yeast-cell, in the alcoholic fermentation, applies equally to the bacterium and its "bombardment" of the albuminoids of the body to which it gains admittance: in this case the "products" are toxines, toxalbumins, and other poisonous substances, which are the etiological causes of infectious diseases. In this case, again, the molecular waves of the products must differ entirely from those of the bacterium, for the reasons stated in the foregoing quotation. The importance of this will presently appear.

It is well known, and an unquestioned fact, that the action of a ferment, whether yeast or bacterium, is arrested by an accumulation of the products of each. Thus the fermentable power of the yeast cell is put an end to as soon as twenty per cent. of alcohol is produced (Brunton). The reason assigned for this arrest, in both the case of yeast and of bacteria, on Pasteur's theory, now generally accepted, is, that the products in both cases become poisonous to the ferments, and so destroy their vitality, or at least arrest their activity, just as an animal will perish if confined in the carbonic acid and other excreta which itself produces (Brunton).

In order to account for this arrest on "the physical theory," our author assumes that the wave motions of the products interfere and inhibit the molecular vibrations of the ferments (p. 66): though, as the reader will see, on the principles laid down above, this is impossible.

We are told that these molecules vibrate with "periods as undeviating as those of the Moon and Mars" (p. 54): that the vibrations of the bombarding molecules must be absolutely equal "before they can influence each other"; and that the "products" can only re-form under conditions of wave motion essentially different from the waves which are bombarding them, and yet, here, when the exigency of the theory requires it, these unequal waves are made to do the work of equal waves, which on the author's own showing they cannot do; for in order that inhibition should occur, the crests of one set of waves must fall in the troughs of the opposing waves, and continue to do so—which waves of unequal length could not do. The explanation given is, therefore, inadequate, on the very conditions of the physical theory itself.

This theory fails to explain why the bacteria are uninfluenced by the bombardment of the albuminoids, while later on, they succumb under the less intense (p. 186) bombardment of the "products."

Again, in explanation of why, after the bacteria are inhibited, the toxic products do not continue to excite specific disease, we are told, that the toxic products influence the wave motions of the adjacent (normal) albuminoids, so as to
change, without disrupting, their molecular grouping: "a corresponding change in its wave motions would result as a consequence, and, in this case the albuminoid would be no longer vulnerable to the molecular bombardment of the bacterium, that is, it would become immense from this bacterium, and the disease would be arrested" (p. 234).

Here it is assumed that the toxic products and the as yet healthy albuminoids have similar wave periods, otherwise they could not influence each other, on the physical theory. But this assumption is untenable, as a little consideration will show. The wave motions of the new albuminoids thus secondarily brought upon the scene would naturally correspond to the wave motions of the original albuminoids which were disrupted, and could not correspond to the new and different wave motions of the products which were re-formed after that disruption. Consequently on the principles of the theory the wave motions of these products must be important to influence the new albuminoids, and the theory again fails.

Some other considerations present themselves here. We read, that "the energy of a ferment is derived from the construction and motion of its molecules" (p. 49). "The same kind of molecules have the same set periods of vibration" (p. 54). And again, "the molecular waves which give a substance its energy will vary with molecular grouping" (p. 61).

From this it follows, as a legitimate induction, that substances having similar vibratory wave-periods have similar molecular constituents, similarly arranged. Then yeast-cells and sugar molecules, and also bacteria and albuminoids, have the same structure and composition, which necessarily follows on the physical theory, because they have vibratory waves of equal periods. Now the chemical composition of bacteria, as given by Nencki, in the "Bacteriological World" 1891, p. 270, is chiefly made up of the following parts to the hundred: a nitrogenous body 84.20, fat 6.04, ash 4.72, undetermined 5.04. The nitrogenous body is made up of carbon 52.32, hydrogen 7.55, nitrogen 14.75. The average composition of albuminoids comprises about the same proportions of carbon, hydrogen and nitrogen, with the addition of about 22 parts of oxygen and one of sulphur (which latter are wholly wanting in bacteria). (Hand Book Phys. Lab. B. Anderson, p. 421).

This is quite a sufficiently substantial difference to preclude an identity of atomic and molecular composition; between pathogenic bacteria and albuminoids, and as a consequence, on the principle laid down, one has no right to assume that they have wave-periods of equal vibration, as is done on the physical theory.

Of course, in a purely hypothetical scheme, the processes of which are necessarily beyond the reach of actual demonstration, the atoms and molecules can be made to vibrate at will. We have just seen how they are made to respond to the exigencies of "the physical theory" of fermentation, etc. A very different rôle is assigned to them in Lockyer's "Studies in Spectrum Analysis" (pp. 116, 117, etc.), as quoted from Professor Clerk-Maxwell's "Theory of Heat," where the molecules are made to "encounter" each other, in a manner "compared to the collision of two billiard balls," as a result of which "each molecule has its course changed and starts on a new path. . . . If the interval between the encounters is long, the molecule may have used up its vibrations before the second encounter, and may not vibrate at all for a certain time previous to it." From this we learn that for some other purposes the atoms and molecules do not display in their vibratory motion the regularity of "the Moon and Mars," as they are said to do in the case of fermentation and infection. The why and wherefore of this must be left to the physicists to determine.

(To be continued.)

Lindsay, Ontario, Canada.
KAVA KAVA IN GONORRHEA.

By John E. Bacon, M.D.

The root of the Piper methysticum, a plant indigenous to some parts of South America, the Sandwich Islands, and the islands of the Polynesian group, is known variously as kava, kava kava, and avakava. It has been known for many years by the natives of these countries as the basis of a drink known as "kava," which is used as a beverage and produces a kind of intoxication. The employment of this drink is said to enable them to endure long marches and hard work without fatigue, and it is used for that purpose as the decoction of coca leaves is used by the natives of Peru. It is also extensively used in the treatment of gonorrhea.

According to Professor H. C. Wood it contains a crystalline principle, called by its discoverer, M. Gobleyn, *methysticin*; also an acrid resin which has been called *kawin*. These preparations are not kept in stock by reliable drug-houses generally, and therefore their physiological actions have not been much studied by the ordinary observer. In my limited investigations on the subject I have used the fluid extract, and a solid extract made by evaporating the fluid extract to dryness over the water-bath and alcohol flame, exhausting the residue with pure alcohol. The latter preparation is the only one used for hypodermic administration.

I have studied the physiological action of the drug upon the healthy subject in two instances—myself and a friend. The first effect of a full dose of the fluid extract is a pronounced anesthesia of the tongue and mucous membrane of the mouth and throat, lasting ordinarily about one hour. No irritation of these structures is produced by the fluid extract in any dose, but the solid extract brought in contact with a mucous membrane causes considerable pain, followed, after a time, by complete loss of sensibility, which persists for a period varying from twelve hours to three days, depending upon the extent of surface involved. This effect is probably produced by the resinous principle above referred to, as according to Professor Wood the experiments of Dr. Lewin, of Berlin, with the resin produced the same results. According to the same author the phenomena are due to paralysis of the peripheral endings of the sensory nerves. The effect of contact and of injection into the subcutaneous cellular tissue appears to be identical. No other local effect is noted from moderate doses. I believe the effect upon the urethra to be similar to the anesthesia noticed in the mouth, as I have frequently passed the steel sound on patients taking the drug, when they would remark that the operation was nearly painless, which indicates that it is eliminated by the kidneys unchanged. The injection of a solution of the alcoholic extract into or under the skin is followed by severe pain at the point of injection, persisting for about an hour; there is a slight degree of inflammation set up, denoted by a bright red zone surrounding the puncture. This may be due to impurities in the preparation used which might be eliminated by the chemist, but the pain is probably due to the action of the drug upon the peripheral sensory nerves prior to paralysis, and would prevent the principle from ever coming into use as a local anesthetic, although the fact that complete anesthesia of an area corresponding to the zone of redness occurs after the pain and lasts for at least twenty-four hours, would render it superior to cocaine for minor surgery if the primary pain could be prevented.

The effect of therapeutic doses of the fluid extract (½ to 1 drachm every four hours) upon the circulation appears to be slightly stimulant, an increase in both force and frequency of the pulse being constantly observed, with no appreciable variation of temperature. Doses of one-half fluid ounce of the fluid extract every four hours are followed by a marked fall of temperature. I have observed it as low as 97.5°F. after four doses—associated with
decrease in force and frequency of the pulse. One subject to whom six drachms was given at a single dose exhibited for eight hours thereafter the following symptoms: Temperature, 97.6° F.; pulse 66, small, soft and regular; disinclination to walk, talk, or move; complained also of being very tired; pupils slightly dilated; speech guttural, with cold, alkaline perspiration; mentality evidently impaired. He passed in twelve hours 58 ounces of pale, odorless urine, specific gravity, 1.006, and strongly alkaline in reaction, showing slight albumin-ring by the HNO, test. These symptoms gradually passed off, but marked diuresis continued for thirty-six hours, during which time 138 ounces of urine was passed. They seem to be mainly accounted for by the conclusion arrived at by Lewin, that in sufficient doses the drug is a direct depressant to the motor side of the cord, except the diuresis which, considering the fall of blood-pressure, I cannot account for, unless upon the theory of direct selective action upon the renal epithelium.

The effect of the therapeutic doses upon the kidneys is constant, causing an increase in the amount of urine and a diminished specific gravity. The amount of urine averages 80 ounces in the twenty-four hours, and the specific gravity will average 1.012. The urine will become alkaline after three or four doses; albumin cannot be detected, in cases free from pus, unless the daily amount of the fluid extract given exceeds one ounce. I have not observed evidence of any action of the drug upon the bowels.

The chief indication for the use of this drug appears to be in gonorrhea, though I have used it combined with an equal part of fluid extract of corn-silk in acute nephritis (one case), with apparent benefit, and also with fluid extract of saw palmetto in a few cases of cystitis depending on enlarged and irritable prostate.

The following conclusions regarding its value in gonorrhea are based upon observations of 82 consecutive cases occurring in the practice of my colleague, Dr. Barton Brown, and myself. Kava kava may be given in any stage of the disease. It will at once render the urine alkaline and promote diuresis, thereby relieving the most annoying symptoms of aror urine, scalding and painful micturition, and by its anesthetic effect lessening pain and irritation. If its use be persisted in, it will control and cure an ordinary case in from fifteen to thirty days without recourse to any topical treatment. I believe it does this by controlling the symptoms and by a certain antiseptic action due to its intense alkalinity. The method of using it may be best illustrated by the report of a typical case.

Case I. E. H., American, age 23, unmarr ied, previous history negative. Present trouble began same day he visited my office, when he complained of smarting in the glans penis, frequent urination attended with much pain. Examination revealed a red, puffy glans with slight eversion of the meatus; slight pressure along the urethra expelled a drop of secretion of a dark, milky consistence and color. He admitted having had connection five days previously. Diagnosis, gonorrhea.

Treatment. Gave the usual restrictions as to diet and cleanliness and the following prescriptions:

R. Ext. kava kava..... f5 iv.
Sig. Two teaspoonfuls in half glass of water four times a day.

R. Potass. permanganas......gr. 1.
Acidi boricii...............3 i.
Aquae dest................f5 viii.
M. Sig. Use as an injection three times a day, after urinating.

Patient reported four days afterward that he was entirely cured, as indeed he was, but I ordered him to take the medicine for at least one week, which he did. This method of using the drug is only to be adopted in cases which are seen in the beginning, as they are the only ones that can be cured with such speed.

Case II. F. R. Hebrew, age 26, history of intercourse two weeks previous. Began with the usual symptoms one week
before consulting me. Examination revealed a very dirty organ, the glans being much swollen and eroded by the profuse acid discharge. Treatment was begun by ordering a bath and absolute cleanliness, restricted diet, and the following prescriptions:

R. Ext. kava kava..............f3 iv.
Sig. Thirty drops in water six times a day, to be increased five drops each day to sixty drops.
R. Acidi borici................... dr. i.
   Aqua dest....................f3 viii.
M. Sig. Injection; use freely.

This case reported at the end of a week that there was little pain on urinating; had to urinate less frequently, and had little trouble, except occasionally chordee at night. I continued the above, adding the following prescription:

R. Pulv. opii.................. gr. ix.
   Ext. hyoscyami........... gr. vi.
   Pulv. camphoraee........ gr. xii.
   Ol. Theobrom................ q. s.
M. Fiant suppos. no. vi. Sig. Use one each night at bedtime.

One week later he reported himself as nearly well; no further trouble from chordee, discharge diminished over one-half, very little irritation about the meatus, and feels generally well. One week more of the same treatment sufficed to effect a complete cure.

These cases are fair samples of the way the drug has acted in our hands, and we have come to rely on it in the treatment of this disease, always giving it in large doses in the beginning of the disease with the usual effect of cutting short the course of the trouble about two weeks. When the disease is well established before we see the case, we rely on smaller but more continuous doses, as illustrated by case II. We rarely fail to cure the ordinary cases within one month, and usually within three weeks. Some cases require the use of astringent injections toward the close, but the majority of them get well with no further topical treatment than the boric acid lotion, which is used with the idea of cleanliness more than for any real virtue of the drug. In our experience stricture very rarely follows an attack managed in this manner, and never unless the patient has had the disease more than once.

Out of eighty-two cases five have failed to respond at all to kava kava, and in these cases the urine remained acid in spite of large doses that finally brought about the constitutional symptoms before described. We cannot ascribe any reason for this, as they yielded to the copaiba and cubebes treatment after the kava kava was withdrawn. Failure was probably due to some idiosyncrasy that may exist in about that proportion of cases.

Wellsboro, Penn.

A SUMMARY OF ELECTRO-THERAPEUTIC WORK IN A PRIVATE HOSPITAL.*

By G. Betton Massey, M. D.

The recent growth of private hospitals devoted to abdominal surgery and other operative procedures, deserves attention as indicative of an increased appreciation on the part of the profession of the responsibilities of its work. These numerous institutions have risen in response to a real need. The conscientious surgeon is no longer content to subject his patient and his reputation to results necessarily attending operations in offices, private houses, hotels, and public hospitals, the latter primarily intended for the alleviation of the poor. A refinement of technique that would insure the best results, required the creation of a machine adapted to the highest quality of work. It is not a little surprising that this most ordinary provision of a proper means for effective work in relieving and curing human suffering should have been so long neglected by the medical profession, while the meanest trades that minister to the wants and vanities of the race have been housed in light and airy apartments, specially arranged for their proper and convenient prosecution.

* Read before the Philadelphia County Medical Society April 26, 1893.
The private hospitals for major operations have come and have justified themselves. An extension of this sensible idea now presses upon the profession. If major surgery and the surgery of last resort needs this environment for its success, why should we neglect to supply analogous armaments to the work of curing diseases by conservative means?

There is, in fact, a double reason for such establishments, for the re-enforce- and enlargement of our power to actually cure diseased organs not only lead to greater success in such high work, but lessen also our need to resort to the cruder methods of amputation and removal of parts of the human body yet capable of restoration to health.

An establishment thus devoted to the highest development of the possibilities of electricity and allied agencies in medicine and surgery has, therefore, a reason for being in the mere fact that to be well equipped is an important part of the battle in any special line of medical study and art. It has also a reason for existence, more peculiar to itself, in the fact that the principal remedy in its equipment is itself in a transition state, and yet but imperfectly understood. To understand and apply in the most successful manner what is already known of the remedy requires technical knowledge of no mean extent, costly apparatus, and particular facilities; and when the extension of our knowledge of the agent is also considered, the value of enlarged facilities is even more evident. It is true that many of the uses of electricity in medicine may be prescribed and applied by a physician without an extensive knowledge of the agent, just as he prescribes a ready-made pill, but the highest possibilities of the advancement of therapeutic knowledge in this way are as impossible as that a mere user of the telephone could have done Edison's work.

Such were the considerations that determined the establishment of a private hospital for the development of electrotherapeutics in this city, and the cordial coöperation in the work by many members of the profession has already enabled me to present a brief summary of the results accomplished.

A variety of cases have been under treatment, in the majority of which electricity has formed the principal therapeutic agent, though a not inconsiderable number have received electrical applications as a secondary part of the treatment; rest, massage, regulated exercise, and internal medication being associated with them.

**Fibroid Tumors of the Uterus.**

Twenty cases of myofibromata of the uterus were admitted, presenting many variations of the affection. Of the twenty cases, fifteen were of the ordinary solid varieties, to which the Apostoli method is now generally regarded as applicable.

The results attained in these fifteen cases of solid interstitial and sub-peritoneal growths were as follows: No further growth occurred in any, and a complete symptomatic cure was obtained in each. Of the fifteen tumors thus symptomatically cured, two were also anatomically cured, the growths disappearing entirely in each; ten were greatly reduced in size; two slightly reduced in size, both being still under treatment; and one was not affected as to size.

The five remaining cases were all intra-uterine growths, two being solid polypi with small pedicles. The latter were brought into the vagina by the use of faradic currents and ergot and removed by torsion and division, after which the cavity of the uterus was treated by intra-uterine galvanic currents to prevent the development of other nuclei. Three cases were cystic intra-uterine growths of the most formidable kind described. It is well known at present that cystic growths, as a rule, are not amenable to electricity, and after attempting relief by external methods in one of these, a lack of success caused me to refer it to a surgeon. The second intra-uterine cystic growth, forming a tumor as large as an adult head, having been re-
ferred to me by a prominent surgeon, was treated by the intra-uterine method with unfortunate results, owing to a failure to maintain asepsis. Death occurred from septicemia two weeks after admission into the private hospital, as elsewhere reported, the sepsis having been received during office practice.

The third intra-uterine cystic tumor, and the final one of this list, was almost an exact counterpart of this fatal case, though the spongy intra-uterine mass was vascular. This lady was sent to me by a surgeon who recognized the difficulties attending hysterectomy with a wildly dilated cervix, even if she had consented to the operation. After mature deliberation and attempts to enucleate piecemeal, which were desisted from owing to frightful hemorrhage, I decided to apply strong necrosing currents (from 400 to 600 millampères) directly to the presenting portions of the mass at the external and internal os, being convinced of my ability to maintain a reasonably aseptic condition by continuous irrigation, a suggestion which I owe to Dr. Slocum. These currents, applied after the bi-polar methods, practically dissolve tissues in the immediate path of the current, and produce a coagulated condition of living tissue at the periphery of the destroyed part, that in itself is a bar to septic absorption for a time. Under this treatment the whole tumor was gradually removed, without a drop of blood, as a rule, and at the present time the uterus is almost normal in size.

Reserving an opinion on the future of electricity in cystic growths of the uterus, it will be seen that these statistics do even more than corroborate Apostoli’s claims, for in at least two of the cured cases the tumors disappeared completely by absorption.

**Chronic Metritis.**

In spite of the prevalent impression that chronic catarrhal metritis is a rare disease and relatively unimportant as compared with inflammatory conditions of the appendix, eight cases admitted into the institution were diagnosed as suffering primarily from this affection. In seven of these the diagnosis was corroborated by the therapeutic evidence of relief of symptoms and restoration of health after cure of the local disease of the uterus. Each of these cases of cured metritis, and one case not relieved, with a single exception, showed a general impairment of the health amounting in some cases to pronounced nervous prostration, and in the treatment employed the disturbance of the nervous system received ample recognition. Mere office treatment with electricity would doubtless have been unavailing in such cases. The nervous symptoms demanded their share of attention; yet had not a gynecological electrical treatment been associated with the rest, massage, and general electricity, a failure to relieve would have been equally certain. This class of cases is a continual reminder of the need of the practical association of a gynecological and neurological training in the worker in the diseases of women. The physical and the nervous woman are joined by Nature in both health and disease, and no mere nosological classification will separate what Nature has thus joined together.

Two of these cases were samples of that unfortunately increasing number of women whose relatively normal ovaries have been removed for what was really uterine disease, and I regret to say that the only instance of failure to attain a practical cure was in one of these. A persistent uterine leucorrhoea had continued in this case two years after removal of both ovaries. The discharge was purulent, and emitted an odor so unusually offensive, though unlike that from carcinoma, that I suspected its origin to be an infected ligation at the uterine end of one of the cut tubes.

**Neurasthenia, Hysteria, and Nervous Prostration.**

Seventeen cases of the allied affections of neurasthenia, hysteria, and nervous
prostration were admitted to the institution, and in their treatment electricity was made to take a more important rôle than is usually given it.

Recognizing the self-evident fact that nutritive disorders play an important part in the pathology of these affections, and that in some of them the real affection is an auto-intoxication of the system from imperfect action of the organs of digestion, assimilation, and excretion, these organs and their controlling nerve plexuses were subjected to the actions of galvanic currents of an ampèreage hitherto unused in such methods. The results have proven the great value of this modification of the rest treatment, rendering cases amenable to it that were failures under the severe stress of mere enforced rest, seclusion, and massage. Experience has dictated also that the faradic current usually employed in these cases as a general muscular and sensory stimulant is best replaced by the galvanic current applied with a large flexible pad as active electrode, well soaped to render its labile action agreeable. The surface reaction is far greater than that possible in the usual faradic method, and to this is added a stimulation of deeper structures by direct chemical changes that is possible only with this current.

Perimetric Inflammation.

Two cases of perimetric inflammatory deposits associated with the adhesions of old pelvic peritonitis were admitted and treated mainly by the vagino-abdominal method. The most successful result was attained in the case in which the cataphoretic transmission of potassium iodide through the parts was used in connection with the current, old adhesions being loosened, and painful cellular deposits and enlarged tubes rendered painless and reduced in size. The addition of a resolvent agent so well known as iodine to the absorbent action of the galvanic current cannot be other than extremely valuable in this class of work.

Malignant Growths.

Two cases of sarcoma of the fundus uteri were under treatment for a time, without results that amounted to more than moderate palliation. If electricity has a field of usefulness in carcinoma, it is only when the seat of disease can be more readily reached, as in such cases as cancer of the cervix. An experience gained elsewhere convinces me that the palliative effects of electricity in cancerous conditions of the cervix are very valuable, and that they may be curative when the disease is still distinctly local.

Desquamative Enteritis.

Three cases admitted into the institution suffering from prostration and chronic invalidism, supposed to be due to disease of the uterus and ovaries, proved to be instances of desquamative enteritis. One of these had been treated for fifteen years for ovarian disease by one of the most prominent practitioners in the country, without the true nature of the disease being suspected, and another had been mistakenly diagnosed and treated for five years. A study and examination of the stools, which is invariably made in obscure cases, revealed the true character of the trouble—a chronic desquamative inflammation of some portion of the intestinal tract, usually the colon.

In one of these a pulsating tumor lay in the left hypochondriac region, doubtless consisting of thickened membrane and enlarged glands lying over the abdominal aorta. In another case the pulsation was also manifest, and all the cases were bronzed to a varied degree. One was discharged much improved by a treatment consisting of the nitro-hydrochloric acid, arsenic, external galvanic currents, and regulation of the diet, and two cases are improving under treatment of a similar character.

My experience in this affection has convinced me that many cases remain undiagnosed by physicians who neglect to avail themselves of the signal aid given in
obscure chronic diseases by systematic examination of the alvine discharges.

Miscellaneous.

Other cases admitted presented instances of ovaritis, menorrhagia, chlorosis, pernicious anaemia, obstruction of the bowels, meningitis, chorea, multiple neuritis, muscular-spiral spasms, hemiplegia, locomotor ataxia, etc., in some of which excellent results were obtained; but as the number of each was limited, no general deductions from them will be presented at the present time.

212 S. 15th St., Philadelphia.

PERISCOPE OF THERAPEUTICS.

By J. Lindsay Porteous, M.D., F. R. C. S., Ed.

Treatment of Influenzal Pneumonia.

Huchard (Sem. Med., Feb'y 13, 1893) recommends the prescription of digitalis at an early date in the treatment of this form of disease. He recommends its early use and not to delay until the heart shows signs of failure. He prefers digitaline. He uses a solution of crystallized digitaline in water (1 to 1,000); of this solution he gives a single dose of forty or fifty drops, containing about 1-65 grain. He considers it useless to give the drug in repeated doses at short intervals, as the action is equally well obtained and maintained by a single large dose. The only food given is milk, which he believes favors the action of the drug. He gives no medicine the day after this dose of digitaline is given, unless cardiac adynamia is very profound. Then he gives subcutaneous injections of caffeine, ether or camphor. The solution for subcutaneous use is thus composed: Sterilized olive oil, 100 parts; camphor, 10 parts. Give the injection two to four times a day. If necessary, the digitaline may be given for seven or eight days, but the dose should be reduced to twenty or thirty drops.

Huchard believes in rendering the mouth and intestinal canal aseptic. For the former, he uses a solution of bichloride, but suggests that oxygenated water would be equally effective. The washings should be frequently repeated to prevent secondary infection of the air-passages. For intestinal antisepsis he prefers benzo-naphthol, given in capsule four or five times a day. If the asthenia continues in spite of ether, camphor or caffeine, he prescribes subcutaneous injections of strychnine sulphate, in doses of 1-30 to 1-60 of a grain. In all cases of influenzal pneumonia, he gives from one to two drachms of tincture of kola and tincture of cocoa, equal parts daily.

Petroleum in Diphtheria.

Flahant (Normandie Med., No. 3, 1893) gives particulars of an epidemic of diphtheria at Neuville-Champ-d'Oissel, in 1891—92, in the course of which seventy persons were attacked. He treated thirty cases by the common methods with the result that nine died and twenty-one recovered. These cases were treated between April 15, 1891, and May 5, 1892. From the latter date until June 5, 1892, he treated forty cases with petroleum without a single death. There was no mistake in the diagnosis.

There is neither difficulty nor risk in the treatment. The throat should be painted every hour or every two hours with a brush steeped in crude petroleum. Shake the brush gently before using it, so that there may be no excess of liquid to trickle into the respiratory passages. There is no pain, even when the mucous surface is raw and bleeding. Immediately after the application, the membranes separate and dissolve. A fortnight after the adoption of the method the epidemic ceased.

Alummol and Diaphtherin in Disease of the Nose and Throat.

Spengler (Münch. med. Wochenschr., No. 13, 1893) used a 5 per cent. solution of alummol in eight cases of pharyngitis. Two were acute and six chronic, four of the latter being pharyngitis sicca compli-
cated with rhinitis atrophicans and ozena, and in all these the solution proved most advantageous. It showed equally good results with a 1 to 2 per cent. solution of zinc chloride, with the advantage of being less unpleasant to the patient. It proved of little use in two obstinate cases of empyema of the antrum, but diaphtherin in solution of one half to 1 per cent. was employed with most satisfactory results.

Diaphtherin is a yellow powder, easily soluble. It promises extraordinary antisepic properties, and is said to be most applicable in ozena and other affections of the nose and cavities. No unpleasant effects of any kind are thereby produced, and the author considers that diaphtherin will, after more experience, take a high place in rhinological practice.

The Local Treatment of Diphtheria.

Escherich (Wien. klin. Wochenschr. Nos. 7, 8, 9, and 10, 1893) discusses at length the ground afforded by bacteriology for believing that the local treatment of diphtheria is likely to be successful. He considers it established that the local application of disinfecting substances is the simplest and most efficient way of causing the disappearance of the diphtheria bacillus from the throat. Spraying is better than painting, as it gets to parts which are not visible where a patch may be. He uses a hand-ball atomizer, with a solution of 1 to 1,000 corrosive sublimate, at first every hour, then every two hours. The mouth ought also to be washed out frequently with a mild antisepic lotion, such as boric acid or thymol. In children, the patches are swabed with a sponge soaked in bichloride solution, by pressing against them with a twisting motion. This is done from three to eight times at each sitting with different sponges, one or two sittings each day. The sponge can be cleansed by soaking in bichloride solution and then boiling.

My own experience is the same, namely, that if a case of diphtheria is seen in time, topical treatment will invariably cure it. I believe that, at the outset, diphtheria is a local disease, and if the patches are destroyed as they form the blood will not be poisoned. I have treated eighteen consecutive cases entirely locally, not giving a single dose by the mouth. The solvent used consisted of calcii oxid., flor. sulphur. sol., benzo-boracic acid, olei eucalypti glob., olei gaultheriae, ext. pan-creatini, the preparation being known as Sulpho-calcine.

83 Warburton Ave., Yonkers, N. Y.

CELULAR-THERAPY.

Its Teachings in Respect to the Administration of Alteratives.

Fourth Paper.

By John Aulde, M. D.

In continuing the study of cellular-therapy it will be advisable to take cognizance of the therapeutic properties of some remedial agents whose effects upon the human organism are tolerably well understood by the general practitioner. The so-called alteratives include a group of remedies which exercise an important influence upon nutrition, and are recognized as efficient aids in modifying or removing disease. They include both organic and inorganic substances, but for our present purpose it will be sufficient to consider a single remedy, namely,

Mercury.

When the salts of mercury are taken into the system, either in small or large doses, in the absence of idiosyncrasy, we may with some degree of accuracy estimate the effects that will naturally follow. Whether these salts are soluble or insoluble in the usual menstrua makes but little difference, provided the drug has been subjected to thorough trituration. More or less irritation follows ingestion and this action will manifest itself in various directions, depending upon the condition of the system and the disease present. Thus,
corrosive sublimate will prove effective in the treatment of dysentery with bloody stools as well as in diphtheria, but it would scarcely be tenable to assume that corrosive sublimate had no effect as an irritant upon the lower bowel while rendering service in diphtheria. Nor, on the other hand, is the mucous membrane of the buccal cavity free from mercurial influence when the drug is administered for the relief of dysentery.

In the first place, then, we must bear in mind that mercury is a foreign substance, and when introduced into the system acts as a poison, this toxic action appearing at the points of elimination. Whether mercurials are distributed throughout the system as albuminates or oxy-albuminates, or whether new salts are formed, they enact the role of protoplasmic poisons. Salivation with fetor of the breath is not altogether local, but on the contrary, is the result of constitutional disturbance—indicated by fever—brought to the surface by the ordinary channels of excretion. That this is true may be inferred from the fact that small doses can be taken for long periods without any local manifestations, and this too, with most gratifying improvement in all cases where there are distinct indications for the employment of mercury.

It is evident, therefore, that the mercurials, like many other remedies, are distributed in such a manner that they affect the nutrition of the protoplasmic cells; when administered in substantial doses the functions of these bodies, at first stimulated, are later modified or arrested altogether, and as a result we have the breaking down and destruction of tissues most intimately concerned in elimination. The structures are altered, and from this standpoint the name alterative is expressive; but modern therapeutics is concerned in limiting this action to that of mild stimulation, and the questions connected with the exhibition of mercury for this purpose come properly within the province of cellular-therapy.

Suppose we have to deal with a simple or non-infectious sore throat, such as not infrequently occurs in connection with some derangement of the stomach, although apparently superinduced by exposure to cold. In nearly all these cases there is a primary hepatic derangement, and local treatment is of little practical value; the same is true of treatment directed to the condition of the stomach. The expression "non-infectious sore throat" does not imply absence of septic products, but rather the absence of pathogenic micro-organisms, and, therefore, freedom from constitutional invasion. These cases may frequently be relieved in the course of a few hours—in case there is no marked acceleration of the pulse—by the judicious employment of mercury biniodide, a mercurial salt which is almost insoluble in the ordinary menstrua—unless thoroughly triturated. The dose should be small, say, gr. 1/500 to gr. 1/100, but to be most efficacious the remedy must be dissolved in the mouth. We thus obtain the local antiseptic action and the constitutional effect as well.

To understand the effect upon the general metabolism it will be necessary to follow the course of the medicament from the point of absorption until elimination is effected. I will not at this time take account of the iodine combined with the mercury, further than to hint that the insolubility of the product is sometimes advantageous, since it does not favor rapid absorption; and further, the formation of albuminate of mercury is postponed, which is not the case when the bichloride is administered. In any event, with this salt we obtain maximum therapeutic effects with a minimum dosage, and thus lessen irritation; that is, we avoid over-stimulation and subsequent depression of the vital functions.

When the mercurial in a finely divided state is brought into contact with the saliva, of course absorption takes place through the mechanism afforded by the epithelial covering. It doubtless finds its
way into the blood as well as the lymph-vascular system. In the lymph spaces the mercurial is directly in contact with the protoplasm; it is so intimately associated with the nutritive pabulum that it is practically impossible for the cells to avoid taking up small portions, which in turn gives rise to more or less irritation (stimulation as usually taught), and as a consequence, extra efforts are put forth on the part of the cells to discharge waste (catabolic) products. The conservative processes of nature are intended to promote elimination, and like other foreign substances and waste products, mercury follows the usual channels. Some portion is excreted through the skin, where an irritation or stimulation is produced upon the cell structure, thus furnishing a scientific explanation of the clinical applications of the drug in this class of cases. The therapeutic value of mercury in skin diseases is not, however, due solely to its local action, but to a very considerable extent to the increased oxidation which attends its constitutional action.

The same mercurial also finds an outlet through the kidneys, probably through the epithelium lining the convoluted tubules, which are supposed to excrete principally the urinary solids. The drug also reaches the liver, stimulates the hepatic cells to greater activity in much the same manner as the protoplasmic cells are stimulated, and along with the bile is poured into the small intestine. Passing along this channel to the large intestine, that which is not reabsorbed is discharged with the stools. Elimination is doubtless effected, at least to some extent through the intestinal mucous membrane, which affords a clue to its value in dysentery. Absorption and elimination occur simultaneously along the intestinal tract, and the stimulant action of the drug is therefore more or less constant.

The same process is constantly going on elsewhere through other mucous structures. In the case stated, for example, even while absorption takes place through the mucous membrane of the buccal cavity, elimination is also active, and this is again renewed in the usual manner when constitutional elimination begins. So it is evident that in both cases, throat affections and dysentery, medication is direct as well as indirect, and the success or failure in our efforts must depend upon our ability to regulate and maintain the integrity of the cell-function. This is what we are to understand by cellular-therapy—a therapeusis which is based upon a knowledge of the vital properties and functions of the cell and its behavior in the presence of drugs both in health and disease.

The foregoing embraces a brief epitome of our present knowledge concerning the absorption and elimination of mercurials, together with a plausible explanation of their therapeutic virtues through a stimulating action upon the living cell. It is sufficient as a working hypothesis, although it adds nothing to our common stock of knowledge in respect to the molecular changes produced by the mere presence of mercury. We know that its administration is followed by effects that are tolerably certain, and that it is curative in a large number of diseased conditions, although not a specific in any disease.

It is most useful in those disorders affecting especially the structures by which it is eliminated, the mucous membranes, the liver, the kidneys and the skin, because we obtain what might be termed direct benefits. The indirect, or physiological benefits ensue in many diseases where no special indications for the drug are present, and when given under proper restrictions there is probably no single remedy which possesses a wider range of application. That it has done much harm cannot be denied, but it is, nevertheless, potent for good.

Philadelphia.

Valzin, a Rival of Saccharin.—A new substance called valzin is now being manufactured in Berlin under a patent, and it is claimed to be 200 times sweeter than sugar, and free from certain objectionable properties of saccharin.
Clinical Record.

Translations from the French.

Creasotal in Tuberculosis.

Brissonnet (Rep. de Pharm., Feb'y 10, 1893) reports that by acting upon creasote with carbonic acid, a neutral body is produced with a bland, oily taste, without odor; it is non-irritating to mucous membranes and capable of being absorbed in large doses without disturbing the stomach. This new body, to which Brissonnet has given the name of creasotal,* is as active as an equal weight of creasote. Creasotal is a viscid liquid at the ordinary temperature, but becomes quite fluid under the influence of even a moderate amount of heat. Its specific gravity at 15° C., is 1.165; it is insoluble in water, glycerin and weak alcohol, but soluble in all proportions in alcohol at 95°, ether, chloroform, and benzine. It does not disturb the digestive functions, even in doses of ten, fifteen or twenty grams per diem. It is decomposed in the intestine into its components, creasote and carbonic acid, and creasote may be found in the urine half an hour after the ingestion of its carbonate. Creasotal has been used with success in the treatment of tuberculosis.

Alcoholic Ext. of Male-Fern in Eczema.

Lanara (Nouv. Remed., Jan'y 8, 1893) has employed successfully the alcoholic extract of male-fern in thirty cases of eczema (twenty-four chronic and six acute). Of these thirty cases, twenty-four were cured and six ameliorated. The duration of the treatment depended upon the gravity, the extent, and the chronicity of the affection; nevertheless, the author has obtained a cure in some chronic cases after but two weeks' treatment. He first washes the affected part once in twenty-four hours with green soap, and having removed the crusts (chronic eczema), he bathes twice daily the affected portion with the following mixture: Alcoholic extract of male-fern, 30 grams; alcohol, 15 grams; extract of myrrh and pure extract of opium, each 4 grams. In a few days the affected parts become more healthy in appearance, and no relapses are reported.

Benzo-naphthol in the Gastro-Enteritis of Infants.

Brück (Sem. Med., Dec. 1892) gives the daily dose of benzo-naphthol for infants as follows: Up to the sixth month, 20 to 50 centigrams; from the seventh to the twelfth month, 60 to 80 centigrams; from one to three years, 1 gram; from four to seven years 1.5 grams; from eight to fourteen years, 2 grams. The daily dose must be divided into five portions.

The therapeutic effects of the drug thus administered, have been remarkably good. It has been employed with success in acute and chronic enteritis, gastro-enteritis, dysentery, catarrh of the stomach and even tubercular enteritis. Under the influence of benzo-naphthol the stools become almost inodorous, and at the same time all the morbid phenomena due to the absorption of putrid substances disappear. In the acute cases, the fever rapidly falls, even when due to tuberculosis, where also, at least temporarily, the symptoms are ameliorated and an improvement in the general condition of the patient is noted. The therapeutic action of the drug is manifested generally at the end of four or five days. Brück has also noticed a diuretic action under the exhibition of benzo-naphthol.

Benzo-Paracresol.

Petit (L' Bull. Med., Feb'y 15, 1893) calls attention to several new drugs, to be mentioned. Benzo-paracresol is an analogue of benzo-naphthol and of benzosol, and appears to have an antiseptic action more marked in proportion as the cresols are more active than phenol. It is prepared by the action of sodium benzoate upon para-cresol in the presence of oxychloride of phosphorus. The product thus

* [This utility name is quite superfluous, as the product is legitimately designated much more intelligibly as Creasote carbonate.—Ed.]
obtained is made to crystallize from alcohol. It occurs in the form of beautiful crystals with a marked ethereal odor, and a fusing point at from 70° to 71° C. It is very soluble in ether, but insoluble in both chloroform and water. Alcohol at 95° dissolves about four to twenty per cent.

**Resorcygalgin.**

When B. resorcylic acid is mixed with analgesin it forms a precipitate slightly soluble in water, readily soluble in alcohol. It is strongly acid and forms soluble salts with alkaline bases (resorcinalginites). This is one of the remedies brought to the attention of the profession by Petit.

**Antispasmin.**

Petit also calls attention to a pretended combination of sodic narceine and sodium salicylate in the form of a powder or solution. This is not more soluble than the mixture of caustic potash and narceine prepared by Petit some years ago. The preparation may be used as an antispasmodic.

**Mercurial Antiseptics.**

Miquel (L’Année Méd., Feb’y 15, 1893) says that the bichloride of mercury, the favorite mercurial antiseptic, has attached to it the grave inconvenience of affecting the instruments to the detriment of its microbicidal action. Moreover, it easily coagulates the albuminoids and stains the mucous tissues. It has the advantage of being readily soluble in water. Miquel ranks it as fourth in the list of antiseptics. He regards mercury biniode as the most powerful antiseptic; its microbicidal action is triple that of the preceding. It does not coagulate albumen and affects less markedly the mucous membranes. Its coefficient of solubility is feeble, but may be increased by employing alcoholized water. Mixed with potassium iodide, a more stable solution may be obtained; thus, mercury biniode, 5; potassium iodide, 5; distilled water, 500 parts.

* [Analgesin is the French synonym for antipyrin.—Ed.]

**Mercury cyanide** is a very soluble salt (1 to 10 in cold water, and 1 to 2 in boiling water). It does not attack the instruments nor coagulate albuminoid substances, although it is regarded as eminently toxic. It is certain that it is rapidly absorbed and acts upon the cerebra-spinal system.

**Cancer of the Rectum.**

Dujardin-Beaumetz claims to obtain by the following medication better results in patients affected by cancer of the rectum than is obtained by surgical intervention. Each day an intestinal irrigation is practiced with a litre of water containing from 0.10 to 0.20 (gr. jss to iij) of naphthol. The patient should be on the back. At each meal is eaten one of the following cachets: Salol, benzo-naphthol and sodium bicarbonate, each 10 grams (5 ijs). Divide into 30 cachets. Vegetable alimentation is recommended, with little meat, especially gelatinous meats that have undergone a prolonged boiling. Laxatives are given when required.

Patients submitted to this treatment have gained in flesh, and have been able to continue to live as the rest of the world, which is impossible when they have undergone an operative procedure (L’Année Méd., Feb’y 15, 1893).

**Caffeine in Vasomotor Affections.**

The results obtained by Ferrara from studying the physiological and therapeutic action of caffeine, are as follows:

1. Caffeine acts directly upon the nervous system. 2. Moderate and large doses stimulate the cardiac muscle. 3. They act upon the vasomotor nerves and upon the cardiac innervation; they provoke dilatation of the vessels. 4. The blood-pressure is lowered by the administration of moderate doses of caffeine after the administration of the large doses. 5. The daily dose should at first be 2 to 5 centigrams (gr. iv to viij), and this quickly increased to 2 to 3 grams in twenty-four hours (Jour. de Med. de Paris, Feb’y 19, 1893).

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Recent Medicaments.

**Salocoll (Phenocoll Salicylate).**

Salocoll occurs in the form of a powder, having a sweetish taste and not readily soluble in water. It is obtained by the action of salicylic acid upon phenocoll hydrochloride.

The first of these remedies has long been recognized as a powerful antiseptic, antithemic and anti-rheumatic, while the latter has received flattering endorsements for its antipyretic, anti-rheumatic and antineuralgic properties. This new product is said to be free from any deleterious effect upon the stomach or the cardiac action, no cyanosis having been observed from its administration.

The indications for the employment of salocoll include substantially all the applications of both remedies of which it is composed, and it has been found especially useful in influenza. It is given in the form of powder, fifteen to thirty grains for adults three or four times a day, and in proportionate doses for children.

**Formalin (Formic Aldehyde).**

Formalin is a new laboratory product offered as an antiseptic, harmless and comparatively non-poisonous. Formaldehyde, (HCOH), occurs as a gas, but under the name of formalin it is a colorless solution in water containing 40 per cent. of the gas. For antiseptic purposes this solution is employed in the strength of 1 to 40—a 1 per cent. solution of the gas. When it is desired to use in the form of a vapor, the evolution of gas is produced by the addition of heat. It is quite as powerful as solution of corrosive sublimate in destroying micro-organisms (anthrax bacilli, typhus bacilli and staphylococcus pyogenicus aureus); and since its activity is unaffected by albuminoids, it promises to prove most efficient in a large class of cases where our main dependence has heretofore been upon the bichloride.

This new remedy is highly esteemed as a sterilizer for surgical dressings, and it possesses an important advantage over all other antiseptics in not affecting the color or texture of various materials,—silk, satin, linen or woollen goods. The odor readily disappears when the fabrics are aired. Rooms occupied by patients affected with contagious diseases, wards in hospitals, etc., it is said, can easily be disinfected by the vapor without detriment to the patients, since workmen engaged in its preparation suffer no inconvenience although constantly exposed.

Brought into contact with animal tissues in strong solution, it causes necrosis without suppuration, an important observation which suggests its employment in treatment of excrecescences of the skin and mucous membranes. We are indebted to Drs. J. Stahl, Berlioz, Frillat and Aronson for our knowledge of the physiological properties of this new candidate for professional favor.

**Hypnal.**

Filehne draws attention to the value of hypnal as a sleep-producing agent. This substance, which is chemically monochloral-antipyrine, results from the synthesis of chloral hydrate and antipyrine. Most of the preparations now in the market under the name of hypnal differ considerably both chemically and in their physiological action. The hypnal of trade is almost insoluble in boiling water, and shows no antipyrine reaction. On the other hand active hypnal, or as termed by Filehne "per-hypnal" (Hypnal-Höchst), dissolves very readily in hot water, and gives the characteristic tests for antipyrine. Moreover, it is physiologically very effective, and merits the name of hypnal. The hypnotic action of this substance does not depend solely on the amount of chloral contained in it (45 per cent. to 55 per cent. antipyrine), the active dose of hypnal being not really larger than that of chloral. Further, an equivalent dose of chloral produces much more prostration. The
depression of the vasomotor system and of the heart-beat, seen in rabbits even with small doses of chloral, is wanting with hypnol in small quantities. It develops only with large amounts, and in degree corresponding to the amount of chloral contained. This substance is easily soluble in the proportion of one in ten of water, has so little taste that it scarcely requires a flavoring medium for its administration, and may be given in a dose ranging from 15 to 30 grains. Its hypnotic effect sets in after about 10 to 30 minutes. Filehne says it appears to be a remedy which acts promptly in many cases, but like all these substances, it sometimes fails entirely. Out of 124 trials made on patients, there was no action 27 times, and in 20 the effect was slight. In the minor forms of excitement in the insane, in commencing delirium tremens, and in chorea, good results were got; while the graver forms of excitement did better with chloral hydrate and hyoscine. Simple insomnia appears to yield to it; sleeplessness caused by pain is frequently relieved.

_Berlin. klin. Wochenschr.,_ No. 5, 1893.

**Piperazin.**

Its chief therapeutic indication is the uric acid diathesis, or the dyscrasias resulting from that condition. It is, unquestionably, the most energetic solvent of uric acid and uratic concrements which may be employed within the human organism without producing toxic effects. With uric acid it forms a neutral, soluble combination, while, at the same time, it dissolves the various albumenoids and the homologues. In cases of uric acid diathesis other than stone, from what is known of the solvent effects of piperazin on uric acid and the solubility of piperazin urate, an increase in excretion of uric acid might be expected under full doses of piperazin. Some observers have reported a diminution, with a corresponding increase in urea, indicating that, besides its affinity for uric acid, piperazin promotes the transformation of uric acid into urea, as do markedly the salts of potassium with the vegetable and carbonic acids. Prescribed in combination with phenocoll it has very marked influence upon the gouty condition, and promotes the absorption of undesirable exudates. The value of piperazin, in both acute and chronic gout, appears to be very decided. Schweninger reports success in 92 per cent. of his cases, and states that he could get no such results with any other remedy. Biesenthal also administered piperazin in gout, in renal colic, and in urinary haemorrhage with perfect success. He gave it in carbonic acid water, 1 to 500. The ordinary daily dose of piperazin is 15 grains. As it is not irritating to mucous membranes, a one or two per cent. solution may be employed in washing out the bladder in the case of vesical calculi. Hypodermic injections into gouty deposits, and local applications to gouty swellings may also be employed.—_Quar. Ther. Review_, April, 1893.

**Eucalyptol.**

This substance, which is being recommended in the French medical journals as a substitute for eucalyptus oil and eucalyptol, was first prepared by M. Anthoine, a pharmacist, who obtained it by treating oil of eucalyptus with hydrochloric acid. The _eucalyptol_, or hydrochlorate of eucalyptene, thus formed occurs in the form of white micaceous scales, having an odor resembling that of camphor, and a peculiar, slight but persistent taste. The compound is almost insoluble in water and glycerin, but freely soluble in alcohol, ether, chloroform, fixed and volatile oils, petroleum ether, and acetic ether. Alcohol, however, causes a slight decomposition in the cold, a substance being formed of which the odor recalls that of terpinol. A similar reaction may be caused by water, especially in the presence of alkalies, hydrochloric acid or an alkaline chloride, and a terpinol-like hydrocarbon of agreeable odor resulting. It is highly anti-
septic, infinitesimal quantities being sufficient to prevent putrefaction in liquids containing organic substances, but it does not interfere with the action of ferments such as diastase, pancreatic and pepsin. Eucalypteol melts at 50°, and commences to decompose near 115° C. Examined therapeutically by Dr. Lafage, of Neuilly, it is said to cause no ill-effects, being well tolerated by the stomach, and producing no irritation. About 150 clinical observations were conducted to test its value. In phthisis it was found useful in allaying the cough and other symptoms. The alkalinity of the intestine causes eucalypteol to break up, thus deodorising the canal by means of gaseous aromatic products of decomposition, and several cases of severe diarrhoea have been rapidly cured by it. In typhoid fever, too, it has been given with satisfactory effects. Observations on urinary diseases have not as yet been made. No toxic effects were presented even when as much as ten to fifteen grammes of the compound was administered in a single dose. The usual adult dose is 1 to 1.5 gramme daily; for children: of four or five years, 6 to 8 grains, and best given during the interval between meals. It is claimed that having a definite composition and uniform action, it possesses great advantages over all other preparations of eucalyptus.—Bull. Gén. de Thérap., cxxii., 316 and 433.

Tropacocaine.

A comprehensive paper on this subject, contributed by Dr. Hugenschmidt, a Paris dentist, to the Semaine Medicale of January 28th, is worthy of notice in the columns of The Lancet. Tropacocaine, or benzoylpseudo-tropeine, is an alkaloid derived from the leaves of the small-leaved coca which grows in Java. Originally extracted by Giesel, it has been prepared synthetically by Liebermann, who established its chemical identity with pseudo-tropeine isolated from black hyocamus. Dr. Hugenschmidt has recently studied its properties, and now publishes the results of his investigations. Administered by the mouth in doses of two or four centigrammes, no definite symptoms were produced. The injection of two centigrammes of it in ten minims of water into the gums had only the effect in thirty-seven subjects of slightly increasing the cardiac pulsations without appreciably increasing arterial tension. In every instance the injection was made slowly, lasting one minute for each person. No dilatation of the pupil was observed, the only atropinic symptom produced being a slight dryness of the throat. The rapid intra-gingival injection of four centigrammes was followed in three minutes by vertigo, intense precordial anxiety and a sudden fall of blood pressure. In ten minutes the pulse had regained its normal strength. The respiration was not affected, tropacocaine differing in this respect from cocaine. Employed in the manner indicated by the writer, the nervous system is unaffected, no syncope being noticed as with cocaine. Even the large dose above mentioned (four centigrammes) only affected the pulse for ten minutes. The vaso-motor perturbation caused by cocaine may last, as is well known, for several hours. 'Dr. Hugenschmidt concludes that tropacocaine is much less toxic than cocaine. As a local anaesthetic agent he employs the following solution: Tropacocaine ................ 10 centigrammes. Distilled water ............ 2 grs. 50 centigrams. Ten drops to be injected=25 milligrammes.

At least one minute must be taken up by the injection into the tissues. When this precaution is taken, the above dose employed in thirty-seven cases has never caused toxic symptoms. To resume, the advantages claimed for tropacocaine over cocaine as a local anaesthetic are: there is lesser toxicity at equivalent and efficient doses; the production of local anaesthesia is more marked and more rapid; and a solution of tropacocaine keeps well for months, whilst a solution of cocaine at the end of four or five days tends to decompose and to lose its analgesic properties.—Quar. Ther. Review, April, 1893.
THE CLINICAL VALUE OF OPium PREPARATIONS.

In the great city of Philadelphia are located hundreds of mills and manufactories, some of them employing several thousand hands, men, women, boys and girls. A considerable number of these employees are engaged in the manipulation of machines of different kinds; others are engaged in equally important and necessary work, such as the proprietor, whose money is invested in the plant, the superintendent who has a general supervision of the business, the foremen in the various departments, besides the operatives and their special aids or assistants. The engineer exercises a most important function, since through his control of the motive power the wheels are kept in motion. The method of distributing this power by means of shafting, belts and pulleys is likewise of interest.

In these establishments are to be found certain accessories, such as pipes for the distribution of gas, or wires for the transmission of the electric spark; tubes or flues for steam or dry heat; water pipes and hose as a precaution against fire, together with suitable plumbing to carry off waste ma-

terial; doors, windows and fans or blowers to keep the air in motion or remove dust; stair-ways, fire-escapes, and lifts or elevators should also be mentioned, since they enable the employés to work to advantage, and provide a means of exit in case of fire or other accident.

No doubt the reader has already noted the similarity existing between the factory and the human economy with its central motive power—the brain—and its numerous special departments, the stomach, the liver, the kidneys, the pulmonary apparatus, etc., the assignment of work being regular and persistent.

But something more is requisite to make the simile complete. For example, the mill must have sufficient material in order to keep the operatives at work running the different machines; and the proprietor must also supply financial stimulus to keep the men at work. Albeit, sometimes the machines get out of order or break down; the operatives become careless, or are called upon to do too much, and consequently the work is imperfectly performed.

Just such conditions attend arrangements of the human machine. In the mill the belts are thrown off until repairs can be made; in the individual a like result may be attained by obtunding the nerve-supply, which can be accomplished by the use of opium or its alkaloids and salts. He would, however, be a poor mechanic, indeed, who relied upon a machine to repair itself by simply disconnecting it from the motive power, and yet this practice is followed every day in the use of opium. Disease is not modified, except to a limited extent in certain directions by the use of opium, and when employed to subdue pain it is a most treacherous remedy. Like the smoke of battle, opium hides the movements of the enemy. And not only that; it gives the practitioner a false sense of security. Therefore the clinical value of opium preparations does not lie in their curative properties, but in their power to obtund temporarily the nerve functions,
which permits repairs to be made in the affected areas.

Notwithstanding its inutility, and without taking into account the irreparable injury which must follow the injudicious use of opium, let us consider for a moment the hundreds of thousands of innocent babes annually sacrificed through belief in this fiction. How long must this slaughter be permitted to go on? How long will otherwise intelligent and practical physicians endanger the lives of children by the reckless use of opium? How long will intelligent parents consent to have their children narcotized instead of medicated for the diseases incident to the summer season?

How many physicians in this enlightened age order paregoric and laudanum for infants, with instructions to cease administration when the pupils begin to contract? At a low estimate, probably one in twenty, which means more than five thousand physicians in the United States alone giving opium to infants. Is it then surprising that infant mortality continues high, or that the number of opium habitués is increasing? Need we express astonishment that sickness is abroad in the land when we consider the tactics hitherto employed in the treatment of disease, or rather the symptoms of disease? In conclusion, then, while admitting that opium and its preparations sometimes serve a useful purpose in relieving symptoms, it is but a temporary expedient, and never cures disease.

**APPENDICITIS.**

It is only within the past few years that any definite knowledge has been gathered relating to appendicitis, and even now, the really practical information filters through the work done by the surgeon. Surgeons themselves are frequently undecided when to operate, and from present appearances the decision can be reached only through the closest study and observation. The fact that operations such as that required for appendicitis can now be undertaken without serious danger to life will serve to relegate to the "demniion bow-wows" a practice as reprehensible as it was useless, although held in high favor generation after generation, namely, poulticing. Since the new order of antisepsis has been introduced surgeons have been prompt to recognize the futility and utter folly of this farcical policy, but there are conservative (?) physicians who still cling to this relict of barbarism. For the good of mankind, it is hoped none will have the temerity to adopt it in the treatment of appendicitis after this preliminary warning.

While appendicitis is in some respects an insidious disease, it is not usually immediately fatal. Most important of all, in these cases, is to learn if there has been any previous history of the disease, or symptoms thereof, in which case the patient should receive the most careful attention, and should positively be confined to bed until all uncertainty has been cleared away.

**EDITORIAL NOTES.**

**Medical Examiners.**—While all good citizens are anxious to have laws passed which will inure to the public good, there are quite a number of intelligent men and women, even among medical practitioners, who doubt the advisability of employing medical examining boards. They claim that although it may lessen the number of poor practitioners, it will likewise introduce a feature into medical treatment which has been threatening the public for some time past. Reference is made here to the proprietary and quasi-proprietor preparaces. Aside from the pure quackery which is permitted to hold sway through the medium of the newspaper, especially the religious press, there are very few large manufacturing chemists who do not manipulate their business with the expectation that in some way, either by hook or by crook, the intelligent laity will become familiar with the therapeutic properties of at least some of the products which they put on the market ostensibly
for the use of the physician. Thus insidiously a large control of the treatment of disease goes out from under the doctor's care, the money passes to the manufacturing chemist through the obliging druggist, and the latter as well as the physician becomes the servant of the former. The country is flooded with just such products, good, bad and indifferent, and if the rising generation of physicians expect to succeed in legitimate practice it might as well be understood now that they will be compelled to fight this battle which must necessarily result from the establishment of medical examining boards. No one will assert that these boards have been able, so far, to accomplish anything in the way of arresting quackery, because it is quite as rampant where these laws exist as where there are none at all. Who will undertake to solve this knotty problem?

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**Index to Vol. I.**—In closing the first volume of the American Therapist the Editor takes the opportunity of calling his reader's attention to the large number of topics presented during the past year, and especially to the practical character of the work. To the conscientious, active and intelligent physician who desires to relieve and cure disease, not a single number has been issued that did not have an actual face value of from one to ten dollars. But the index alone does not begin to tell the story; it gives the shadow merely of the substantial teaching already recorded.

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**The Fate of Avenbrugger.**—Dr. S. Weir Mitchell relates in his charming and felicitous manner the fate which attended Avenbrugger, the inventor of percussion. It seems that this enthusiastic German was so far in advance of his time that his little booklet of twenty-two pages cut no figure in the current literature of the day, and what is still more remarkable, he was smart enough to know it, and with prophetic vision, foretold its future. Says Dr. Mitchell, "Avenbrugger lived on to see his famous colleague, De Haen, write his fifteen volumes without a word on percussion. Van Swieten did it no greater justice. In his huge history of medicine, Sprengel mildly mentions it as rather subtle. Yet were the contents of this booklet of twenty-two pages more practically valuable to man than all these men wrote, or all the results of the vast and bloody campaigns during which it slept, until in 1808, one year before the grave, contented German died at 87, Corvisart translated it into French, and proclaimed its undying value to a waiting world."

Happily, we live in a different age; every claim advanced is thoroughly investigated and its value determined by the crucial test of clinical experience, and in this work the American Therapist will always be found in the foremost ranks.

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**Surgeon-General Sternberg.**—It is with no little satisfaction that we chronicle the recent appointment of Dr. George M. Sternberg to the position of Surgeon-General of the United States Army, to succeed Dr. C. Sutherland, retired. For the past ten years Dr. Sternberg has led the advance in the study of antisepsis, and has been a voluminous contributor to current medical literature; he is fitted in every way to discharge the responsible duties devolving upon him in his new position.

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**Therapeutic Memoranda.**

**Boric Acid as an Intestinal Antiseptic.**—Physicians are beginning to recognize the valuable antiseptic properties of boric acid in the treatment of intestinal affections. Torchinsky has recently reported very satisfactory results from the use of this remedy in 240 consecutive cases of typhoid fever during an epidemic. As a preliminary to the administration of boric acid, it was his practice to exhibit a dose of castor oil, one to two drachms or more according to the age, along with ten to twenty drops of oil of turpentine, and as soon as catharsis was secured the patients...
were put upon boric acid. The dose ranged from ten to fifteen grains for adults, and from three to ten grains for children, three or four times a day, and it is claimed that with this alone, the disease was favorably influenced and even shortened in its course, while complications were of rare occurrence.

In some of his cases it was observed that beneficial effects were produced by the addition of small doses of acetonilide, quinine, naphthalin or salol. Quinine was shown to be especially useful in the later stages of the disease in allaying tremor, delirium and other cerebral symptoms, and was also of marked benefit in the case of relapse. Of the whole number of cases, 231 made a speedy and perfect recovery. The author has likewise found boric acid of signal service in the treatment of summer diarrhea of children, and in the case of typhoid fever he regards it as the cheapest, simplest, most harmless and most efficacious of any treatment yet known. These observations must prove of great value at the present time when we may expect to meet with large numbers of this class of cases.

The Preservation of Vaccine Lymph.—According to Chambon and Ménard, vaccine lymph, when combined with glycerin and placed in sterilized tubes, improves with age, although when used in the fresh state it is found to contain micro-organisms (staphylococcus, etc.). The parasitic microbes not only diminish in number when the lymph is kept for a period of sixty days, but ordinary lymph improves and produces a more typical eruption.

Quinine Hypodermically for Malaria.—The hypodermatic use of quinine and urea for malaria is in a fair way of being revived. Cohen (Polyclinic, p. 66) advocates the bimurate of quinine and urea, a plan that was strongly endorsed in 1887 by Dr. R. P. Talley, of Texas. Ten or fifteen grains of the salt are dissolved in twenty to thirty minims of boiled or sterilized water and injected deeply into the subcutaneous tissues. Three injections are made during the first seven days of treatment and two injections the second, after which arsenic in some suitable form is administered for two or three weeks. Dr. Cohen recommends that the syringe be thoroughly emptied before it is withdrawn, and the subsequent painting of the puncture with tincture of iodine.

The method is similar to that practiced by Dr. George Dock while located at Galveston, although Dock employed the ordinary sulphate with sufficient acid to produce a solution with water; he was particular not to inject more than from six to eight grains at one time, but several punctures could be made, thus enabling the medicine to be administered in sufficient quantity, and as a rule but one or two injections were required. In a large number of cases operated upon, Dr. Dock made a preliminary examination of the blood and demonstrated the presence of the plasmodium malariae.

The Utility of Milk Diet.—From a series of careful and extended observations as to the utility of milk diet in nephritis, Dr. Ralfe (Lancet, p. 778) concludes that where degenerative changes have occurred in the renal structures, a more stimulating food than milk is required. He concedes, however, that in cases of acute or subacute nephritis, through the diuretic action of the milk, the dropsy is often relieved.

Terpin Hydrate in Chronic Bronchitis.—The value of terpin hydrate in chronic bronchitis and asthmatic affections is not appreciated as fully as its merits will warrant. Being excreted principally through the pulmonary structures and the kidneys, its stimulating action upon metabolism is well calculated to favor the discharge of accumulations of mucus in the bronchial tubes. It is prepared from oil of turpentine by the action of nitric acid and alcohol, which affords the advantages of both nitric acid and turpentine. In those cases in which it can be given in substan-
tial doses its effects are sometimes almost magical, but some patients cannot take it for a longer period than from one to three days. The usual dose is about five grains, but as much as twenty grains may be given every hour or two in asthma appearing during the months of July and August. When untoward symptoms arise it should be discontinued and strychnine arsenite substituted, in doses of one hundredth grain every two hours.

Terpin hydrate occurs in the form of a dry powder and is not readily soluble; it is best administered in the form of capsules.

The Administration of Medicines.—As a substitute for hypodermatic medication, Condamin (Lyon Med., No. 11, p. 363) recommends that the drug be reduced to the form of a liquid and introduced into the rectum by means of a small catheter or canula provided with an olivary extremity. The writer says that although absorption is less rapid, the effect persists longer, and all danger of abscesses is avoided.

Test for Albumin.—A new test for albumin is recommended by Spiegler (Centralbl. f. klin. Med., Jan. 21, 1893) as follows: Corrosive sublimate, 8; tartaric acid, 4; distilled water, 200; and glycerin, 20 parts. Mucin is first removed by the addition of a small quantity of strong acetic acid and filtration. The reagent is first introduced, and by means of a pipette the urine is allowed to flow gently along the side of the test-tube; the presence of albumin is indicated by the appearance of a clear, white ring at the junction of the two liquids. The presence of iodine is shown by a yellow ring, but this may be dispersed by the addition of alcohol. The author has discovered albumin in the urine of quite healthy persons after excitement, and especially in those of a neurotic tendency. By this delicate test albumin may frequently be demonstrated in the urine of those suffering from minor ailments.

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### Current Literature.

**The Bicycle as an Adjuvant.**—The bicycle is not only a gymnasium, but also a very fine piece of scientific work. The accurate bearings and fine workmanship of a good wheel are always an admirable sight to behold, and their running qualities a great surprise. As a gymnasium it cannot be excelled. The bicycle will exercise every muscle of the body, and do it in a very mild, scientific and enjoyable manner. Just watch the movement of the wheels, handle-bars and all the belongings when in motion, and you can, if your subject be stripped, see every muscle having its joyful exercise. Even the muscles of the eye are not exempt, for the continual outlook for good and clear roads is a very healthy exercise for these delicate muscles, which are so much abused by artificial light. After causing contraction and relaxation of the muscles, which the riding of a wheel of necessity does, the circulation is equalized. No other exercise is capable of so little fatigue and so much good as that obtained by riding a first-class bicycle. You will ask why I recommend only the high grade wheels. My reply is simply this: that cheap wheels are not made for the public benefit, but to enrich the manufacturer. They generally run hard.

By sitting upright in the saddle, the lungs get their full play, and the minute air-cells become rejuvenated with pure, fresh air. Many cases of incipient phthisis have been permanently cured, and advanced cases benefited by this method of exercising.

Much fault has been found with the saddle of the bicycle; but in every instance where damage has been done by the same it can be traced directly to the rider and not the saddle. It is often the case that a rider knows nothing about the adjustments of the wheel on which he or she rides, and thus injuries are caused through ignorance. The saddle can be so adjusted that a person can sit on the tubera ischii and
have very little pressure upon the perineum. Let every rider keep the bowels well regulated, and he or she can ride when and where they choose without causing any irritation whatever of the rectum. All the damage done to the rectum is due to neglect on the part of the rider, in not observing the common laws of health.

A mass of fecal matter in the rectum causes irritation and then engorgement of the hemorrhoidal veins in riding the bicycle, just as it does at any other time. Therefore, when properly cared for, hemorrhoids and other troublesome diseases of this nature can be readily prevented.

Urethritis and cystitis are very seldom met with in good wheelmen, and why? Because they keep the bladder empty and do not allow the pommel of the saddle to press upon the perineum with great force. These are the facts as observed among professional wheelmen.

Pregnancy is made easy, and why? The perineal muscles are developed, and when parturition comes, they are in such a healthy state that relaxation is brought about with the greatest ease. I have attended three ladies who have ridden the bicycle up to the seventh month, and find that it facilitates labor. Two of the above were primiparae, and each one had an easy time, with no lacerations.

The last case was that of a young lady 18 years of age, 4 feet 10½ inches in height, and weighing 88 lbs. She rode her wheel the last time on Christmas day. At 9 o'clock p.m., February 1, 1892, pains began; I arrived at 10.30, and at 12 the baby was born—a strong, healthy boy of 8 lbs.; placenta followed speedily; exact time was three hours and fifteen minutes. The perineum intact and not even a crack in the fourchette.

All manner of uterine disorders can be helped by the development of the pelvic anatomy. I have known and seen obstinate cases of leucorrhœa of years' standing cured after bicycle riding. The wheel simply acts as an adjuvant, and assists medication, internal or local, to take proper effect and thus produce a cure.

In nervous disorders the bicycle cannot be too highly spoken of. All sorts of nervous diseases are now being treated by Nature's methods. Massage and exercise generally, instead of electricity. * * *

W. S. WHITE, M.D.

(The Clinical Reporter, Chicago.)

Some of the Medical Uses of Fruits.
—It should not be understood that edible fruits exert direct medicinal effects. They simply encourage the natural processes by which the aids are brought about. Under the category of laxatives, oranges, figs, tamarinds, prunes, mulberries, dates, nectarines and plums may be included; pomegranates, cranberries, blackberries, sumachberries, dewberries, raspberries, barberries, quinces, pears, wild cherries and medlars are astringent; grapes, peaches, strawberries, whortleberries, prickly pears, black currants and melon seeds are diuretics; gooseberries, red and white currants, pumpkins and melons are refrigerants, and lemons, limes and apples are refrigerants and stomachic sedatives. Taken in the early morning, an orange acts very decidedly as a laxative, sometimes amounting to a purgative, and may generally be relied on. Pomegranates are very astringent, and relieve relaxed throat and uvula. The bark of the root, in the form of a decoction, is a good anthelmintic, especially obnoxious to tapeworm. Figs, split open, form excellent poultices for boils and small abscesses. Strawberries and lemons, locally applied, are of some service in the removal of tartar from teeth. Apples are correctives useful in nausea, and even sea-sickness, and the vomiting of pregnancy. They immediately relieve the nausea due to smoking. Bitter almonds contain hydrocyanic acid, and are useful in simple cough; but they frequently produce a sort of urticaria, or netterlash. The persimmon, or diospyros, is palatable when ripe;
but the green fruit is highly astringent, containing much tannin, and is used in diarrhoea and incipient dysentery. The oil of the coconut has been recommended as a substitute for codliver oil, and is much used in Germany for phthisis. Barberries are very agreeable to fever patients in the form of a drink. Dutch medlars are astringent and not very palatable. Grapes and raisins are nutritious and demulcent, and very grateful in the sick chamber. A so-called grape-cure has been lauded for the treatment of congestions of the liver and stomach, enlarged spleen, scrofula, tuberculosis, etc. Nothing is allowed but water and bread and several pounds of grapes per diem. Quince seeds are demulcent and astringent. Boiled in water they make an excellent soothing and sedative lotion in inflammatory diseases of the eyes and eyelids.

(Dietetic and Hygienic Gazette.)

Crenation of Red Blood Corpuscles. — The crenation or formation of notches along the borders of the red blood corpuscles soon after they have been put on the slide for the microscope has been observed by all who have studied the blood only cursorily. I have made observations of this feature of the corpuscles in a large number of cases, and have observed the following facts: The crenations are most numerous and form the most quickly in persons in good health and with a vigorous constitution, and where the color is of a pronounced red.

In a chlorotic girl with a rather poor constitution it was several hours before any crenated, and then only a few. In her case the blood was very pale. When she had improved in health the crenations were more numerous and appeared quickly after the specimen was placed under the microscope. In a very delicate child scarcely any crenated, even after a long time. It has been claimed by some microscopists that alcoholic drinks are a cause of it. I made special note on this point and found just the reverse—that in abstainers from alcohol, if the constitution is good, crenation takes place at once.

In an abstainer, nearly all were crenated within a few moments, except in that part of the field where they were crowded together so as to press on each other very closely. If the droplet of blood is put upon a slide, with an oil frame around it to prevent evaporation, in most cases the crenations disappear after twenty-four hours.

The late Dr. Elsberg, who studied the corpuscles treated with bichromate of potash and made the discovery that each one has a reticular structure, claimed that the crenation was due to a contraction of the reticulum. I have no doubt of the correctness of his conclusion, and this will, I think, explain the reason for more vigorous and general crenation in cases of a good constitution than where it is very poor. There is more living matter in such cases and more power to contract. It would also explain why the crenations generally disappear after a few hours. The living matter dies and loses its contractile power when the corpuscles swell out by absorbing the fluid in which they are immersed.

The hemotoblasts in the blood never become crenated; but I have, in one specimen of blood, seen a few with delicate, thorn-like projections from their margins. This was in the case of a man about sixty years old and somewhat broken down in health. In his case the hemotoblasts were abnormally numerous, amounting, on a rough estimate, to about one-fourth as many as of red blood corpuscles.

M. L. Holbrook, M. D.

(N. Y. Med. Times, May, 1893.)

Iodoform Injections in Local Tuberculosis.—The following class of cases are applicable to this treatment, and in them it has been tried with more or less success.

1. Tubercular abscesses from a focus in bone or soft parts.
2. Tubercular joint disease, with or without abscess.
3. Tubercular fistulæ.
4. Tubercular epididymitis and tuberculosis of the bladder.
5. Tubercular lymphadenitis.
6. Tubercular empyema, and even tuberculosis of the lung.

In general there are two views as to the mode of action of iodoform on the tubercular process: the one, that it acts directly or specifically; the other view supposes an indirect action. This latter view has been maintained by Konig, who explains the action as a general antiseptic one, and especially as a drying or desiccating action of the iodoform powder. This drying action favors the primary union of a wound, and opposes a large secretion from the wound surfaces, which secretion would favor the reinfection over the wound surface from the spots where the process had not been entirely removed.

This explanation may suffice for cases which we treat as open wounds, but fail to explain cases of joint disease or abscess which we merely inject, with or without drainage. Here we must suppose a direct action of the drug on the tubercular process, and in support of this view we have the positive evidence of microscopical examinations. Marchand has observed that the production of giant cells and other elements characteristic of the molecular process ceased under the influence of iodoform. This allowed healthy granulations to take the place of tubercular granulation.

The observations of Bruns and Nauwerck are the most convincing. They reported on the examination of the wall of tubercular abscesses without treatment by iodoform, and after varying periods of such treatment. Eight cases were thus accurately examined. Four layers were distinguished in the abscess wall, of which the inner two were only tubercular, and alone or mostly contained the bacilli. (The layers are an inner fatty and necrotic, and an outer tubercular granulation layer.) As the effect of the iodoform injections it was found that, first, the tubercle bacilli constantly disappear. Further, the growth of cells of tubercles becomes more sparing and than stops altogether, and an exudation, rich in cells, penetrates and loosens the tubercular tissue, and results in its disappearance. Healthy granulation tissue forms in its place or beneath it, and displaces it. After the disappearance of tubercular tissue the granulation tissue becomes less vascular, exudation ceases, the contents are resorbed, and the wall becomes cicatricial tissue and contracts. The cause of the above-named changes is the killing of the tubercle bacilli, and this is due not to a caustic or inflammatory destruction, but rather to a specific antitubercle bacillary action of iodoform. There are several methods employed in the use of iodoform as an injection. Ether was the first substance used as a solvent, with or without alcohol, which solution varied from five to twenty per cent., in strength, five per cent. being the strength generally used. With the exception of French surgeons ether solutions have been abandoned in favor of sterilized, freshly prepared emulsions in glycerin, glycerin with water or alcohol, olive oil or mucilage in strengths varying from five to twenty per cent., and in amounts of 5 ccm. to 100 ccm. of a ten per cent. strength. Length of time consumed before complete cure is established, four to five months. The cases, with two exceptions, were treated in Bellevue Hospital.

There were nineteen cases in all.
Class I. Abscesses.—Three cases. Result.—Cured 2; improved 1.
Class II. Joint.—Six cases. Cured 2; improvement 4.
Class III. Fistula.—Seven cases. Cured 5; improved 2.
Class IV. Epididymitis and bladder.—Three cases. Cured 3.

Failures or partial failures have been generally due to the fact that either the treatment was not carried out thoroughly or that the patient insisted on leaving hospital before complete cure, in many cases being satisfied with the improvement.

G. Woolsey, M. D.
(N. Y. Med. Jour., Feb., 1893.)
TREATMENT OF HYDROCELE.—In a late issue of the British Medical Journal, Dr. Hall reports the successful treatment of nineteen cases of hydrocele by an extremely simple operation. The operation consists in slitting up the scrotum and tunica vaginalis, evacuation of the fluid, when the tunica vaginalis is sewed to the outer skin and a dressing of carbolized oil applied at a single sitting.

IODOL-CAFFEINE. — E. Konteschweller states that when alcoholic solutions of iodol and caffeine in molecular proportions act upon each other a crystalline compound, sparingly soluble in alcohol, is obtained as a greyish crystalline powder, without taste or smell, insoluble, or very sparingly soluble, in most solvents. It contains 74.6 per cent. iodol, and 25.4 per cent. caffeine. On account of the much greater stability of this body as compared with iodol, which eliminates iodine when kept, it is suggested that the caffeine compound may be worth trial for medicinal purposes, and that it may serve to obviate the disagreeable effects sometimes produced by iodol.—Pharm. Centralh., xxxiv., 95.

CAMPHORIC ACID IN THE NIGHT SWEATS OF PHTHISIS.—A study of the charts of cases cited does not show any appreciable change in temperature, pulse, or respiration that can be attributed to the influence of the drug. Beyond the relief of a very disagreeable and distressing symptom, the drug seems to be entirely without influence over the course of the disease. In nearly every case a small dose (10 grains) was given first. This dose, though it usually diminished the sweating, was not sufficient to entirely control it. Larger doses (20 grains) were followed by very satisfactory results. It is striking that, when once the system was under the influence of the drug, sweating did not recur for sometime, and that then smaller doses, given at irregular intervals, were sufficient to hold the perspiration in check.

In some cases after several doses there was a complete absence of sweating for some time. No gastric disturbance was noticed or any other disagreeable symptom. The only secretory glands affected were the sweat glands. As far as could be determined the drug is perfectly harmless and its administration is not followed by any deleterious action upon the system.

W. T. Howard, M. D.
(Maryland Medical Journal, Feb., 1893.)

TRIONAL AS A HYPNOTIC.—My results with trional have been very encouraging so far as I have gone, although I have used it in only eight- to ten-grain doses, and have not been obliged to repeat the dose. The cases were all of nervous diseases—such as exophthalmic goitre, epilepsy, hysteria, neurasthenia, trifacial and intercostal neuralgia, prurigo, nervous disturbances during the menopause, vertigo, etc. In all of these cases, fifteen in number, except in those where there was peripheral nerve irritation, I obtained gratifying results. In the patients suffering from trifacial and intercostal neuralgia, trional, combined with acetanilide (eight to ten grains of each), was rewarded with good, quiet sleep. In but one case was a complete failure recorded, and that the case of prurigo; here the trional seemed to exert just an opposite effect.

In none of these cases were disagreeable symptoms noted, although in two of them other hypnotics had been abandoned on account of their irritating qualities.

From my experience, it would seem that trional is a fairly good hypnotic; that it produces no disagreeable after-effects; that, combined with a simple anodyne—such as acetanilide, etc.—it may be used in the insomnia of painful nervous disorders; that its only apparent objection is that its producers have seen fit to have it patented in the United States, thus making its scientific, humane importance secondary to the commercial.

Wm. C. Krauss, M. D.
(New York Med. Jour., April 22, 1893.)
Book Notices.


It has seldom been our lot to peruse a book with so much pleasure and profit as we have this one by Dr. Charles Talamon. The translator has done his work well and left nothing to be desired.

The section on appendicular colic and its importance as a means of diagnosis, is very interesting. The chapter on "causes" gives many with which we have not hitherto been acquainted. We think, however, that in his chapter on diagnosis the author is a little too positive that certain given symptoms are indisputable proofs of the existence of perforation of the appendix. Only a short time ago, two of New York's most eminent surgeons and acknowledged authorities on the subject, diagnosed perforation, but failed to discover anything but catarrhal inflammation — after removal of the appendix.

It is refreshing to learn that the author is not one of those who rashly advise an early operation, and gives weight to Guttmann's statistics, where out of one hundred cases recorded as typhlitis and perityphlitis, under medical treatment ninety-six recovered and only four died.

The chapter on treatment bristles with an amount of wise conservatism seldom seen in the modern surgeon, and is capable of doing an immense amount of good to the young surgeon of the present day who, when called to see a patient with pain in the right iliac fossa, immediately performs laparotomy because it is the latest surgical fad. We know of an aspirant to surgical honors who had seen, altogether, nine cases of appendicitis, and operated on all of them. Two died; five had catarrhal inflammation, and two had lemon-seeds in appendix with perforation. To such we would heartily recommend the truly excellent work by Dr. Talamon.

The Diseases of the Nervous System. A Text Book for Physicians and Students. By Dr. Ludwig Heirt, Professor at the University of Breslau. Translated with Permission of the Author, by August Hoch, M. D., Assisted by Frank R. Smith, A. M. (Cantab), M. D., Assistant Physicians to the Johns Hopkins Hospital. With an Introduction by William Osler, M. D., F. R. C. P., Professor of Medicine in Johns Hopkins University, etc. With 178 Illustrations. New York: D. Appleton & Co. 1893.

We can recommend this book to both undergraduate and post-graduate students. For the former it is not too bulky, and does not go extensively into the refinements of pathology, but keeps close to the essential points which every graduate in medicine may be reasonably expected to learn. For the latter, if only a general practitioner, it may furnish all the information desired, or failing in that it provides in appendices to the various sections and chapters bibliographies which can be used for exhaustive study.

The arrangement while not ultra-scientific is highly practical; the style is clear and concise; the illustrations are selected from the best works, or else are original.

The sections on treatment are not cumbrous, but the methods advised are clearly set forth, and embody always something decisive, whether it be to treat symptoms, to attack the cause, to remedy the organic defect, or to with-hold the hand.

S. W.


This little volume appears to have been the outcome of special study into the topographical anatomy of the ear as a scientific basis for the more modern surgical procedures. It is by no means a comprehensive treatise, except on the topic with which it purports to deal. Chapter I is devoted to the anatomy of the ear. In it a very careful study of the structures, with
measurements, is made with special reference to the purposes of the surgeon. This is illustrated in the attention given to the exact location of the lateral sinus. The situation of its anterior wall may be considered to be one-half inch behind the center of the meatus, and its posterior wall three-fourths of an inch farther backwards. The landmarks, also, for opening the mastoid, antrum and middle fossa of the tympanum, are carefully given. The lateral sinus is to be opened with a five-eighths inch trephine, centered one-fourth of an inch above Reid's line, and one inch behind the center of the meatus. Temporosphenoid abscesses are to be attacked with an half-inch instrument centered one and one-fourth inches above and behind the center of the meatus, and cerebellar abscess one-fourth of an inch below Reid's line, and one and one-half inches behind the center of the meatus.

A short chapter is devoted to the diseases of the external ear, mainly the inflammations and neoplasms of the same, and Chapter III deals with operations for removal of the ossicles and membrana tympani.

Chapter IV is devoted to the diseases of, and operations on, the mastoid, and to necrosis of the temporal bone. The author begins it with an interesting historical sketch, and rehearses the indications for the operations, the pathology of the condition, and the exact procedures to be followed. Chapter V, and last, deals with meningitis, cerebral and cerebellar abscess, thrombosis of the cerebral sinuses and phlebitis, with surgical treatment. This chapter is briefly and succinctly written, and is one of very great value. In fact we know of no better summary of the subject anywhere.

The little book is adorned with twenty-seven photo-reproductions of original drawings, which serve to show the artistic skill of the author, as well as his pains-taking study of the subject. All in all the little volume is a most creditable one, and deserves a very cordial reception. R. P.


Dr. Stockwell deserves credit for having produced a readable and instructive new book on cholera. The two salient points of the volumes are (1) a strong attack upon Koch's theory that his comma-bacillus is the cause of the disease; and (2) an ardent advocacy of what is called the "Vagus Treatment" of the great scourge. There is an apparent implication that it is necessary first to demolish the germ theory, as regards this particular malady at least, before venturing to urge the adoption of a plan of therapy which relies mainly upon active counter-irritation over the vagus nerves in the neck. It is, however, manifestly in no way incumbent upon the advocates of this or of any other treatment approved by experience to first show that microbes cannot be the efficient cause. Clinicians have already pretty well demonstrated that we have no germicides that will destroy bacteria in the human body without injuring the patient. Healthy blood-serum has proved to be the best of all germicides, and whatever aids most in the restoration of the normal circulation in a diseased part will generally best promote a cure.

Dr. Stockwell has certainly brought forward a formidable array of evidence against the comma-bacillus and has shown that at least a very large and influential minority of pathologists and other leading scientific men have refused to accept Koch's theory as to the etiology of cholera. But, the author goes too far in seeking to place cholera in a category very similar to that of malaria dependent chiefly upon telluric and meteorological conditions for its existence and spread. Many of his own citations from authentic accounts of outbreaks of cholera in different parts of the world, and especially the history of past epidemics of the disease given by him in
the second volume of the work under discussion, leave no possible room for doubt that cholera is at least as contagious a disease as typhoid fever. They prove conclusively that there is a materies morbi, whether germ or toxine, which passes from the body of the sick and, sometimes directly, but more often indirectly, through the contamination of food, drink or clothing, finds its way into the organisms of new victims. Showing that foul water-supplies and bad sanitation generally vastly increase the virulence of cholera epidemics, as the author is at much pains to do, rather strengthens the argument of those who hold to the view of a bacterial origin of the disease, since it is well known that many microbes thrive best and attain to their maximum of activity in the presence of excrementitious matters and other decomposing filth. The question is one of much scientific interest, but, practically it should make little difference, either to the sanitary in adopting preventive measures against the invasion of the dread enemy, or to the physician in choosing his remedies for the disease after it has already seized upon its victims, whether the admittedly imported Asiatic poison be a living entity or not.

As to the pathology of cholera, Dr. Stockwell holds, and no doubt correctly, that the nervous system is the part most seriously affected, the local lesions found after death in the stomach and intestines being often very slight, especially in the worst cases. He reviews rather rapidly and briefly the modes of treatment which have been in vogue in the past for fully developed cholera and condemns them all with one exception as futile or worse, a judgement which is altogether too true. In cholera, choleraic diarrhea and the milder forms of cholera which are often seen toward the end of an epidemic, he believes that something may often be accomplished by internal medicines, his own preference being given to the special preparation known as clor-anodyne. But, for what he calls "pronounced cholera" by which he means typical cases of either epidemic cholera, sporadic cholera, cholera nostras or cholera morbus, all virtually identical diseases according to our author, no remedy seems to find any favor in his eyes except the so-called "vagus treatment." This consists of the application of either strong rubefacients or vesicants, preferably the epispastic liquor of the British Pharmacopoeia (cantharides, 5 parts, and acetic ether, 20 parts) "freely over the branches of the pneumogastric in the neck beneath, in front of, and behind the ear, covering three inches of surface, preferably on the right side—Coleman having demonstrated that the right vagus commands the smaller intestine. But, if the case be one of extreme urgency, the liquid may also be applied beneath the eye; or, if desired, both the right and left vagi may be excited."

The curative results are said to follow often instantaneously and to be almost magical. Numerous cases from the practice of physicians who treated cholera in Malta in the epidemic of 1885, are cited in proof of the extraordinary efficacy of this method of counter-irritation. The reports of several of these cases would certainly seem to warrant the claim that the disease had been affected in a markedly favorable manner by the treatment. Unfortunately, however, the method was employed in only a limited number of cases, and no exact figures are given as to the mortality rate which obtained under it. Incidental mention is made of failures, and it would be interesting to know in just what proportion of cases it succeeded. It is unfortunate, too, that the wonderful results claimed for the "vagus treatment" did not induce a trial of it on a large scale in the epidemics of cholera which ravaged so many parts of Europe last year. This may have been due, of course, to ignorance of the method and of the results obtained by it in Malta.

The same mode of treatment is said to have proved very efficacious also in whooping-cough, and as we are likely to have the usual amount of cholera-morbus the coming summer, whether the Asiatic scourge gains a foot-hold here or not, there will not be wanting opportunities of testing it.

Without desiring to be hypercritical, it
may be worth mentioning that whatever the value of the method may ultimately prove to be (and the evidence adduced by the author raises a presumption in its favor), it is doubtful whether it has been correctly named by its English discoverer, Dr. Alexander Harkins. It has not been demonstrated that a blister over the region mentioned does stimulate the vagus; and even if it were capable of producing such stimulation, there would remain some question as to what the effect would be upon the diarrhea and cramps of cholera, since Landois and Stirling in their recent work on physiology declare that "stimulation of the vagus increases the movements of the small intestines!"

The value of counter-irritation over the stomach in restraining vomiting has long been known; and it is probable that blistering over the solar plexus would accomplish as much or more in controlling the symptoms of cholera than the Harkins' method, since the nerve-centres which possess the power of restraining the secretions from the intestines have been shown by Pye-Smith and Brunton to be the inferior ganglia of that plexus with the superior mesenteric off-set from them. Accepting the clinical facts as reported by the physicians in Malta who tried blistering the side of the neck, it is probable that it does in some way tend to overcome the paralysis of the splanchnics which undoubtedly obtains in cholera, but, the rôle assumed to be played by the vagus in the process seems largely hypothetical.

B. R.


Our author, who has had excellent opportunities for observing the effects of the Saratoga mineral waters, assumes that, for Americans at least, a relaxation is necessary from business cares and responsibilities in order to secure the nearest approach to the health standard; and among the many thousand resorts in this country, it is frankly asserted none offer greater attractions than Saratoga, so long and favorably known as a Mecca for invalids. The object of the work is to present to the laity, as well as to the professional man, the rationale of hydrotherapy, not alone as a health-restorer, but as a vital incitant to those who complain of nothing more than simple exhaustion.

Detailed information is given relating to the chemical constituents of the various springs, their medicinal virtues, and in addition careful comparisons have been introduced showing the therapeutic value of Saratoga waters and those from foreign sources. Altogether, the book is readable, instructive and practical, and will undoubtedly prove serviceable to all who feel disposed to investigate this important subject.

**Modern Gynecology: A Treatise on Diseases of Women, comprising the results of the latest investigations and treatment in this branch of medical science. By Charles H. Bushong, M.D., Assistant Gynealogist to the Demilts Dispensary, N. Y., etc. Illustrated. Cloth, 8 vo., pp. 380. New York: E. B. Treat, 1893. (Price, $2.75.)**

Within recent years the number of books devoted to the diseases of women has rapidly multiplied, but, unfortunately for the general practitioner, too many of these treatises are beyond his reach financially, and it is impossible for him to watch the current issues of a large number of medical journals. What the family physician most desires is recent information covering the diagnosis and treatment of cases which come before him in his daily work, and this knowledge Dr. Bushong gives in condensed and practical form, the text being freely illustrated by means of appropriate wood cuts.

It should be stated that the work is strictly devoted to medical treatment, covering the use of local medication, mechanical treatment, the employment of internal medication, diet, hygiene and rest. Surgical operations for salpingitis, tumors in the pelvic cavity, operations on the perineum and cervix, and the like are left entirely to the abdominal surgeon, and the scope of the work is therefore confined to the conservative and expectant methods.
Miscellany.

Bees and Rheumatism.—Some two years ago an Austrian physician advanced the remarkable theory that persons who have been stung by bees enjoy an immunity from the effects of the bee-stings for varying periods, and that, moreover, the virus of the bee-sting is an infallible remedy for acute rheumatism. The latter part of the theory, according to the Mediterranean Naturalist, has received unquestionable confirmation from a custom of the country people in Malta. Bees are plenty in the islands, and bee-stings are in such repute as a cure for rheumatic pains that recourse to this primitive method of inoculation has been a common practice in severe cases for generations, the results having been most satisfactory to the patients.

Sanitary Reform Demanded.—Dr. C. O. Probst, Secretary of the Ohio State Board of Health, appeared before the Pastors’ Union, of Columbus, to urge their co-operation in two sanitary reforms. One is to stop the custom of indiscriminate kissing and the other to abolish the use of the communion cup in the administration of the sacrament by several hundred persons.

Dr. Probst explained that the most certain and most dangerous transmission of the germs of disease is by this mouth-to-mouth method. He cited the almost universal habit among ladies of kissing friends on greeting them or bidding them goodbye, of kissing babies and children and urging babies and children to kiss each other.

Pastors, too, usually consider it a part of their duty to kiss the babies of their parishioners. All this was well meant, but it was as dangerous as it was pernicious in many cases. He quoted Moses as a sanitary subject, and said the great lawyer would not have tolerated either the kissing or the common cup custom in the sacramental administration.

The clergymen asked for some practical suggestions as to how to obviate the danger pointed out in the communion service. Several were given, but the one considered practical was that each communicant have his own cup.

Diphtheria from School-Books.—Dr. Thomas L. Wells, Dr. Skidmore Henderson, Dr. John Walker, and other physicians in Brooklyn have directed the attention of educational authorities of that city to the danger to the health of the children in the public schools arising from the indiscriminate use of text books. Dr. Wells said: “Public School 41, in New York avenue and Dean street, is in my neighborhood, and I am familiar with it. There is something significant in the fact that diphtheria should break out in that particular school every winter.

‘The plumbing is good, and I think there can be no doubt that the constant recurrence of epidemics must be due to the use of school books which have been used by former pupils who have had diphtheria. I have had fifteen or more cases of diphtheria from this school, and I know that other physicians have had fully as many each winter.”

Superintendent of Public Instruction Maxwell said: “This is the first time this matter has been presented to the Board. The use of books formerly used by pupils who have been ill with contagious or infectious diseases will be stopped. Such books will be destroyed.”—New York Sun.

Diphtheria Statistics in New Jersey.—Dr. William H. Shifps, secretary of the Bordentown Board of Health, in a paper read before that body, made the statement that during the last 13 years there had been 17,094 deaths from diphtheria in the State.

Electricity in the Extraction of Teeth.—The dentists have not been slow to take advantage of the recently discovered property of electricity to produce anesthesia, and are already using it for the painless extraction of teeth. As noted in our issue for April (page 252), Dr. Hutchins discovered that a current making 340 vibrations per second and producing the musical note C, would relieve pain. In the extraction of teeth the patient takes an electrode in each hand while the forceps is also connected with the positive pole. After the forceps has been properly placed in position the current is turned on and immediately the extraction is effected, not only without pain, but without the knowledge of the patient. Those interested in this question should turn to the page referred to above and read the article on the “hypothesis of interference.”

Tesla, the Hungarian Electrician.—One of the most notable exhibitions on record occurred at the recent meeting of the Laryngological Society of Philadelphia. Nikola Tesla apparently made good his claim that he has discovered the means of controlling the electric force so that it shall serve man without injuring him. Among other exhibitions of his power, he permitted a current of 200,000 volts to pass through his body and illuminate a bulb containing sulphate of calcium which he held in his hand. The bulb was made to glow with a light so intense as to fill the room with brightness and to disclose the great electrician holding it aloft, unharmed and smiling, bowing in acknowledgement of the wild applause of the audience.

Electrical Transiluminator.—At a recent meeting of the Laryngological Section of the New York Academy of Medicine, Dr. Wendell C. Phillips exhibited an electrical instrument called a transiluminator which he has used for the purpose of examining the interior of the body for diagnosis. In children and young persons the apparatus works successfully, but in older people the density of the tissues interferes to some extent with its action. The transiluminator is the invention of the German scientist, Voltolini, and consists of a four-candle power lamp enclosed in a cylinder, back of which is a water-bulb, which serves as a lens and also prevents over-heating.

It seems as though this ingenious instrument might be used with much satisfaction by abdominal surgeons, not only for diagnostic purposes, but as an aid during the progress of an operation, the apparatus being introduced into the rectum or vagina (in females). In discussing the value and uses of electricity, Dr. Phillips said: “Perhaps the most remarkable of all the electric appliances yet invented is an incandescent light arranged at the end of a long flexible tube of small diameter, which has been successfully used to illuminate a man’s stomach. The light is passed down the patient’s throat until it reaches the stomach, when the current is turned on, and it is said that the abdominal cavity is rendered so transparent that the presence of any foreign substance or growth in the stomach or intestines can be readily discovered by the operator.”
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