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Original Contributions.

MASSAGE AND THE RELIEF OF EYE-STRAIN IN THE TREATMENT OF GLAUCOMA.*

BY GEORGE M. GOULD, M.D., OF PHILADELPHIA.

FOUR years ago†, I wrote concerning Glaucoma as follows: "Massage, properly and intelligently applied, would seem to be the most clearly indicated therapeutic measure to break up mechanically the clogging process, stimulate additional secretion of diluting and digestive fluid, and arouse normal function generally. I have had but one case of glaucoma since groping my way to this theoretic conception of the disease, and that was a typical case in which vision had been reduced to 20/100. I began by teaching the patient to some extent the principles, and accurately the manipulations, of massage of the globes of the eyes. There had been no considerable response of the pupil or of the glaucomatous process to eserine. Before proceeding to iridectomy I determined to try massage, and from the day it was instituted improvement began and the vision steadily rose to 20/30, with entire cessation of all the symptoms except that the paralyzed iris still remains somewhat mydriatic and wholly immobile."

During the last four years I have tried the same plan, coupled with the relief of eye-strain by appropriate glasses, in a number of cases, of which the following may serve as illustrations:

CASE 4255.—A man of fifty-two consulted me on April 2nd, 1896, with incipient stellar cataract of both eyes, a myopia of R. E.

* Read before the Canadian Medical Association, August 30th, 1899.

† "A Study of Muscæ, with Suggestions as to the Physiology of Intraocular Nutrition, the Etiology of Cataract, Glaucoma, etc." *The Medical News*, September 14th, 1895.

6 D., and L. E. 7 diopters, a visual acuity of 20/100, each eye, with correcting lenses. With the exception of pain he had the typical symptoms of glaucoma, a shallowed anterior chamber, widened and sluggish pupils, cupping of the discs, etc. The tension of the right was + 1, of the left + 2. I instructed his niece how to carry out massage, but it was not done so systematically and thoroughly as I wished. By earnest and thorough instructions I secured more effective exercise of massage until, by October, the tension was normal in the right and but doubtfully plus in the left. I wish particularly to note that at this time only R. E. - Sph. 4.50 D. and L. E. - 5.50 D. were required to give the man a visual acuity of 20/70, while at the first visit lenses 1.5 D. stronger were required to give 20/100. Both the patient and niece recognize that the globes soften under massage, and if it is not done at least once a day the tension is likely to rise. For three years the eyes have thus been kept normal, the vision remains 20/70, and the cataracts show no increase.

Incidentally, this latter fact would seem to prove a suggestion I made four years ago, that, as cataract is a denutritional process, and as massage increases nutrition, massage may prove a prophylactic measure in incipient cataract.

CASE 4359.—A woman of sixty-six consulted me June 4th, 1896, giving a history of glaucoma during the last four years. The left eye had been operated upon nine months previously, but the operation had proved a failure in every sense of the term. The iris had been torn from about one-half of its attachment creating a large artificial pupil on the temporal side. The disc of this eye was deeply cupped, the vision reduced to counting of fingers. The tension was + 2. I was finally compelled by the confusion of the images to exclude this mutilated left eye from participating in vision by means of a ground glass. Its high tension was by massage almost immediately reduced to normal, with a tendency to rise when the massage is too long intermitted. The woman visits me about once a month; the eye has permanently remained painless, quiet, and with a normal or slightly elevated tension. At her first visit the right eye was over tense, + 1, and massage was also ordered, as also a lens correcting the ametropia + S. 1.50 + C. 0.50 ax. 140 = 20/20. At her last visit the ametropic correction was + S. 2.25 + C. 0.50 ax. 180, of course with a proper presbyopic addition. The vision remains perfect and the tension permanently and perfectly normal. She keeps up the massage every day with conscientious and intelligent accuracy.

CASE 5298.—A woman of fifty-seven consulted me June 14th, 1898, who had been treated for glaucoma for two and a half years by another oculist. Sclerotomy had been performed in the right eye fourteen months previously. The vision was R. E. 20/40, L. E. 20/20?, with the incorrect glasses she was wearing. The field was narrowed in the right eye to an extramacular vision of from 10° to 20°. The disc was typically cupped. I at once insti-

tuted massage and soon brought the tension to normal. Two months after the first visit the tension was normal and the field doubled in extent. I now carefully tested the refraction and found the following ametropic error :

R. + S. 4.00 D. + C. 0.75 ax. 105° = 20/30 +
 L. + S. 4.00 D. + C. 0.37 ax. 160° = 20/20 +
 Exophoria 4°. Left hyperphoria 4°.

After the relief of the severe eye-strain by proper glasses and

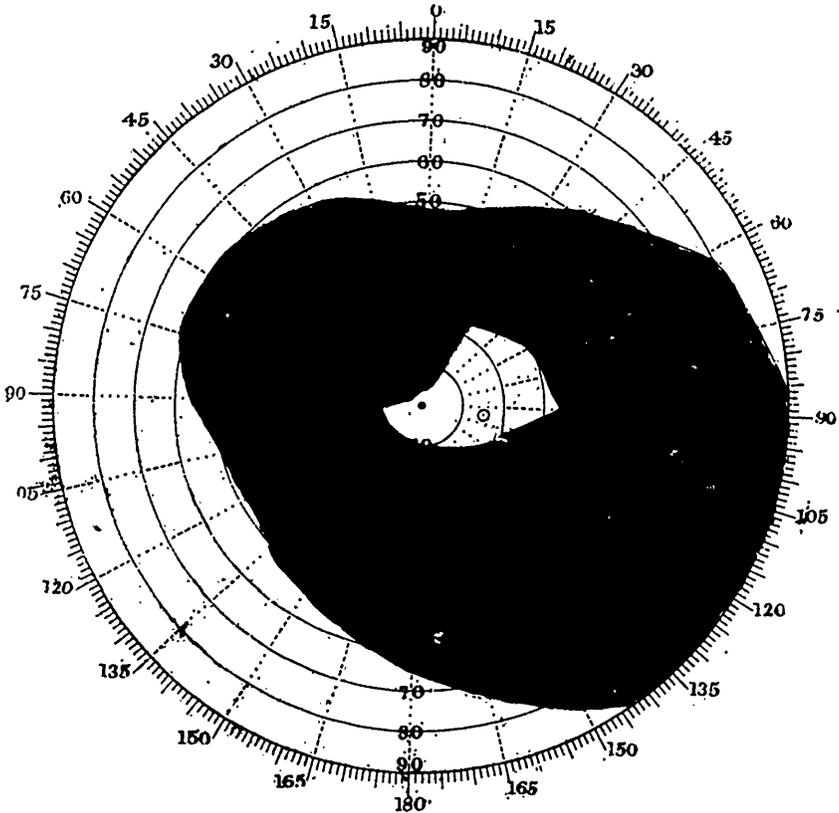


Fig. 1.—Case 5208. Form-field of right eye at first visit, on June 10th, 1898.

gymnastic exercises, the massage was discontinued, and there has since not been a symptom of glaucoma, no rise of tension and no trouble whatever from the eyes. On July 17th, 1899, the field had become much more extended. I submit three cuts of the fields made on June 16th, and August 26th, 1898, and July 17th, 1899.

CASE 5456.—On December 11th, 1898, I was called to see a woman of fifty-two suffering from a severe attack of glaucoma of the right eye, which had appeared two weeks previously and which

in the absence of a specialist had been made worse by the use of atropin. Vision was abolished, the pain intense, with the usual objective symptoms of glaucoma, except the ophthalmoscopic ones, as it was impossible to secure even a red reflex from the retina. The patient would not allow the eye to be touched or operated upon, except imperfectly palpated to gain an estimate of the tension which I made out as between + 1 and + 2. By the use of eserin, leeches to the temple, etc., with appropriate general treatment, I

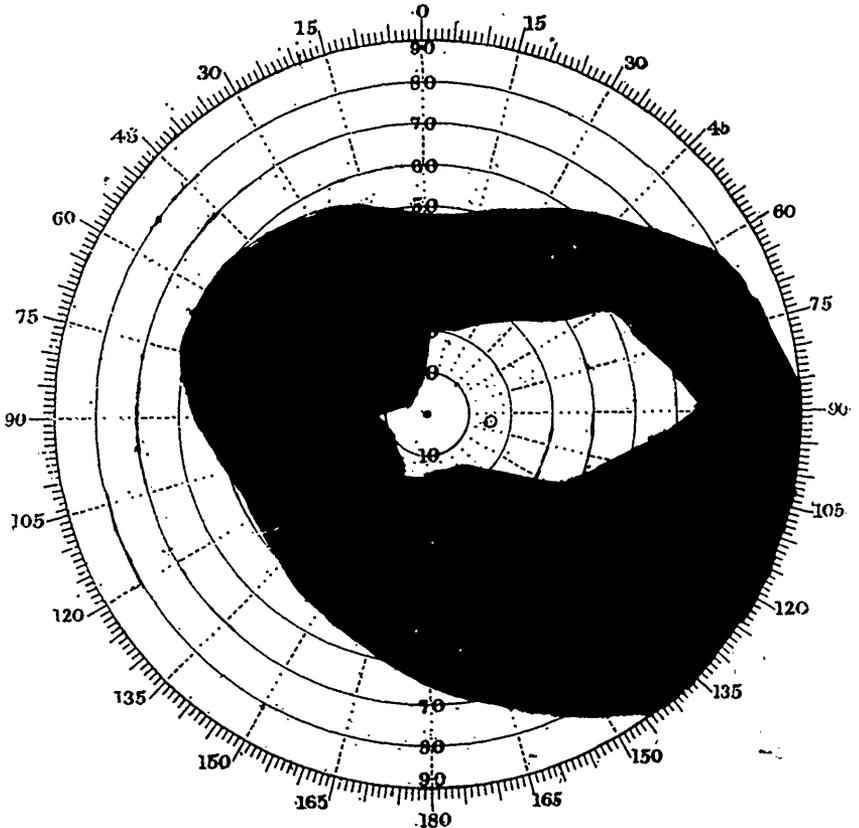


Fig. 2.—Form-field of same (Case 5209) on August 26th, 1898.

succeeded in allaying the pain and sensitiveness, but not the tension, until in about a month after the first visit I was permitted to institute treatment by massage. This soon brought down the tension to normal or occasionally slightly above. All symptoms of pain, etc., have disappeared. The massage is continued every day. The eye is blind and without retinal reflex. As a prophylactic measure I prescribed correcting lenses for the healthy left eye, the distance refractive error being + S. 2.50 D. + C. 0.50, ax. 45°. It would be interesting to know what it was in the ruined eye.

CASE 5498.—On January 21st, 1899, a woman of fifty-nine consulted me, who had been under the care of different oculists during the last six years for repeated attacks of glaucoma. She had refused to accept their advice as to the necessity of an operation. Her daughter told me that her mother had been subject to "dizzy spells" in which she fell to the floor, but without convulsions or biting of the tongue. I found the tension of the right eye normal, the media clear, some glaucomatous cupping, and a natural visual acuity of 20/200, not improvable by glasses. I tried vainly

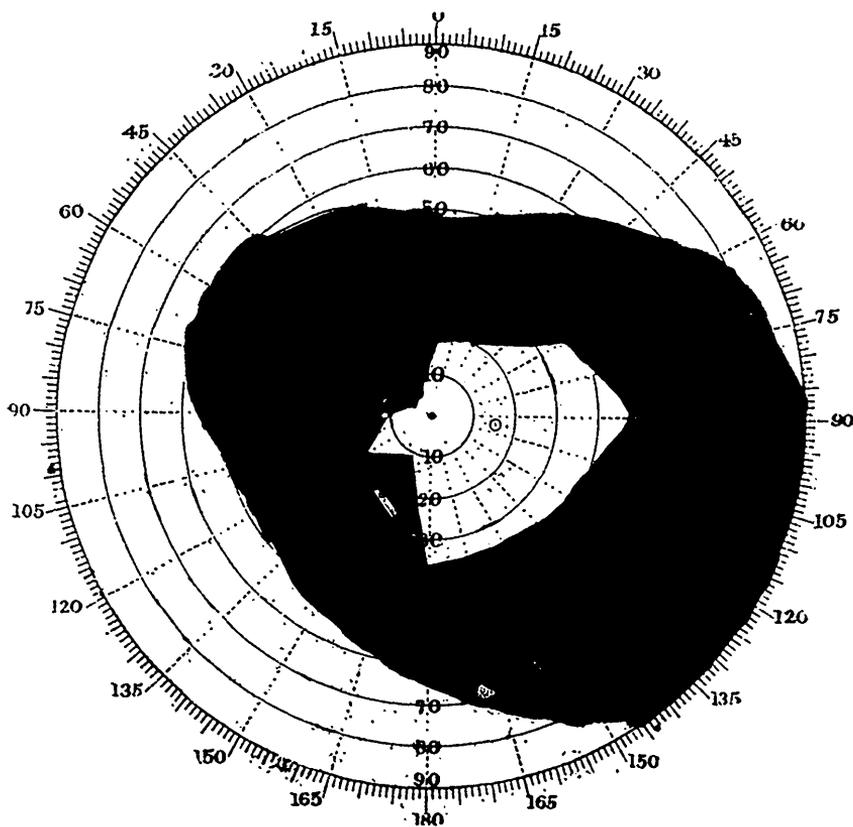


Fig. 3.—Form-field (Case 5298) on July 17th, 1899.

to find any lenses that would give increased visual acuity, so noting it on my case records. This is emphasized and to be remembered. The tension of the left eye was estimated as between + 1 and + 2, and the vision reduced to finger-counting only. The disc was typically cupped. I at once instituted massage of *both* eyes, carrying it out myself at first, and teaching the daughter how to do it. Two days after the first visit the patient returned with the tension "hardly above normal," and improved vision. I

again attacked the refractive error and to my astonishment immediately secured the following result:

$$\begin{aligned} R. E. + S. 2.75 &= 20/40 \\ L. E. + S. 2.00 + C. 1.00 \text{ ax. } 150^\circ &= 20/30 \end{aligned}$$

With these and appropriate reading glasses the woman for a while went about in a sort of dazed amazement at her ability to see objects so plainly. When the glasses had been fitted I ordered the massage to be discontinued. Up to the present time the visual acuteness remains 20/30, and the tension normal, with no treatment whatever except the glasses.

CASE 5578 was that of a man of forty who came to me April 6th, 1899, giving a history of glaucoma treated at a hospital and also by a physician at his private office during the past year. During this time the instillation of eserin had been kept up daily. The only evidence I found of the truth of the diagnosis was the cupped disc of the right eye. At the first visit there was no increased tension and the vision and fields were normal. I found his glasses did not correct his refractive error, and I was so convinced that this refractive error was the sole cause of his past attacks of glaucoma that I had the audacity to use a mydriatic and refract his eyes, finding:

$$\begin{aligned} R. + C. 1.12 \text{ D. ax. } 180^\circ &= 20/20 + \\ L. + S. 0.50 + C. 0.25 \text{ ax. } 135^\circ &= 20/20 + \\ \text{Exophoria } 2^\circ. \text{ Hyperphoria } 1^\circ. & \end{aligned}$$

There was no bad result from the mydriatic; the eserin was discontinued, proper glasses were prescribed, no massage or other treatment whatsoever was ordered, and since then there has been no trouble as regards the eyes; the man works every day as a clerk.

CASE 5326.—A woman of fifty-two came to me September 1st, 1898, having had headaches from childhood. She first began noticing blue rings about lights about three years ago. Vision had been growing dim for three months. For nine months there had been great pain in the eyes. V. = 20/50 + B. E. Tn., = R. + 1, L. + 2. The corneas were insensitive, the anterior chambers shallow, the pupils almost immobile, but undersized rather than dilated. The discs and funduses were too ill-defined to describe. Massage was at once ordered and the next day the tension was only slightly above normal in the left eye. The following refractive error was found:

$$\begin{aligned} R. - \text{Sp. } 0.25 - \text{Cyl. } 0.50 \text{ ax. } 90 &= 20/40 + \\ L. - \text{Sp. } 0.50 - \text{Cyl. } 0.37 \text{ ax. } 180 &= 20/50 \end{aligned}$$

Presbyopic glasses only were ordered, eserin advised in case of need or emergency, and the daughter was carefully instructed in the method of carrying out massage. Several most encouraging letters were received during the next six months, and encouraged by these

eserin was ordered to be discontinued. On September 1st, 1899, my assistant, Dr. Murphy, on a visit to the Catskills, called upon this patient, and writes that the tension in each eye is absolutely normal, and that massage is kept up daily without eserin. Only since this report of Dr. Murphy have I ventured to include this case-history in the present report.

Besides these cases I have had a number of others, but in none has there been failure or, indeed, any results that disprove the theory that glaucoma may be caused by eye-strain and that it may be cured by massage, plus the relief of eye strain. Some have been doubtful or non-reporting cases, and others of patients living at a great distance, etc.

A fact of great significance seems to me the following: In all cases of long standing in which re-refraction has been possible there has been a decrease of the myopia or an increase of the hyperopia. If this should prove true in a sufficiently large number of cases it would show that the pathologic elongation of the eyeball by increased tension is relieved by the means described and that the thoroughness and permanency of the cure is manifested by the reparative shrinking.

To Schoen* we are undoubtedly indebted for the theory that eye-strain may be a prolific source of glaucoma. The ophthalmic world preferred to ignore, as it often does, the truth that does not suit its *Zeitgeist*. If it be a truth the ignoring can be only temporary, though the fact is not flattering to the acumen of the ignorers. I believed that Schoen's contention is essentially true, but it cannot be proved true by the sorry art that passes for refraction in much of the over-sea world. No better proof of this could be found than in the slighting allusions to the theory of modern monographs upon glaucoma. Not only is Schoen not mentioned, but the very terms used in speaking of the suggestion make an American oculist smile derisively. With them it is *eg.*, only a question of hypermetropia and myopia. Not an allusion, not a hint is given as to astigmatism, anisometropia, or muscle-imbalance, and these are the causes of eye-strain. Can there be a more fundamental law in pathogenesis than that abnormal function begets disease? Morbid function sufficiently long-continued inevitably ends in morbid organic change. In pathology, the primal command is to seek for the ultimate, not the secondary causes. Etiology and prophylaxis are the two greatest medical words. No man of sense, at the present time, would say that eye-strain is the sole cause of glaucoma and cataract, nor would he deny that other causes may be operative, but to delay any longer the general acknowledgment of eye-strain as a subtle, far-reaching, and potent cause of ocular and systemic disease, and to ignore this in practice, is a sin not only against science but against humanity. I believe that a vast majority of the cases of glaucoma and cataract are preventable. I have never

* "Die Funktionskrankheiten des Auges. Ursache und Verhütung," etc (1893). De Schweinitz assents to the theory (as to glaucoma) in a somewhat modified form.

seen these diseases arise in eyes cared for by a skilled and conscientious refractionist prior to and during the cataract and glaucoma age. But these results of eye-strain will not be found by those who deny the existence of the strain, often because they are too proud or too unskilled, or too inattentive to make the all-necessary diagnosis.

As to the efficacy of massage to lessen glaucomatous tension there can not be the slightest doubt in the mind of an observant person if he will make the trial. Of course the measure will not undo the effects of inflammatory and atrophic changes induced by high or long-continued excess of tension, and the permanency of reduced or normal tension gained by massage will depend upon the extent of damage done by the disease. As several of my cases suggest, when the damage is still mostly functional, permanent cure may be expected by massage and proper glasses immediately prescribed. When great organic damage has been done and the permanent amblyopia of atrophied tissues induced, spectacles are of no use. But even then routine massage may keep the eye quiet and prevent enucleation.

The technic of massage as I advise is simple, but requires delicacy of touch and intelligence on the part of those who carry it out. If the patient have these qualities she may be instructed in the art. If not, some friend or professional nurse must be taught. The soft parts of the ends of the fingers or thumbs are used, and through the closed lids. I begin with alternate palpation (called *taxis* by Dr. Richey, of Washington, D.C., who reports his results by the method in *Annals of Ophthalmology*, October, 1896) by two fingers exactly as in estimating tension, but much more slowly. All pressures and movements should begin and proceed to the extreme, very slowly and softly; the release or lessening of pressure may be a little more quick, but never sudden. The depth of the denting, or the force exerted will depend on the hardness of the globe. In high tensions greater pressures are safe. When the tension under massage approaches the normal, as it will do, the force exerted will be lessened to that which would produce clear discomfort if one's own or the normal eye were pressed. The patient's judgment of the matter must be consulted and will not be far wrong—an added reason for making the patient the operator when the intelligence and self-control will warrant.

Palpation should be through the upper lid with the eyeball in the positions of extreme adduction, normal forward-looking, extreme abduction, and extreme depression. In extreme elevation the lower lid is used. Each position must be ordered systematically while massage is being carried on; (the position of the other eye may be observed as a guide); in this way fully three-fourths of the globe is operated upon. The length of the sitting depends upon the time required to bring about normal tension, which is usually from three to five minutes. Sometimes normal tension will not follow so soon. I have yet to see any considerable bad results

such as conjunctival hyperemia, although patients have sometimes alluded to the fact that there was some irritation or discomfort following long-continued or too rough manipulations. I alternate the alternate palpation with two fingers with shorter rolling or rubbing movements (effleurage) carrying the lid so far as easily movable with and beneath the finger around the equatorial regions of the globe.

I suppose that by means of these kinds of massage the venous and lymph stasis is broken up and the fluids of the eye put in better circulation and outflow. It is also doubtless true that there is a direct benefit to the retinal and optic-nerve tissues, not only by relieving them of all kinds of pressure, but in subjecting the lamed and partially paralyzed fibres to variations of pressure, etc.

I would not, of course, be understood as advocating the disuse of iridectomy in certain cases, nor of the other measures that empirically have been demonstrated of service. The disease is such a terrible one, and we are often so helpless before it, even iridectomy often proving ineffectual, that every means of promise should be eagerly seized upon. But hundreds of cases of glaucoma occur in places where the skilled specialist cannot be called upon, and in such instances, as well as in those in which the patients refuse operation, I believe massage may be of great service, and especially if seen early. It is a therapeutic measure that at least is always literally at hand, either for patient or the general physician. In many cases it may prevent enucleation, as it did in one of those I have reported. As an immediate prophylactic measure in acute and subacute attacks it is invaluable. But I am just as sure that the fundamental cause of the disease in a large majority of, if not in all cases, is long-continued pre-existing eye-strain, spurred beyond resistance by presbyopia. Hence the primal prophylactic as well as the therapeutic measure is relief of eye-strain, not by antediluvian or optician methods of refraction, but by skill and exactness that are at least one one-hundredth as accurate as that men use to calculate eclipses, or test a chemic reaction.

TUBERCULOSIS AND INSURANCE.*

BY JOHN HUNTER, M.D., TORONTO.

FEW questions are more perplexing to the medical director of an insurance company than the presence, to a limited extent, of tuberculosis in the family history of healthy applicants, and certainly nothing can seem more unfair to the latter, or be more exasperating to the physicians who make the examinations and recommend these risks, than their rejection.

Of course, there can be no two opinions about its being the first

* Read at the meeting of the Canadian Medical Association, Toronto, 1899.

and most imperative duty of an insurance company to safeguard most scrupulously the claims of the policy-holders, and no one need be so ungenerous as to deny the company the exercise of such business precautions as are necessary to secure fair dividends to the stockholders. However, the granting of these privileges to the company imposes upon it the duty of rendering the full measure of justice to the interests of the applicants.

It may also be stated in this connection that whilst it is the duty of the physicians who make the examinations to furnish the medical director with full, accurate and honest reports in all cases in which there is a history of tuberculosis, it is just as fully the duty of the latter to assure himself that these applicants receive the full benefit of the accredited knowledge and experience of to-day. For the assuming of any mere hypothetical principle alone, regarding the influence of hereditary tendency in tuberculosis, is not sufficient to justify him in giving a decision that may be very unfair to the applicant, and that may reflect very unfavorably on the professional standing, if not also upon the uprightness, of the local examiner.

Enough has been said to indicate the purport of this paper, viz., to invite a discussion that may help in some measure, at least, to define more clearly—if I may be allowed to use the somewhat expressive phrase—"where we are at," in reference to the relationship between tuberculosis and insurance.

Assuming that it is the province of an insurance company to grant the ordinary life policy to any applicant who should naturally live out the period of expectancy, to what degree then does the presence of tuberculosis in the individual or family history justify his rejection?

The limitations of our knowledge of this disease, and of our experience with its mortality in life insurance probably warrant the rejection of the following classes: (1) The tuberculous subject; (2) the descendants, say, under thirty years of age (this age being chosen to allow time for full physical development and the formation of stable habits of life), of a tuberculous parent, especially the maternal one; and (3) all the second class, irrespective of age, who have inherited or acquired any physical defect that would predispose to disease.

Eliminating these classes, we have left those over thirty years of age, who, apart from the incident that one parent had tuberculosis, are physically up to the standard of first-class risks; and the members of families, with healthy parentage, but of whom 15 or 20 per cent. became tuberculous after thirty years of age.

The question of admitting applicants from either of these classes under the terms of the ordinary life policy, calls for some discussion of the etiology, propagation, prophylaxis and curability of tuberculosis.

In regard to etiology the isolation of a specific micro-organism enables us to accurately define the disease as an infectious and contagious one, due to the presence of the bacillus tuberculosis.

In reference to propagation, we have the exciting and predisposing factors. The former is directly attributable to the entrance of the specific bacilli into, and their destructive effects upon, the tissues.

The latter or predisposing causes may be considered for the sake of brevity under the following heads: (1) Environments; (2) physical conditions, either hereditary or acquired, that predispose to disease; and (3) hereditary tendencies.

Under environments may be included everything prejudicial to health, whether in climate, food, habits, sanitation or vocation. We pass over abnormal physical conditions, since the two classes under consideration are assumed to be up to the normal standard of physical perfection, and proceed to discuss the problem of hereditary tendencies.

It is true that the doctrine of the transmission of hereditary tendencies predisposing to tuberculosis has come down through the medical literature of all the centuries, and has received the endorsement of the masters in every age. However, with this doctrine, as with every other, neither the veneration due to its hoary age, nor the influence of its associations, oblige us to accept it, inasmuch as we know now how very imperfect was the knowledge on which it was founded and promulgated.

The direct transmission of the bacilli through parental channels has been shown by pathological research to be of such rare occurrence, and by experimental efforts to be so difficult of accomplishment that practically it may be set aside as being of no importance as a means of transmitting this disease. In military parlance it can be said that pathology and experiment have so impaired the bulwark of direct transmission that we have been obliged to fall back and construct, as best we can, a hypothetical sand-bank, consisting of what is vaguely called hereditary soil, tubercular diathesis, vulnerability of tissue, etc.

A glance at the reports from the recent Congress on Tuberculosis, held in Berlin, warns us that already sceptical hands are being laid on even the last tenet in our creed, avowing the transmission of hereditary tendencies in tuberculosis.

Professor Loeffler is reported as saying that (1) the father has no part in the transmission of this disease, and that it can only be transmitted by the mother when her organs of reproduction are infected. (2) That there is no proof of immunity from tuberculosis, nor of congenital or hereditary transmission of it. Professor Heubner stated that tuberculosis is not congenital. In eight hundred *post-mortem* examinations on subjects under one year old tubercle was not found, and that infantile tuberculosis was in the majority of cases due to infection from parents. Sir Herbert Maxwell and Dr. Rye Smith, commissioner from Imperial Government, in their report to Parliament state the following: (1) Tuberculosis is caused by the bacillus tuberculosis. (2) Tuberculosis, as a condition directly transmitted, is extremely rare. (3) Little or no risk

of direct infection in pulmonary tuberculosis. Professor Friedeberg calls it the workingman's disease, as 50 per cent. of the mortality in their clubs is due to tuberculosis.

At a meeting of the medical directors of the leading British insurance companies, held in February of this year, the speakers, whilst asserting more or less strongly their faith in the doctrine of hereditary tendency, in tuberculosis, interspersed their discussions freely with such statements as the following: "It has practically escaped notice that the strongest arguments used to support the theory of family tendency to tuberculosis tell with, at least, equal force in favor of the view that infection is the cause of the incidence and spread of tuberculosis. The close, intimate circumstances of family life, the infection of the family home, and the total disregard of precautionary measures in the family life, because of ignorance—these facts, I venture to say, play a much larger part in the tragedy of family liability to tuberculosis than does hereditary tendency to that disease. But these facts have been altogether ignored in estimating the value of family tendency to tuberculosis in its bearing on life assurance." "Every gentleman in this room knows when a man is in a good state of health; if he is plump and round, and his pulse regular, and all his internal organs are healthy, it matters little what his family history has been."

Dr. Marsh, medical director of the Mutual Life Assurance, of New York, says: "In deciding upon the eligibility of an applicant for life assurance in whose case there is a suspicion of future danger from consumption, his personal condition is of first, and his family record of second, importance. Whenever he presents a robust physical appearance, with a weight, at least, equal to the standard or average, as given in our tables, he may be accepted, notwithstanding any taint in the record of his family. In our experience such persons have a small liability to consumption, although not protected from it."

The same trend of opinion can be found in all the most recent works on "The Practice of Medicine." The authors, although devoting some attention to the theory of heredity, lay special emphasis on the infectious character of tuberculosis.

Time will only permit a brief reference to one or two quotations from statistics. The report of the British Registrar-General gives as the mean annual mortality from tuberculosis per million living at all ages, during the period 1851-80: Males under fifteen, 2,082; over sixty-five, 2,842. Here we have a larger number of deaths from tuberculosis during the last fifteen years of life than during the first; or, in other words, the grandfathers seem more susceptible to tuberculosis than the grandchildren. This, since pathology and statistics alike show that childhood possesses no immunity from tuberculosis, appears very remarkable, if heredity be a strong factor in predisposing to this disease, to find in that part of the stream of life nearest the diseased fountain head, there is less danger to the young voyageur than there is in that portion

left after it has been meandering on for threescore years, and has turned his face, now pale and wan, toward the setting sun. Surely, owing to the innumerable changes that take place in the tissues, hereditary tendencies must be very attenuated factors in these old people.

In an address delivered by Dr. Bryce in the city, some few months ago, I think he was reported as saying, that about 80 per cent. of the deaths from tuberculosis, in Toronto, occurred amongst the working classes, or those following special trades. Now, were heredity a potent factor, should not the death rate from this disease be much more evenly distributed over the whole population?

I will not detain you any longer with quotations from statistics, for doubtless this phase of the question will be exhaustively dealt with in the discussion that is to follow, but will proceed to notice, though very briefly, the problems of prophylaxis and curability.

The infectious character of this disease is now so firmly established, it naturally follows that prophylaxis consists in avoiding sources of infection, and the use of every available means of destroying the bacilli and its products. An article in the August number of the *Canadian Practitioner* shows that the acts of coughing, speaking and laughing are sufficient to disseminate the germs pretty widely; hence the necessity for personal cleanliness, antiseptic sprays and inhalations, daily baths, well-ventilated, sunny rooms, wholesome food, healthy vocation, temperate habits, and out-door life. There is one very important factor in prophylaxis that, I think, receives altogether too little attention, that is the control, at least, to a very much greater extent, of sexual indulgence. The frequency with which tuberculosis is found amongst those who resort to immoral practices, and the enormous increase in the mortality during the most active period of sexual life amongst married people, are certainly sufficiently ominous to warrant us in advising these people to keep their sexual desires under the most rigid subjugation.

A line or two in reference to the curability of tuberculosis. The records of *post-mortem* examinations show that the tubercular process must have become quiescent in quite a large proportion of those who had been infected at some period during life. The statistics of cures now effected at the different sanatoria give a percentage all the way up to seventy. At a meeting recently held in Nottingham, Dr. Ransom gave a report of 1,541 cases. Seventy-one per cent. were restored to work again; and in less than 7 per cent. did the disease advance. I think I can safely state that it is the personal experience of every physician in this room to have a fairly large percentage of his tubercular cases restored to average good health. In the standing armies there has been a very gratifying decline in the mortality during recent years.

With more scientific knowledge regarding etiology, prophylaxis and treatment; the more general co-operation of the public in preventing the spread of contagion; the easy access to, and the home-

like comforts of, our numerous health resorts; the establishment of a sufficient number of properly constructed and well-managed sanatoria—with all these we can look forward most hopefully for a very great reduction in the mortality from tuberculosis.

In conclusion, although the purport and limitations of this paper have only permitted of the briefest possible reference to some phases of this very important question, yet I think enough has been said to show that the trend of medical opinion is now to attach so much importance to the infectious character of tuberculosis, and so little to its hereditary tendency, that a medical director would be fully justified in accepting applicants from either of the two classes under consideration as ordinary life risks.

I would like to add that the time and need have fully come for the appointment of a medical commission, tribunal, or court, whatever it may be called, to whom a rejected applicant could appeal from the decision of a medical director.

FLOATING KIDNEY SIMULATING DISEASES OF THE GENITAL ORGANS IN WOMEN.

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BY the division of labor and the increased attention which each branch of our art thereby receives, mistakes both in diagnosis and treatment are growing fewer year by year. As far as diseases of women are concerned the writer believes that 95 per cent. of those who submit to treatment are entirely cured; and even this small percentage of failures would be still further reduced if we could eliminate all errors of diagnosis. Floating kidney is one of those diseases which give rise to so many symptoms which we have been accustomed to attribute solely to the genital organs, that it is no wonder that its presence has often not been recognized, and that patients suffering from it after having undergone one or more gynecological operations have continued to suffer and complain as much as ever of those reflex disturbances which we thought depended entirely upon a laceration or displacement of the uterus or upon some disease of the ovaries or tubes. Most of the failures to cure women by gynecological treatment are due to defective diagnosis by the inexperienced or careless, the result being operations for one disease when there are other and more important ones present. Many women have been operated upon for lacerated cervix only, and been promised a cure which they did not obtain because they had besides endometritis, retroversion with fixation,

pus tubes and ovaries, appendicitis and lacerated perineum, and should have had not only an amputation of the cervix, but also a dilatation and curetting, repair of the perineum, removal of tubes and ovaries and vermiform appendix, and ventrofixation.

Other failures are due to incompetent operating, as when the operator fails to follow Emmet's expressed directions to remove all the scar tissue before sewing up a lacerated cervix. When a complete and thorough diagnosis has been made and all the abnormal conditions present have been remedied by skilful operations and other treatment, the result is satisfactory in almost a hundred per cent. of the cases. There are some failures which occur in the practice of the most experienced specialists, which, however, are none the less humiliating to him and disappointing to the patient and her family physician. The two most important causes of these are appendicitis and floating kidney, but the latter topic will be quite sufficient to occupy the time for one paper. We are indebted to Hahn, Landau, Lindner, McCosh, Keen, Senator, Schmidt, and more especially to Noble, of Philadelphia, and Edebohls, of New York, for having brought the question so forcibly before us. As the writer has met with quite a number of these cases in which the displaced kidney produced all the symptoms of diseases of the genital organs while the latter were perfectly healthy, or in which well-defined disease of the uterus and appendages coexisted with displaced kidney, so that the patient continued to suffer as much as ever even after the thorough removal or repair of the affected genital organs, it may be interesting to study together this rather obscure condition so that we may all more readily recognize it when present, and thus avoid disappointment in the cases referred to. A few words first as to its cause. This is not yet certainly known. It is much more frequently met with in women than in men, having been found as often as ninety times in five hundred gynecological cases by Lindner, while Noble has found it in about one in every four. It occurs much more often in the right side than in the left, owing to the right lobe of the liver being larger and more apt to push it down; although a few cases have been recorded in which, the symptoms having continued after the right kidney had been stitched up, a further examination revealed a displacement of the left kidney, the fixation of which was followed by a complete cure. In a few cases also the left kidney alone had been found to be movable. The present paper does not deal with congenital displacement, because in these cases the kidney is not movable but firmly placed in its abnormal position. It is generally thought that a tight corset or rather tight lacing is a cause, and although Noble and Edebohls say that a rather tight corset keeps the kidney up, the writer has had an experience to the contrary. In this case, a lady with retroversion of the uterus and a tender prolapsed ovary and a floating kidney, while on a journey around the world was taken so ill in Montreal that she could go no farther. As she declined to be operated upon so far away from home, she was treated so as to reduce the excessive

inflammation in the pelvis and to increase her fat; and after a month she was able to get up. She was doing nicely until she was given permission to put on her corsets and go to a public ball. As she had gained a little in size and her clothing had been made to fit her like a glove, her corsets had to be laced a little in order to get her dress on. Although she only had them on for a few hours all her symptoms were much aggravated, and it took her nearly a month to recover the lost ground. She was finally sent home, with a note to Mr. Greig Smith who performed nephrorrhaphy and ventrofixation, but was not allowed to remove the ovary, with the result that while very much better she is not quite cured.

All are agreed upon three points in the causation: first, anything which causes a sudden and marked loss of fat in the perirenal cellular tissue; second, frequent pregnancies, which cause relaxation of the abdominal wall and lessening of the intra-abdominal pressure; and third, making great efforts at lifting or sudden falls dislocating the kidney. In most of the writer's cases there was a coexisting retroversion of the uterus, which the patients dated from a fall off a chair on which they were standing, or from a strain while attempting to lift a helpless patient.

The most interesting question, however, is the symptomatology. If this were better known we would not be puzzled so much when we find women whom we have put into good condition gynecologically, persisting in saying that they are still suffering from the same gynecological symptoms. The fact is that the kidney is so intimately connected with the great sympathetic system in the abdomen, that its displacement and the consequent dragging on the nerves whenever the woman assumes the erect posture, causes very much the same symptoms as does the irritation of the sympathetic from the presence of scar tissue in the angle of a lacerated cervix, its compression by a swollen and prolapsed ovary, or pressure from a retroverted uterus. The symptoms in their order of frequency and importance have been, in the writer's experience: first, disorders of digestion, accompanied with pain not only in the right side from the dragging, but more especially in the left side, which may be described as a *cardialgia* or a *gastrodynia*. Some of the patients attributed their pain only to their heart, having also shortness of breath and a smothering feeling. Many of them complained all over the bowels. Two, who first consulted the writer since this paper was begun, said they had a fluttering feeling in the abdomen or as if the bowels were turning over and over. This *dyspepsia* resembles that due to lacerated cervix, for no matter what you do for it the benefit will only be temporary and the patient will soon complain as much as ever. She may get relief from it for several months during the latter half of pregnancy when the uterus pushes up the kidney with the other abdominal contents; or if a gynecological operation or a broken leg keeps her in bed for several weeks the kidney slips up into place and she feels well. But as soon as she gets up, her *dyspeptic* pains, the *anorexia* and gaseous eructations,

the constipation and foul breath all return. Some have thought that these dyspeptic symptoms were due to the pressure of the floating kidney on the duodenum, but they are present just the same when the left kidney alone is displaced, which, of course, cannot reach the duodenum.

The second symptom is general nervousness. Naturally sweet-tempered women become cross and irritable. They cannot sleep on their left side, and do not sleep well even on their backs or right sides. As long as they are sitting or standing they cannot remain still, but are in a constant state of fidgets. It may be noted here that this nervousness, like that due to a lacerated cervix, does not disappear immediately after the cause is removed; the nervous system seems to acquire a disordered habit. Third: palpitation of the heart, which, coupled with the pain over the cardiac end of the stomach, leads the patient to have the firm conviction that she has heart disease. Both the rapid pulse and the pain disappear almost immediately after nephrorrhaphy. It should be easy for the gynecologist, at least, if not for all practitioners, to understand why a floating kidney should cause these symptoms in the circulatory and nervous systems, for we see exactly the same phenomena brought about by a lacerated cervix. There a diseased condition of less than a square inch of tissue will cause the most marked disturbances in distant parts of the body—headaches, disorders of vision, loss of memory, palpitation of the heart, obstinate constipation and dyspepsia. And when we remember that the great sympathetic nerve and the termination of the right pneumogastric go to form the solar plexus, which supplies all the abdominal viscera; that these two nerves supply the heart, and that the sympathetic controls the circulation of the brain, it is not difficult to understand why the irritation of a floating kidney, pulling and dragging at the solar plexus, should produce all these reflex disturbances in distant organs. As you know, the solar plexus is situated behind the stomach and in front of the aorta and crura of the diaphragm. It surrounds the celiac axis and root of the superior mesenteric artery, extending downward as low as the pancreas and outward to the suprarenal capsules.

Then we find symptoms directly due to the displacement of the kidney, such as pain in the back, partly caused by the dragging, and partly due to the intermittent hydronephrosis, caused by the kinking and consequent blocking of the ureter. In such cases the woman passes very little water during the day, and the pain increases steadily until she goes to bed at night, when in a few minutes after having emptied her bladder, she will have to get up again, and she will then pass a large quantity of urine, and experience great relief. In other words, she has an intermittent hydronephrosis. In one of the writer's cases the right kidney was found in the left iliac fossa, and as the woman was extremely thin the kidney could not only be felt, but could be seen moving anywhere in the abdomen to which it was pushed. In another case the dis-

tended kidney attained the size and appearance of an ovarian cyst, completely filling the abdomen, and was removed by the writer by abdominal section with complete success. Although marked emaciation is not a symptom, but is rather a cause, of floating kidney, yet it is so constantly coexistent that it may almost be regarded as one. Certainly when a woman complains of the reflex disturbances above mentioned, and is, at the same time, very emaciated, the idea of floating kidney should at once come to mind.

Diagnosis.—When the possibility of the presence of floating kidney has even been thought of the diagnosis is comparatively easy. The difficulty so far has been that the symptoms have been attributed to some other cause, which has generally been supposed to be in the generative organs. And these latter have been subjected to treatment, more or less severe, which they did not require or deserve. In one of the writer's cases the patient had had cur-etting and repair of the cervix, and removal of the ovaries, without in the least relieving the pain, when, on making a careful search, the right kidney was found to be prolapsed. This was stitched up, and the patient was completely cured. It is especially important to remember that all the reflex disturbances may be due, wholly or in part, to floating kidney. When the latter can be distinctly felt wandering about the abdomen, the diagnosis presents no difficulty. But when it has only moved two or three inches away from its proper place it is not quite so easy to decide. Even such an able diagnostician as Lawson Tait diagnosed a case as one of distended bladder, and operated for it in the dorsal position. He found the gall-bladder and adjacent tissues healthy and the kidney in its place. He thereupon came to the conclusion that the tumor which he and several others had distinctly felt, was an hysterical tumor. As the patient continued to complain, another operator was called in, who, on examining in the erect posture, found a movable kidney, and completely cured the patient's long suffering by performing nephrorrhaphy.

If we make it a rule to examine for floating kidney while the patient is standing up and leaning forward with her hand upon a chair, so as to relax the abdominal muscles, while the examiner sits on her right side and a little behind her, we will rarely fail to disclose it, if it is movable. The fingers of the left hand are firmly pressed into the hollow of the back, and the fingers of the right hand are pressed into the abdomen under the ribs in front until they meet upon the kidney if slightly displaced, or above it if displaced very considerably. Edebohls says he has always succeeded by directing the patient to sit upon the edge of a chair, with the body inclined forward and the hands resting upon the knees. In some cases the writer has found a rigidity of the abdominal muscles, which gave very much the same sensation as a floating kidney; while in others the rigidity absolutely prevented anything being felt in the abdomen. In these cases a little anesthetic will enable one to clear up all doubt. The only two conditions with

which we could confound movable kidney are a distended gall-bladder and cancer of the pylorus. The writer was called to a consultation a year ago with two confreres who had diagnosed, the one cancer of the stomach, and the other distended gall-bladder, while the writer diagnosed floating kidney. She had pain, marked dyspeptic symptoms, and a bad color; but she had no lump or tumor anywhere while lying down, neither at the pylorus nor under the liver. But on standing up, a typical kidney-shaped tumor made its appearance, and could be felt about five inches below its proper place.

In another case, which proved to be a case of cancer of the pylorus, the tumor was not unlike the size and shape of the kidney. It had great mobility, but it could not be pushed up under the left ribs.

Treatment.—As marked emaciation seems to produce floating kidney, is the converse true that marked fattening will cure it? Certainly marked improvement of all the symptoms generally appears if the patient can increase the deposit of fat in the abdomen. As we have already said, the Weir-Mitchell treatment of rest and forced feeding has been followed by great benefit; and a few cases are on record of apparent cure of the disease without treatment, simply because an improvement in nutrition took place. In several of the writer's cases all the symptoms disappeared, and the patient was perfectly well as long as she laid in bed on her back. If the patient can afford it, this treatment is worth trying. The majority of patients, however, want a more rapid relief, if not cure, and for them there are two methods of treatment. The one which most of them prefer, although it is not the most satisfactory one, is to support the kidney by some form of bandage or pad. If the kidney is only an inch or two out of place, a well-fitting corset will push everything above the waist-line up and consequently support the kidney. But if the kidney is below the waist-line, then the corset will push it down, as happened to one of the writer's patients. The truss-makers manufacture a pad and bandage for floating kidney, which the writer has tried in two cases without benefit. In fact, it made the patients worse, for it did not keep the kidney up, and when the kidney slipped past the pad the latter prevented the kidney from going up again. The only good that we may hope to accomplish with a pad and bandage is by crowding up the whole of the abdominal contents. For this purpose a round cushion should be made of chamois leather, and covered with a movable cotton cover, to be frequently changed. This cushion should be filled with curled hair for the sake of elasticity and lightness; and, indeed, for that matter, an air cushion of rubber might do as well, and it should be thick enough to give the woman when it is applied a distinct roundness or plumpness of the abdomen. It should be put on while she is lying on her back, and held in place firmly by means of a broad flannel or woven elastic bandage, so as to keep it evenly pushed into the abdomen. When

the patient stands erect all the abdominal contents will be supported, and the patient will experience great comfort immediately. A patient who consulted the writer while this paper was being prepared, has been fitted with such a pad and bandage, and experiences such relief from it that she will not entertain the idea of an operation for the kidney; but as she has a retroverted and fixed uterus as well, she will probably have to be operated on for that sooner or later, and it is better while we are doing any operations which may be necessary on the pelvic organs to stitch up the kidney at the same time.

In those cases in which the above methods of treatment are impracticable or unsuccessful, we must fall back upon nephrorrhaphy, or stitching the kidney to the back, which, as a rule, gives very satisfactory results. The patient is placed upon the face, while a round billet of wood or hard cushion, about eight inches in diameter and a foot long, is put under the abdomen, so as to push the kidney up towards the back. This does not interfere with the anesthetizing, but, on the contrary, leaves the movements of the chest free. An incision is made about four inches long, from the last rib to the crest of the ilium, through the skin, superficial and deep fascia along the outer border of the quadratus lumborum, and then through the conjoined tendon of the transversalis and internal oblique. We now come upon the loose fat surrounding the kidney, and this is picked up preferably with the fingers and opened, taking care not to open the peritoneal cavity. This happened once to the writer, but it was immediately closed and did no harm. It will now be easy to palpate the kidney through the wound, when it is grasped with a pair of bullet forceps or vulsellum, and brought up to, or better still, out of the wound. The convex border of the capsule is then incised for its whole length and turned aside, so as to leave a strip of kidney exposed to the width of half an inch. This is important, because failures have occurred from defective precautions to obtain a long and wide line of adhesions. The kidney should be fixed by not less than five silkworm gut stitches, passing through the conjoined fascia and entering a quarter of an inch into the kidney substance. Strange to say, this does not cause any hematuria as we might expect. When all the stitches are passed the kidney is dropped back into the abdomen, the space dried out, and the stitches tied not too lightly, and they are cut off short. During the last few operations the writer has not employed drainage, and the cases did equally well with those in whom he employed gauze, silkworm gut, or rubber drainage. Some claim that packing around the kidney with a strip of gauze increases the inflammation and exudation, and gives better adhesions; but, on the other hand, it prevents ordinary union, which is always desirable from a surgical standpoint when possible. Some operators, dreading that the silkworm gut sutures might cause suppuration, have attempted to anchor the kidney by temporary sutures going through the skin and muscles, and which they remove a

week or two later. But by this time the adhesions are not strong enough of themselves to hold up the kidney, which is then liable to fall again. Other operators have used catgut or kangaroo tendon for the same reason, but for the same reason are to be condemned. The silkworm gut stitches, if well sterilized and not tied too tightly, only suppurate in about 5 per cent. of the cases, and then can be easily hooked up with a crochet needle and removed. There is no objection to a little irritation of the cellular tissue, as mild inflammation of it causes the kidney to adhere more firmly. Some of the writer's patients have complained of soreness in the wound and on the hip-bone for a month or two, but eventually this disappears. It is important to remedy displacements of the uterus or of the other kidney at the same time, in order to obtain perfect results.

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OBSERVATIONS ON THE RELATION OF THE UTERUS TO THE THYROID GLAND.*

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For the past nine years or so I have been devoting some special attention to the treatment of diseases of the thyroid gland, more particularly by means of the use of electricity in various forms. The results have been laid before the Canadian Medical Association on two previous occasions, and also before other medical societies.

The present brief contribution is of a somewhat different character, namely, the relation of the uterus, or more properly speaking, the female reproductive organs to the thyroid gland.

A very cursory glance at current medical literature would suffice to dispel effectually any claim to originality in this theme, but it will also disclose a certain lack of unanimity on the part of our authorities.

For instance, the only reference in Flint's "Human Physiology" to this subject of relation to or sympathy with the thyroid is: "An instance is quoted by Longet of periodical enlargement of the gland in a female during menstruation, but there is no evidence that this is of constant occurrence."

In Walsham's "Practical Surgery" there is also but brief reference, namely, under causes of goitre: "In sporadic cases, heredity, disturbance of the sexual functions and conditions producing congestions of the head and neck, are given as causes."

* Read at the Thirty-second Annual Meeting of the Canadian Medical Association in Toronto, Ont., 1899.

The only reference which I can find in Osler's "Practice of Medicine," is under myxedema proper, viz.: "Though occurring most commonly in women, it seems to have no special relation to the catamenia or to pregnancy, though the symptoms of myxedema may disappear during pregnancy or may develop post partum." No allusion is made to the subject when speaking of goitre.

On the other hand, Hirst's "System of Obstetrics" clearly recognizes the relationship existing between the uterus and the thyroid, and I may therefore be excused for quoting rather freely from this work, as follows: "The hypertrophy of the thyroid gland, and consequent fulness of the neck, apart from any local disease or endemic influence during pregnancy, is such a sensible and frequent phenomenon that the ancients recognized its occurrence. Thus we see the Venus of Milo, a girl on the verge of womanhood, with a slender delicate throat, due to the rudimentary state of the thyroid, in strong contrast with the Venus Callipyge, a woman in magnificent maturity, undoubtedly parous, with a broad full throat and marked thyroid development. The Latins, scarcely less critical than the Greeks, observed the same appearance. . . . The organ diminishes in size during the puerperium, but remains more voluminous than prior to pregnancy. . . . The physiological hypertrophy of the thyroid gland at puberty and during pregnancy has been already mentioned. The exaggeration of this normal enlargement to such a degree as to be productive of serious symptoms is not an infrequent disorder of pregnancy. . . . A number of facts, fully supported by abundant clinical observations, render the theory almost certain that some necessary relation exists between pregnancy and certain cases of simple goitre. The disease is very much more common in women than in men. The intimate relation between menstruation and menstrual disorders and the thyroid is fully established.* The same connection between this gland and functional and organic disorders of the uterus and ovaries has been observed. The disease is observed much more frequently in women who have borne children than in sterile married women.† Bronchocele often makes its first appearance during pregnancy, increases rapidly in size during the period, and subsequently becomes reduced in volume. These facts indicate that whatever the true causes of simple goitre may be, pregnancy is often the actual exciting and determining cause. . . . The thyroid gland, first becoming prominent at puberty, remains stationary until pregnancy supervenes. During the first or second pregnancy the gland increases rapidly in size, but seldom giving rise to symptoms of severe dyspnea. In the interval between labor and the succeeding pregnancy the tumor is reduced in size, but remains a little larger than it was before pregnancy. . . . This process continues with each successive pregnancy, provided the woman does not succumb to the mechanical interference with respiration, until the meno-

* Lawson Tait, E. W. Jenks.

† Allen Thompson Sloan.

pause, when the tumor diminishes greatly in size or in rare cases entirely disappears."*

Turning to Mann's "System of Gynecology," we find this allusion: "*Thyroid Enlargement*—This symptom, taken as an evidence of physiological activity of the reproductive organs by the poets and physicians, as well as the common people of Rome, was even regarded by so acute an observer as Meckel (Barnes) as a repetition of the uterus in the neck. This I have repeatedly observed as an accompaniment—I cannot say positively a reflex—of uterine disease."†

Many more authors might be quoted *pro* and *con*, but the foregoing will be sufficient to establish the fact that the relationship is either not fully acknowledged by all whom we are accustomed to regard as authorities, or not thought to be of sufficient importance to dwell upon in their writings.

The observations to which I desire to direct attention are restricted to experience with about two hundred cases, and are as follows: Diseases of the thyroid gland are much more common among women than men. A direct sympathy, if nothing more, between the uterus and thyroid is manifested in many ways, so frequently in fact as to preclude the assumption of mere coincidence. Thus, before the establishment of the function of menstruation the thyroid gland is quite often found to be in a hyperemic or engorged condition. When menstruation is established this condition of engorgement usually disappears, although it may occasionally persist in a lessened degree. In the cases in which the thyroid does not resume its normal dimensions, it usually becomes more engorged before each menstrual period, receding in size upon completion of the period, or again there may be an accession in size at each period, which does not entirely disappear.

Enlargement of the thyroid, however, is not always a premonitor of approaching puberty. It is met with in children under eight years of age, and in one instance the thyroid had been prominent ever since birth.

Goitre occurring after puberty is frequently associated with amenorrhœa. In one case in which both amenorrhœa and goitre proved very stubborn, an infantile uterus was found. Treatment directed to the amelioration of this condition resulted in the establishment of menstruation and reduction in the size of the thyroid. In only one case has a diminution in size of a goitre during the menstrual period been noted, a parenchymatous goitre in a multipara.

When a patient with an enlarged thyroid becomes pregnant, the gland increases markedly in size with each pregnancy, to become smaller upon or shortly after delivery, although it rarely recedes to its dimensions before pregnancy.

* "American System of Obstetrics," article on Pregnancy, by William Wright Jaggard.

† "American System of Gynecology," article on the Hytero-Neuroses, by George J. Engelmann.

In many cases pregnancy is directly responsible for goitre, which makes its first appearance early after impregnation.

In several cases it has been noticed that while the thyroid gland was undergoing electrical treatment the susceptibility to impregnation has been markedly increased, and this with patients that had not been pregnant for several years.

The occurrence of the menopause is not always the signal for the recession or disappearance of a goitre; on the contrary it may increase at this period. In a few cases the goitre has not given rise to any inconvenience until the menopause. A goitre especially manifest after the climacteric should be regarded with suspicion as apt to be malignant in character.

At three periods of life has the thyroid been found most refractory to treatment: before puberty, during pregnancy and after the menopause.

This brief contribution deals with the subject in a very general manner only. No attempt has been made to burden it with figures, but I trust that enough has been shown to establish the contention. Apart from this, however, as a point of practical value the following conclusion may be drawn. In treating disease of the thyroid gland in women, it is wise to inquire into the condition and habits of the uterus, and to devote some attention to it as well as (if not indeed instead of) the thyroid. Very active measures should be omitted before puberty, during menstruation and pregnancy, while the climacteric is a time for especial suspicion.

ANTINOSINE IN THE TREATMENT OF CHRONIC ULCERS OF THE LEGS.

BY A. J. HARRINGTON, M.D., M.R.C.S., TORONTO.

CASE 1.—Woman, aged 68. Ulcer, kidney-shaped, two and a half inches long in the antero-outer surface of the left leg, one inch above the outer malleolus. This ulcer had been a source of much annoyance for twelve years, and had been healed over completely on several occasions. I advised complete rest and thought I would try antinosine on this case. I thoroughly disinfected the surface of the ulcer with 1-20 carbolic, and made linear incisions through the call us border of the ulcer all round. This relieved the engorgement of the cutaneous veins. I then thoroughly applied pure carbolic acid to the entire surface of the ulcer, and dressed it with an ointment of cocaine mur., four grains, morphia mur., two grains to the ounce of vaseline. This ointment I applied thickly on lint, over which I placed a thick layer of absorbent cotton, and bandaged the leg from the toes to the knee. I used this ointment as the ulcer was extremely painful, and it was most grateful to the patient. Next day I removed dressings and the ulcer looked clean and healthy. I made a few more incisions through the ring border

of the ulcer and dressed the sore with antinosine, over which I placed a layer of gauze, and then a thick large layer of cotton and a firm bandage as before. The ulcer was daily dressed, and improved each day with little irritation to patient. On June 12th the depressed ulcer surface was even with the surrounding skin; on the 26th there only remained a small corner of the ulcer, which broke down and was about as large as a pea. This ulcer I mopped out with pure carbolic acid, and on the 7th of July it was thoroughly healed over. I may here remark that the desiccative action of antinosine was most marked in this case, and there was very little serous exudate after the first few applications and was most soothing to the patient. This patient had had many different forms of treatment during the long time that she had been afflicted, and she says that this form of treatment is by far the finest she has ever had.

CASE 2.—This is a very interesting case. She had been informed by her former medical attendant that it would be very unwise to heal an ulcer like this, as it invariably broke out in another part of her body, and if it should so happen to break out in her brain it would cause her death!! What an axiom! This woman had an extensive ulcer on the antero outer aspect of the right leg, involving the greater part of the lower third of the limb. Under chloroform, I thoroughly scraped with a curette the whole ulcer surface, breaking well into healthy tissue all around. The ulcer was thoroughly irrigated with a 1-500 solution of bichloride of mercury, and then with a 1-2000 solution. Then it was dusted thickly with equal parts of boric acid and acetanilid, and then packed with moist boracic gauze. Over this was placed absorbent cotton, and firmly bandaged with a gauze bandage. There was a great deal of pain during the first twenty-four hours, which was caused by the dusting powder, as it has since acted in a similar way with me. I did not intend to change this dressing so soon, but she complained so much of a hot, painful feeling that I changed the dressing, and put on antinosine powder and dry dressing. I left her for three days, and when I took off the dressing there was a marked improvement. The ulcer surface looked healthy and clean, and she said it felt quite comfortable. I dressed the leg again, and requested her to change the dressing each morning; and when I saw it again in a week it was decidedly better. I saw the leg again on two occasions, and on September 6th, six weeks after having begun the treatment, the ulcer was thoroughly healed over. I instructed her to wear a gauze bandage daily for a year. These bandages are light, easily applied, and I have found them most beneficial in lesser cases of varicose veins, answering much better than rubber bandages or elastic stockings.

CASE 3.—Mrs. A—, aged 60; small ulcer, one-half inch in diameter, one inch above outer ankle. She had been using carbolated oxide of zinc salve on it. On July 4th I scraped the ulcer and swabbed over the surface with pure carbolic acid; dressed with antinosine daily, at same time using bandage from foot to knee: By August 2nd, ulcer was completely healed over.

Medical Jurisprudence and
 ... IN CHARGE OF ...
 N. A. POWELL, M.D., AND W. A. YOUNG, M.D. *Toxicology.*

**THE MEDICAL EXPERT'S DUTY AND WHERE HE MOST
 FREQUENTLY FAILS IN IT. WITH ILLUSTRATIONS
 FROM THE ZELNER CASE.**

BY JOHN V. SHOEMAKER, M.D., LL.D., OF PHILADELPHIA.

EVEN to the ordinary non-expert and non-professional observer it is very obvious that, at the present time, there is something seriously remiss with the medical expert. Why is it that his opinion has come to have so little weight with the court and jury, and is so generally discredited by the public? What possible warrant is there, for instance, for this charge against the professional expert, grave in its implication, made by Judge Davis, of the Maine Supreme Court: "If there is any kind of testimony that is not only of no value, but even worse than that, it is, in my judgment, that of the medical expert?" A partial explanation, by no means, however, complimentary, was given by Chief Justice Chapman, of Massachusetts, who said: "I think the opinions of experts are not nearly so highly regarded as they formerly were; for, while they often afford great aid in determining facts, it often happens that experts can be found to testify to any theory, however absurd." Justice Grier, of the United States Supreme Court, has also publicly stated that "Experience has shown that opposite opinions, of persons professing to be experts, may be obtained to any amount."

It must be that there is some grave dereliction of duty on the part of individuals appearing before the courts of justice in the capacity of medical experts, to give occasion for statements from the bench which reflect so directly and seriously upon the credibility and value of their testimony and indirectly upon the whole medical profession. Let us inquire very briefly as to the duty of the medical expert.

It is the theory, and should be the practice, that the medical expert is called in as *amicus curiæ*, a friend of the court, to facilitate the attainment of the ends of justice. He is brought into court, in the first place, to elucidate by his explanations technical points connected with his profession which otherwise would be

obscure and which might escape comprehension by court or jury; and, secondly, to carefully formulate and express an opinion, based upon his skilled knowledge, upon hypothetic cases submitted to him upon the witness-stand. The medical expert should always keep in mind the wise admonition of Taylor.¹ "In reference to *facts*, a medical witness must bear in mind that he should not allow his testimony to be influenced by the consequences that may follow from his statement of them, or their probable effect on any case which is under trial. In reference to *opinions*, their possible influence on the fate of a prisoner should inspire caution in forming them; but when once formed they should be honestly and candidly stated without reference to consequences." . . . "The questions put on either side should receive direct answers from the medical witness, and his manner should not be perceptibly different whether he is replying to a question put by counsel, for the prosecution or the defence. The replies should be made in simple language, free from technicality."

Having briefly summarized his duties, let us inquire as to the points upon which the medical expert is often remiss. The first and most glaring fault that the medical expert can commit is to permit himself to form a positive opinion as to the general merits of the case, or as to the guilt of a prisoner, and to allow his bias, consciously or unconsciously, to influence his testimony. A second fault, somewhat similar to the first, is the forming of a judgment upon very insufficient grounds and expressing positive convictions upon doubtful points, thereby possibly lending the weight of his personal authority to support error. A third fault is want of scientific accuracy in his definitions and explanations to the court, and the use of technical terms without explaining them in simple language. A fourth fault is in making rash and unguarded statements in reply to questions which require deliberation in order to be answered properly. A fifth fault is in attempting to reply to questions which have not been properly framed, or which are improper in themselves and which should not have been asked of him at all.

A recent trial before the criminal court of this city has again directed attention to the lamentable differences of opinion among those who were called upon to testify as medical experts, and has led many, both in and out of the medical profession, to wish that some arrangement might be devised by which the ends of justice might be attained with less display of differences among doctors. The old question, "*Quis custodiet ipsos custodes*," may be well asked, when authors of text-books and teachers of therapeutics fail to agree upon such simple questions as the diagnosis of strychnin-poisoning and the toxic dose of this well-known alkaloid. In the *Philadelphia Medical Journal*, Professor H. G. Wood, one of the witnesses for the prosecution in the case referred to—the Zerner case, in which a widow was under trial for causing the death of

her husband and was acquitted—has contributed an article in which he expresses his opinion that in this instance there has been a gross miscarriage of justice, and declares that the fault lies at the door of the legal profession and the community. He insists that very radical changes must be made in the system now followed in all our criminal courts, upon whom he lays the blame for "the greatest blot upon American civilization, the extraordinary number of homicides in the United States." In his distribution of censure he omitted, inadvertently, no doubt, to discuss the question whether or not the medical expert himself might not be somewhat at fault. The present communication takes up this side of the question, without intending, however, that it shall be entirely personal in its application, although it will be necessary to refer specifically to Dr. Wood's testimony, in illustration of some of the points that will arise in the progress of the discussion of the salient features of the medical expert testimony in the trial of Mrs. Zelner.

The stenographer's official report of the cross-examination contains some remarkable statements, which deserve to go on record among the curiosities of medico-legal literature. It will not be unprofitable to review a part of the testimony in illustration of some of the faults enumerated.

The following extracts are taken *verbatim* from the the testimony of the medical experts. Dr. Marshall was not quite accurate when he defined the "ptomain" of tetanus (page 156^a) as "a ptomain that results from the life of the tetanus bacterium." In his reply to the question, "Will not the ptomains that arise (in the body), the cadaveric ptomains, many of them produce spasms of lockjaw?" He said, "I know of none except the tetanus-ptomain." As a matter of fact the tetanus-poison is not a ptomain at all, but a specific nuclein or toxin, having little in common with cadaveric alkaloids. The question was also asked of Dr. Marshall, "Is it not a fact that the same colors and the same reactions that you have described here may be the result of contact with ptomains?" to which Dr. Marshall replied, "No, sir;" and when asked if he was positive about that, he responded "Yes." But he should also have informed the court that Ciacci³ and others declare that there is a ptomain like strychnin, "which resembles strychnin in color-test to sulphuric acid and potassium bichromate."⁴ Halliburton ("Physiological and Pathological Chemistry") says that "there is, so far as at present known, no class-reaction by which alkaloids of animal can be separated from those of vegetable origin."

Dr. Marshall further testified (page 165) that the total quantity of alleged strychnin found in the tissues (.015 gr.) "is consistent with the administration of a toxic dose and inconsistent with the administration of a medicinal dose," and yet some therapeutists have administered larger doses. Pereira ("Materia Medica," Vol. II., p. 548) reports a case of a Swede, who was given $\frac{1}{4}$ grain of strychnin three times a day for several weeks. "The dose was then increased to $\frac{1}{4}$ grain, and afterwards to $\frac{1}{2}$ grain, with the same

frequency, for many days without any marked effect." He finally died, however, of a strychnin-asphyxia.⁵ Dr. Marshall also made the remarkable statement that when strychnin is referred to in the text-books, strychnin sulphate is usually meant. "That is, among physicians, if a physician speaks of strychnin, he means strychnin sulphate" (page 166). And this in spite of the fact that we have such a thing as a United States Pharmacopeia, which defines strychnina as strychnin, and in which both strychnina and strychninæ sulphas are officinal. Certainly no reputable physician, in writing a prescription, is in the habit of ordering "strychnin" when he means "strychnin sulphate."

The total quantity of the substance which Dr. Marshall obtained from about ten pounds of muscular tissue taken from the thighs and a portion of the brain, and which he positively declared was strychnin, amounted to only .0296 G. (nearly .03 or $\frac{3}{100}$ grain). Mr. Robinson, from a larger quantity of material, extracted enough to make it amount to $\frac{1}{4}$ grain altogether. The latter gentleman stated that he had also found in the stomach and intestines another $\frac{1}{4}$ grain, so that the two chemists working on about twenty pounds of tissues from Reuben Zelner's body, assert that they detected about $\frac{1}{2}$ grain of absorbed strychnin besides about $\frac{1}{4}$ grain of strychnin in the intestinal tract which had not been absorbed (and consequently had not caused any toxic effects).

The coroner's medical examiner, Dr. Cattell, testified that he had personally never witnessed a case of strychnin-poisoning and was not familiar with the symptoms; and also that he had found lesions in the brain, which, "if in larger number, might have caused death," and yet, which he "did not think" could have been the cause of death. Nevertheless, he was willing to swear positively, after having been informed of the results of the analysis made by Dr. Marshall and Mr. Robinson, that the condition found "was not consistent with death from natural causes" (page 202) and that "Reuben Zelner died from the effects of strychnin-poisoning" (page 204). At the same time he refused to declare that there were no ruptures of the brain or its membranes; he would only say that he "did not see any." He admitted, however, that there were lesions of the spinal cord (page 206) which he could see with the naked eye, and congestion of the blood vessels (page 207).

When asked by the court if this condition of the spinal cord, when taken in connection with the lesions found in the brain, could in any case have caused death, Dr. Cattell said, "I can't answer that question." And then he explained his inability on the ground that "it is too indefinite" (page 208). This answer concluded his testimony, and left the court with a reasonable doubt as to the cause of death, and discredited his former positive statement that death was caused by strychnin and by nothing else.

Dr. Horatio C. Wood was placed upon the stand and was asked if he had read the testimony of Sergeant Hoffman, and had heard the testimony of the two chemists, Dr. Marshall and Mr. Robinson,

and also the testimony with regard to the negative results of the *post-mortem* examination; and, on his reply being affirmative, he was further asked by the District Attorney the following question: "Taking all these into account, what do you say was the cause of death of Reuben Zelner?" His reply was given without a moment's hesitation, "My opinion is that the death was due to strychnin-poisoning. The cause of death was strychnia."

With due respect, it may be submitted that the District Attorney should not have asked, and Dr. Wood should not have answered, this question. Dr. Wood should have demanded that a hypothetical case should be submitted for his opinion, and his reply should have been (unless he changed his mind), "My opinion is that in the hypothetical case submitted to me, the cause of death was most probably strychnin-poisoning." The testimony at most could only establish a strong probability and not an absolute certainty. There were not sufficient facts in the evidence submitted to make it clear enough to warrant the expression of a positive opinion as to the cause of death. The only witness who testified to the clinical symptoms gave testimony which, both positively and negatively, was opposed to the theory of death as the result of strychnin-poisoning. Sergeant Hoffman did not give in his graphic recital the characteristic and classical symptoms of strychnin-poisoning. He said nothing about convulsions until he was interrupted by the District Attorney, who suggested the words "convulsive and rigid," whereupon he replied, "Yes," and then continued his account, which showed that he had no apprehension of a fatal result, and said that he considered it an ordinary case of cramps, until Zelner "turned his face to the right and he says 'dying,' he straightened out and was dead." How can any unprejudiced mind see any analogy here to the violent convulsive spasms which accompany strychnin-poisoning? Zelner simply straightened out, or stretched himself out, in his death agony—no convulsions of muscles, no locking of the jaw, no lividity of the face.

One fallacy appeared in the evidence that, in passing, invites examination. Without commenting upon the fact that Dr. Wood added together the amount of alleged alkaloid extracted from the tissues and that which had *not* entered the tissues but was found in the stomach, in order to make an amount large enough to approximate what he fixed as the toxic dose of strychnin ($\frac{1}{2}$ grain), let us proceed to examine his statement that "the minimum dose of strychnia that has taken life in the adult is from $\frac{1}{4}$ to $\frac{1}{2}$ grain." . . . "So that there was present without doubt more than the minimum fatal dose of strychnia in the body of Mr. Zelner." The fallacy here consisted in assuming that the minimum fatal dose, or something near it, would necessarily be fatal in the case under discussion. Why did not Dr. Wood inform the court that strychnin has been given medicinally in doses of $\frac{1}{4}$ and $\frac{1}{2}$ grain, without producing death, and that in a recent issue of the *Therapeutic Gazette* he had himself advised the administration of $\frac{1}{2}$ grain of

strychnin sulphate at a dose? Dr. H. G. Thomas, of Alliance, O., reported a case in which a man swallowed 5 grains of strychnin, and one hour and three-quarters elapsed before any symptoms manifested themselves, and yet, under the use of emetics, the patient recovered. Dr. T. Anderson has also reported a case of a man who took 7 grains in two doses, five hours apart and entirely recovered. (*American Journal Medical Sciences*, 1848, page 562.⁶)

In Dr. Wood's own work on "Therapeutics," he mentions cases where 10, 20, and, in one instance, even 22 grains of strychnin have been swallowed and yet failed to cause death.⁷ Moreover, the statement of Dr. Wood, that strychnin, when taken in medicinal doses, does not accumulate in the system, must not be taken too absolutely, as it is a rule with exceptions. Dr. Wormley, a former colleague of Dr. Wood's, said that "This result has occasionally been observed," and gives an illustrative case.⁸

When asked if the phenomena might not have been due to poisoning by ptomains, Dr. Wood replied (page 222), "Ptomain-poisons don't act like strychnia upon the blood pressure. The whole question of ptomain-poisoning, I may say, is a very recondite, hidden one, with a very great deal of difference of opinion even as to their existence in the profession; but they are usually very typical, producing gastrointestinal irritation, with lower blood pressure, more or less fever and exhaustion, with or without convulsions. Ptomain-poisoning does not produce an abrupt death, a straightening-out, which was described in this man; which I have never seen in anything but strychnia-poisoning, and which I cannot conceive of as coming from anything but strychnia or tetanus."

Is there not some recklessness of speech in such statements? Dr. Wood may not be fully posted as to what is going on in other departments at the university than his own, but he should know that all the principal medical colleges in Pennsylvania include in their teaching to the students some positive instruction on the subject of ptomain-poisoning, which is by no means a "recondite, hidden one" at the present day. McFarland's "Text-Book upon the Pathogenic Bacteria" (Philadelphia, 1898), which is received as an authority and recommended to students by the Faculty, has, on page 78, a very clear statement as to the nature of these putrefactive alkaloids, and named a number of them, which are now recognized by those familiar with the subject. It is not true that there is "a very great deal of difference of opinion, even as to their existence, in the profession," if we mean by this term the portion of the profession which is informed upon the subject, and whose opinion alone should have any weight in a court of justice.

Experiments made by Laborde upon a substance extracted from the spleen of an ox showed that it possessed decided toxic properties, "bringing on a dyspneic condition with convulsive movements and loss of motion." (Vaughan and Novy, "Ptomains, Leukomains, Toxins and Antitoxins." Philadelphia, 1896. Page 539.)

Ptomains giving reactions similar to those of strychnin and also causing tetanic spasms, have been found in dead bodies by Selmi and others (Vaughan and Novy, page 284). A few milligrams of one of these ptomains injected under the skin of frogs "caused instantaneous death."

When more specifically questioned as to the cause of death, Dr. Wood replied categorically to questions as follows:

(Page 231.) Q. In this case what would you say was the cause of death?

A. Cramp asphyxia.

Q. Explain what that means.

A. It means that the spasm of the muscles of the trunk sets the trunk in a rigid cast so there can be no movement of inspiration or expiration, and no air comes in and out of the lungs, and the patient dies.

(Page 232.) Q. Does he die from want of air?

A. No, sir; there is plenty of air there; he dies from inability to get air in.

Q. And to get air out?

A. Yes, sir.

Q. He cannot respire at all?

A. No, sir; he cannot move his chest.

And yet Officer Hoffman swore that this man who, according to Dr. Wood, could "not move his chest," and who died "from inability to get air in," conversed with his attendants and uttered complaints up to the very moment of dissolution!

The learned judge permitted the question to be asked, "whether or not such a condition of brain as that (which Dr. Cattell had described) would be found in a case of strychnia-poisoning." Dr. Wood replied, "Any violent continuing convulsion, putting an enormous strain and pressure on the blood vessels, may give rise to little ruptures of the blood vessels, and there may escape into mucous membranes of various character minute spots of blood, and they may give rise also to trouble in nerve-tissue; in forcing out as fluid some of its watery parts, and so, while the existence of ecchymoses, or the existence of watery exudation, does not prove that a patient had died of strychnia-poisoning; and while their absence does not prove that the case was not strychnia-poisoning, they may be present; they are an accident secondary to poisoning, shifting, sometimes present, sometimes not."

The coroner's physician, as has already been stated, admitted that lesions in the brain in the case of Reuben Zelner might have existed, and yet have been overlooked by him, on account of his neglect to use all the means at his command to determine whether they were present or absent. Dr. Cattell, when asked whether or not death might result from such microscopic lesions of the brain, testified at first that he did not know; and then, correcting himself, declared positively, "I say death might occur from such lesions" (page 201). This admission that the cause of death

had not been positively established, and that a more careful examination of the brain might have revealed lesions which might have been the cause of death, left the whole question in doubt and broke the back of the case of the Commonwealth. This is more particularly evident when the statement is taken in conjunction with the second admission of the coroner's physician, that he did find a lesion of the brain, "a slight edema" (page 204), and "a fluid which leaked out of the blood vessels," and his confession, when in reply to the question, "Wouldn't such fluid, leaking out of the blood vessels, cause death?" that "it might." The amount of edema, or effusion, amounting to 15 cc., "or perhaps half an ounce," according to this authority, did not cause death, "because it was not sufficient;" however, "if in sufficient quantity, it might cause death."

Collating the evidence of Dr. Wood and Dr. Cattell upon the subject of the condition of the brain and spinal cord, the edema and serous effusion—what is commonly known as "serous apoplexy"—it appears that *if it had been caused by strychnin-poisoning it must have been the consequence of* [in the words of Dr. Wood] "*violent continuing convulsions, putting an enormous strain and pressure on the blood vessels.*" Now, it is very clear that the prosecution produced not a scintilla of evidence that such "violent continued convulsion, putting enormous strain on the blood vessels" had been observed during life. If Reuben Zelner's features had been livid and turgid with blood, would not this fact have struck even an unprofessional observer? If he had been black in the face, would not the friendly policeman have been impressed by it? If there had been "violent, continuing convulsions," would not the bystanders have commented upon the fact? It is very significant that Officer Hoffman said not a word about convulsions, violent or otherwise. In fact, convulsions, although the keystone of the arch of the theory of strychnin-poisoning, would not have appeared in the testimony at all, had not the Attorney for the Commonwealth put the words in the witness's mouth by a leading question, and although the witness answered "yes," it is doubtful if he fully comprehended the sinister significance of the question. Further examination of this man (who was the only witness of the symptoms prior to death that the Commonwealth relied upon to bolster up the theory of the medical experts that the symptoms were produced by the toxic action of strychnia) developed nothing to sustain this theory, but on the contrary he swore that there was no sardonic grin and no lividity of the face, and other symptoms usually present in strychnia-poisoning. The only clinical fact elicited by the Commonwealth in support of the theory of strychnin-poisoning was cramps in the legs, unless the statement that "he straightened out and was dead" might, in the mind of the medical expert, become transformed into "violent, continued convulsions," which would be required, according to Dr. Wood's testimony, to account for the

existence of the brain lesions found by Dr. Cattell, which Dr. Cattell swore might have caused death, but did not because there were a few cubic centimeters less of the fluid in the brain than he considered requisite to produce the fatal result.

And it was on testimony such as this that the prosecuting attorney relied to convict, on otherwise purely circumstantial evidence, a poor woman of one of the most serious crimes known to criminal law! The learned judge certainly showed great restraint in simply directing the jury that no case had been made out, and that it was their duty to acquit the defendant without leaving the box, instead of expressing his just indignation that a woman's character should have been assailed and a human life should have been put in jeopardy on such flimsy grounds.

In the article published in the *Philadelphia Medical Journal*, February 18th, 1899, upon the Zelner case, Dr. Wood alludes freely to the "lust for gold," and intimates that the medical witnesses for the defence were animated by mere mercenary motives. In reference to this particular case the most direct rebuttal that could be made to the implied charge is contained in the following letter, which I submit from the defendant's counsel:

"MY DEAR SIR,—I have read Dr. Wood's article on the Zelner case in the *Philadelphia Medical Journal* of February 18th, 1899, and I note these statements: 'From doctor to doctor with a large fee in hand, the counsel goes, until at last a man is found who is willing to give the opinion that is wished.' . . . 'Dr. Hobart A. Hare was consulted by the attorneys for the defence, but gave the positive opinion that the case was one of strychnin-poisoning, and consequently he was not called upon to testify.' It is the fact that Dr. Hare was consulted by one of my colleagues solely at your request as to his ability to qualify as an expert for the defence. No *positive* or any other opinion was given by him that the case was one of strychnin-poisoning. His sole reason for declining to act as an expert was, 'I would not care to take the stand as opposed to Dr. Wood,' intimating, I believe, that Dr. Wood has been his preceptor. No fee was offered or demanded by him, and the only fees paid were those paid to yourself and Dr. Meeker, both very moderate and proper, and entirely consonant with the limited means of the unfortunate prisoner, and very much less than the sum for which Dr. Woods afterwards 'mandamus' the city. No other physician was approached or consulted, and Dr. Hare would not have been thought of, if you, yourself, had not suggested him. It is to be observed, therefore, that these statements, along with nearly all others of the article, have merely a bowing acquaintance with the facts; they certainly can claim no undue familiarity with them. The ingenious and versatile gentleman who wrote the article has embellished and adorned it with the fragrant flowers of an oriental fancy. His whole paper as a literary production is unique. It cannot be classified. As a work of fiction it lacks interest; as a mere history, it is redolent of legend and fable.

And yet it carries us back to the trial, and reminds us that we should be profoundly grateful to this eminent gentleman, who for thirty years has contended in courts of justice with those adverse forces which have retarded American civilization, and made the American people a 'byword and a reproach' among the 'upper middle classes in England and the Continent of Europe;' grateful in the knowledge, which we are sure will also gratify Dr. Wood, that his remarkable effort on the witness-stand to reconcile and harmonize (or perhaps differentiate) the expert and the author, potently determined and greatly accelerated the very sensible conclusion of the Zelnér case.

"Very sincerely yours,
 "(Signed) MAXWELL STEVENSON.

"To JOHN V. SHOEMAKER, M.D., 1519 Walnut Street."

1. "A Manual of Medical Jurisprudence," by Alfred Swaine Taylor. Eighth American edition, by John J. Reese, M.D., Philadelphia, 1880. Pages 48 and 54.
2. This number refers to the page of the stenographer's court report.
3. Vaughan and Novy, "Ptomaines, Leukomains, Toxins and Antitoxins." Philadelphia, 1896. Page 539 *et al.*
4. Also see Farquharson on the "Medico-legal Importance of Ptomaines," *The Journal of State Medicine*, London, January, 1893.
5. Quoted by Wormley. "Micro-Chemistry of Poisons" (page 548). Philadelphia, 1885.
6. Quoted from Wormley's "Micro-Chemistry of Poison." Philadelphia, 1885. Page 546.
7. "Wood's Therapeutics, Its Principles and Practice," 9th edition. Philadelphia, 1896. Page 546. 8. *Loc. cit.* (page 548).

—*The Philadelphia Medical Journal.*

W. A. Y.

Plague and the Mecca Pilgrimage.—Something approaching alarm must be aroused by the news as to the outbreak of plague at Jeddah, the port of Mecca, on the Red Sea, and the behavior of the authorities there. Attempts at enforcing quarantine regulations at Jeddah met with direct opposition by the pilgrims and residents; the troops, it is said, sided with the pilgrims when attempts were made at isolation. An outbreak of plague at Jeddah or Mecca will too probably be followed by the establishment of the disease in Egypt, Syria and Turkey. With the shores of the Suez Canal infected, the infection of Europe is a contingency quite within the range of possibilities, and one of the chief stepping stones in the path of infection is by way of the Mohammedan pilgrimages to Mecca. Any laxity in the sanitary regulations at Jeddah can but hasten the inroad. We observe in India also that the presence of plague is being taken as a matter of course, and that the stringent rules of segregation and isolation are giving place to social conveniences. We have no fear, however, of the Indian authorities losing their hold on the outbreak of plague; but in an uncivilized country, such as Hedjaz, with what authority there is set at defiance, and the possibility of spreading the disease unlimited, we cannot but feel concern.—*Brit. Med. Jour.*

**REPORT OF DEATHS FROM ALL CAUSES AND FROM CONTAGIOUS DISEASES IN ONTARIO FOR
THE MONTHS OF JUNE AND JULY, 1899.**

PREPARED BY P. H. BRYCE, M.A., M.D., DEPUTY REGISTRAR-GENERAL.

JUNE, 1899.

Total Population Reporting.	Total Municipalities Reporting.	Total Deaths Reported.	Rate per 1,000 per annum from all causes.	Scarlatina.	Diphtheria.	Malaria.	Whooping Cough.	Typhoid.	Tuberculosis.	Rate per 1,000 per Annum.
2,108,066 92%	675 88%	1,621	0	12	22	5	4	13	157	0.9

JULY, 1899.

2,168,115 95%	670 86%	1,643	0.5	7	20	5	6	15	178	1.0
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Population of Province 2,293,182

Registration Divisions of Province..... 777

The Canadian Journal of Medicine and Surgery

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VOL. VI.

TORONTO, NOVEMBER, 1899.

NO. 5.

Editorials.

DR. SCHWENINGER'S TREATMENT OF OBESITY.

PROFESSOR HERMAN COHN, of Breslau, when stopping at Baden-Baden visited an establishment for the treatment of obesity according to Dr. Schweningen's method. The method was decidedly strange, but the results were so brilliant and the cures so marvellous that he gives in *La Presse Médicale* a full account of it in all its details. He mentions cases of obese persons who lost twenty pounds

after a stay of five weeks, and fifty pounds after eight weeks. A lady who weighed 240 pounds, was brought down after nine months' treatment to 145 pounds. Obese persons who were subject to cardiac arrhythmia and had taken digitalis for years, recovered rapidly the regular functional working of the heart. Before the cure they could not take two steps without losing breath; afterwards they could take long walks without the slightest fatigue. An obese person who was forced to stop at every step when mounting a staircase could, after six weeks' treatment, with the greatest ease, walk up to the castle of Baden, which is situated at a height of 435 metres. Patients subject to insomnia began to sleep six or seven hours at a stretch after treatment. The Schweninger cure depends on the use of three therapeutic methods: (1) massage of the abdomen, (2) hot baths, (3) diet.

Massage.—This is done three times a day—before breakfast, dinner and supper—and each sitting lasts a quarter of an hour. The patient lies on a couch, the thighs slightly flexed on the abdomen, the legs on the thighs in order to relax the walls of the abdomen, the hands placed at the occiput to support the head. Each sitting of massage comprises three distinct series of manipulations—tapping, pinching and kneading. The physician begins by tapping on the epigastric region, at first lightly, afterwards more strongly, so as to sink his two fists as deeply as possible into the abdomen of the patient. In the meantime, the patient is obliged to breathe deeply, as deeply as possible, in order to exercise his diaphragm. The effort is so difficult and painful, that at first the patient can only take five deep respirations; later on he can take twenty deep respirations. The physician next practises pinching. He grasps between the palms of his hands large pieces of the abdominal walls and squeezes them as forcibly as possible, in such a way as to crush the subcutaneous fat lobules. The force employed is so great that the patient's skin is covered with bruises. This is a most painful kind of massage and often extracts groans and tears from the patient.

To execute the third stage of the treatment, the physician places himself over the patient, sinks his knees as deeply as he can into his abdomen and principally in the epigastric region, remaining in this position until the patient shall have taken at first five, afterwards seven, then ten, and finally thirty deep inspirations.

According to Schweninger this part of the treatment is of the greatest importance, for it alone enables the operator to effect a

suitable gymnastic exercise of the diaphragm, and to cause the melting of the fat, which surrounds the heart and lungs and interferes with their proper functions.

Professor Cohn could scarcely believe his eyes the first time he saw this treatment. He feared at every moment that he would see the intestines of the patient ruptured and the movements of the heart arrested. Nothing of the kind happened; the patients came out of it safe and sound, although they had to go through it three times a day. At last they got used to it. They were very tired after massage and were obliged after each sitting to remain stretched on the couch for some time.

Hot Baths.—The hot baths are also given in a peculiar fashion. On the first day the patient takes a bath for the arms, on the second day for the legs, on the third day for the hips, and the series recommences in the same order as long as he stays at the hospital. Entire baths are never given. These baths are given in a very simple but special kind of apparatus. For the arm-bath, beginning at the shoulder, they use a kind of tin box, provided with a cover pierced with four holes, two for the entrance of water and two to let it escape; inside there are two supporting straps for the hand and forearm. The bath for the inferior extremities is shaped like a boot. The hip baths are given in ordinary bath-tubs. The initial temperature of the bath is 99.5 F., and it is progressively raised to 122° F. The bath lasts for twenty minutes. The first impression caused by the bath, especially the hip bath, is extremely painful, the patient experiencing a kind of sudden shock; after some time he gets used to them and can stand the high temperature. Such is the fatigue, which supervenes after these hot baths, that the patients generally fall asleep for half or three-quarters of an hour.

Diet.—The diet is equally singular. Everything is served in very small quantities, and the dishes and plates bear a proportion to the portions served. The glasses are doll glasses, scarcely holding eleven drachms of liquid; the plates are so small that a slice of meat has scarcely room on it. The knives, forks and spoons are all small, as if intended for children. The meals are taken with the greatest regularity every three hours, first breakfast at 7.30 a.m., second breakfast at 10.30 a.m., dinner at 1.30 p.m., collation at 4.30 p.m. and supper at 7.30 p.m. There is no regular dining table; the patients eat in their own rooms and a few minutes suffice for each meal. The foods which are rigorously excluded from all meals

are bread, biscuits, cakes, butter, fat, sugar, coffee, tea, milk, wine, beer and brandy. However, the menus are varied. At the first breakfast the patient gets a slice of Dutch cheese or Gruyere, but without bread or butter, or ten prunes, or an egg, or a plate of potatoes, or a slice of ham, or a plate of turnips or carrots, or a little veal sweetbread, or a plate of clotted milk. For second breakfast a little meat is served, roast beef or roast veal, an egg, or some cheese and a vegetable. At dinner meat is served: a slice of roast beef, mutton or veal, ham or cutlets of lamb, or a slice of chicken or calf's liver. No sauces, stews or salads. For collation the patient gets a little vegetable, some clotted milk or some fruit. Dinner consists of vegetables, radishes and cauliflower, a little fish, salmon, sole, trout, or an egg, clotted milk, calf's sweetbread, or a slice of ham with maccaroni. At none of these meals do the patients drink. A half hour after each meal they are permitted to drink one of these little glasses of a gaseous mineral water (Gerolstein or Sprudel). Each patient gets, in the morning, about half a litre (40 centilitres of this water) which must last the whole day. As a supplement they get some fruit before retiring. If they feel thirsty during the night, they can eat a pear or a prune.

J. J. C.

INTERNATIONAL CONGRESS FOR THE PREVENTION OF VENEREAL DISEASES.

AN international reunion of physicians and public functionaries, interested in the prevention of venereal diseases, was held in Brussels from the 4th to 9th of September. It would be very difficult, of course, to consider in one article a tithe of the questions discussed, and the opinions expressed on the varied phases of the social evil. We deem it more instructive, therefore, to lay before our readers the conclusions expressed by Professor Neisser, which form a complete method of dealing with the evil, although it is likely that a small part only of his programme will be realized. At all events, on account of the high scientific standing of Professor Neisser, his opinions will be received by physicians with great consideration. He said: "Prostitution depends on two kinds of causes: 1. Causes which induce women to give themselves to this business: (a) want of good advice and education; (b) promiscuity in lodgings, workshops, in the fields; (c) looking at the sexual relations of animals; (d) seduction, temptation by companions or

governesses, etc. Young girls accustomed to the sexual act are led on to prostitution by: (a) levity, idleness, the attraction of an amusing, easy life; (b) the poverty resulting from low wages, from irregular, accidental loss of time, necessity of providing for the existence of children; (c) certain professions—waitresses, actresses, chambermaids, etc.; (d) solicitation by panders; (e) premature inscription on the police rolls as prostitutes, which cuts off a return to a decent life. Social causes are more operative in leading girls into prostitution than their own inclinations, which, however, are also worthy of consideration.

"2. The number of prostitutes is generally regulated by the law of demand and supply. Having mentioned the causes which induce women to offer themselves, we may consider those which govern demand on the part of men, that is to say, all those which excite the sexual instinct: Belief in the difficulty of preserving chastity, excessive drinking, influence of comrades, of societies, etc.; shows and books, indecent posters on the streets, and in cafés, etc.

"A young man of the lower orders can satisfy his sexual desires with one of his class without compromising irretrievably the reputation of his mistress; but an unmarried young man of the middle class cannot have sexual relations unless with a prostitute. Besides, marriage is deferred more and more in cities, on account of the exigencies of material life and the general demand for luxury, so that it is social rather than individual causes which govern the demand for prostitutes.

"A. *How shall the supply of women who become prostitutes be diminished?* (1) Education by the State, in families or asylums, of children who have no moral guidance; (2) international restriction of labor by married women in factories; (3) inspection of lodgings from a moral point of view; (4) improvement of lodgings; (5) separation of the sexes at school; instruction to be given to girls by female teachers; (6) restriction and inspection of the labor of young girls; creation of homes for them in industrial localities; institutions for relief where they may be helped when out of work; (7) suppression of the orders which in institutions for shelter cause help to be refused to cases of venereal disease; (8) help for unmarried mothers and their children; (9) separation of workmen and work-women in factories, in cloak-rooms, water-closets, and at the hours of entrance and leaving; (10) repression of panderism, institution of refuges for young girls and women arriving in a strange city; (11) confinement of prostitutes to certain houses; refusal of per-

mission to carry on this business in houses where rooms are rented, especially if children live in them; (12) reform in the regulation of prostitution: (*a*) it should be regulated by law; (*b*) a prostitute, before being put on the list, should be admonished, and afterwards placed in an establishment intended for labor and the improvement of her condition; finally, if placed on the list, she ought to be examined regularly (girls in brothels three times a week, and the others once a week), and she should have a book containing her photograph and medical history; (*c*) supervision should not be exercised by the police, but by male and female inspectors of lodgings, and special female inspectors working under the direction of a superior functionary; (*d*) a prostitute submitting to the regulations should not be inconvenienced in any way; if refractory, she ought to be sentenced to six months' confinement in the establishment for labor and improvement, or in a prison.

"*B. What means may be used to lessen the demand for prostitutes by men?* (1) Demonstration by all persons charged with the instruction or education of the young of the dangers of sexual relations outside of the married state, and of the possibility of living a chaste life; associations to push the propaganda against immorality and alcoholism; (2) a campaign against pornography; (3) close watching of cafés in which waitresses are employed; (4) confinement of prostitutes to brothels, and suppression of legal enactments forbidding the establishment of brothels; (5) responsibility of a man for the consequences of the sexual act; (*a*) severe punishment for deforation, even going so far as to give the deflowered woman the rights of a legitimate wife; (*b*) indebtedness for the board and lodging of the pregnant woman and of her illegitimate child, which has a right to a part of the father's inheritance; (*c*) severe penalty for abortion; (*d*) establishment of asylums for illegitimate children; (*e*) severe punishment for rape, seduction by deceit, promises, etc.; (*f*) raising to eighteen years, at least, the age of consent.

"To complete these measures the following should be adopted:

"1. Every one having a venereal disease, and knowing its nature, is bound to be treated, either by a private physician or at a dispensary or public hospital;

"2. The physician ought to oblige a patient with venereal disease to receive regular and complete treatment, aided by the public authorities, if necessary;

"3. The treatment of venereal diseases by any one not belonging to the medical profession ought to be severely punished."

Many of the suggestions in Professor Neisser's paper will commend themselves to physicians as just and wise; but the confinement of prostitutes to brothels and the regulation of their traffic by law are repugnant to the moral ideas of Christians, and would never, we feel confident, be adopted in Canada. Assuming that such a method would lessen the spread of venereal diseases, it is unfair to make the woman bear all the ignominy and expense of a medical inspection, while her male visitors are not submitted to any official inspection. Besides, it would be impossible to control the venereal diseases of the prostitutes of a large centre in this fashion, because many women conduct this business in a clandestine way, and will always be able to evade inspection. The three last clauses, providing for the treatment of venereal diseases by physicians, are judicious, and should be made obligatory in every country. The proper recognition and efficient treatment of venereal diseases are matters of the highest importance to the public weal, and it is much to be regretted that in this country these diseases are often treated by pharmacists who are not qualified for the office. It would redound to the credit of medical teaching if special instruction were given in the diagnosis, prognosis and treatment of these diseases, which are neglected by students, because they are not made the subject of questions at the examinations. The medical student should be taught to recognize and treat such diseases during his pupilage, and the Medical Council of Ontario should see that suitable instruction is given.

J. J. C.

"THE CANADIAN PRACTITIONER" VS. THE CANADIAN MEDICAL ASSOCIATION.

"But thou, friend and scholar, select from thine own caste,
And make not an intimate of one, thy servant or thy master."

WE purposely avoided in our last issue any reference to the disquieting scenes of the closing session of the Canadian Medical Association, a few weeks ago—scenes regretted by all. We are sorry that our contemporary, *The Canadian Practitioner*, of which Dr. Adam Wright is editor, should strive to rekindle the dying fire of discord by an editorial in its October number.

The editor, among other things, remarks that the reason of all the recent trouble was that the Secretary, Dr. F. N. G. Starr, is an "extreme party man." Of course, as everyone knows, the editor

of the *Practitioner* is not a party man! not he!! Again, he remarks, "We were not in the inner ring." Poor Adam! we weep for thee! Not in the inner ring? Adam not in the inner ring?? Here, you fellows, what do you mean? Let Adam into "the inner ring."

Another Toronto journal, in describing the Association meeting, says: "A certain faction of the Toronto School of Medicine were most effectively sat upon and squelched." Evidently the professional public understands by *faction*, not (Heaven be praised) faction of the Canadian Medical Association, but faction of the Medical Faculty of the University of Toronto. This latter institution, in an educational way, is of importance. On its Faculty are many men of ability, men of whom the University and the profession are justly proud. Still they by no means constitute the whole medical profession, the majority of whom are neither "Jew nor Greek, bond nor free" in this regard, and who, to their credit be it said, maintain a neutrality based upon loyalty towards the interests of the medical profession in its entirety. We sincerely regret that there should be a party spirit among any. We are justified in asking, What has the profession, as a body, done that it should be constantly bored at its meetings with the petty quarrels of any party or clique dragged forth and aired so often? For Heaven's sake, honored messieurs of the University Faculty, *et al.*, cease this childish nonsense.

This year the basis of the "split" was the question of the re-election of the General Secretary. The Association, however, by its vote, showed its appreciation of the Secretary's former work, and also its determination not to permit any faction discord to longer prove a factor in its affairs. Let us hope, with the dawning of the new century, the Association motto and watchword may ever be, "United we stand, divided we fall."

THE CANADIAN JOURNAL OF MEDICINE AND SURGERY has ever maintained its standard of impartiality, meting out to friend or stranger alike, censure or approbation, but ever tempered, we hope, with justice, or remarked in the spirit of mere fun. But in the editorial to which we have referred, a meaner chord has been struck by our contemporary in referring to the General Secretary of the Canadian Medical Association. The only fault that any other than the editor of the *Practitioner* has laid to his charge, has been that he erred in judgment by staying a day too long at the, alas! thankless and arduous post of General Secretary of an ever-growing Association.

The personal censure of Dr. Starr, former pupil, and now a colleague, of Dr. Adam Wright, may some day cause that former pupil, and now colleague, to use the language of the Rubaiyat of Omar Khayyam, and say :

“ Indeed the idols I have loved so long
 Have done my credit in this world much wrong,
 Have drowned my glory in a shallow cup,
 And sold my reputation for a song.”

W. A.

THE PLAGUE.

REPORTS to hand of the epidemics of plague in Egypt and Portugal show smaller death-rates than statistics we are accustomed to see from India and China would lead us to expect. In the last-mentioned countries, natives seized with plague generally die. In Alexandria, however, one-half the cases have recovered, and in Oporto, out of sixty-four cases but twenty-five persons died. Whatever may be the correct explanation of the apparent mildness of the plague in Egypt and Portugal, it does not remove the danger of an attack, does not lessen the labors of the sanitary authorities in these countries, and does not prevent the paralysis of business, which prevails in the infected centres. In Oporto many of the shops are closed. Strange to say, the general health of that city is excellent, a circumstance which may be largely owing to the rigorous enforcement of sanitary measures against filth and overcrowding (the recognized concomitants of plague), but which are also responsible for other diseases besides the plague.

Telegrams also show that plague prevails at Poona (India), Mauritius, Madagascar, Hong-Kong and Incou, near Ta-Lien-Wan, China. A rumored outbreak at Lourenco Marques may, if confirmed, prove important to the British military authorities, on account of the proximity of a possible plague centre to the actual seat of war in the Transvaal. The spread of plague in a civilized country can be prevented by sanitary measures, viz., careful isolation of the sick disinfection of the homes of the sick, and of those who have died of the disease, disinfection of the sick-room and all articles used by the sick. Overcrowding should be prevented.

Scrupulous cleanliness in and about dwellings and ventilation are important for those not attacked, and doubly so for the sick and those in attendance upon them. All persons, travellers and

others who have been exposed to the contagion, should be isolated, disinfected and watched for at least eight days.

The disappearance of the plague from Europe during the present century until the actual outbreak at Oporto is probably due to the effects of sanitary improvements and great rigor in enforcing health regulations. Conditions of filth and neglect must doubtless have prevailed to a considerable degree at Oporto, or this microbe of the lowest depths of foulness and misery would not have installed itself in that city.

So far, plague has not appeared in North America. As far as Canadian ports on the Atlantic coast are concerned, an invasion of plague need not be feared. Its stage of incubation is short, ranging from three to five days and if a sporadic case were to appear, it would be noted on shipboard and could be isolated at the land quarantine station after the arrival of the vessel. The same precaution could be taken in the Pacific ports of Canada. A trip from Yokohama to Toronto is made in sixteen days, and a trip from Hong-Kong to Toronto lasts twenty-three days. Chinese coolies or other passengers travelling by the Empress Line to Canada from Hong-Kong, Amoy, Swatow or other infected ports, would, if attacked with plague, be taken sick prior to their arrival at Victoria, and could be quarantined at that port. This view of the question does not, of course, apply to infected bedding, clothing, etc., belonging to people who have died of plague, which, if precautions are not taken at the port of embarkation, may be brought to America by Chinese emigrants. We commend this possible means of infection to the consideration of Dr. Montizambert.

J. J. C.

WORDS OF PRAISE FOR OUR OCTOBER ISSUE.

WE very much regret the fact that, in spite of our having printed quite a number of extra copies for October, we were simply unable to supply the demands received for additional journals, containing the photogravure, "The Country Doctor." It is a source of great satisfaction and pleasure to the staff to find our efforts to turn out a pleasing publication endorsed in the manner in which it has been during the past few months; and it will be our endeavor in the future to merit this even more than in the past. It would take up a great deal more space than we could give were we to reproduce even a proportion of the complimentary letters we have received

in referencé to last month's issue; but we can accomplish the object just as well by giving two of the communications received—one from the firm who are owners of the original oil painting, "The Country Doctor," and the other from a practitioner in a neighboring town.

W. A. Y.

Editor CANADIAN JOURNAL OF MEDICINE AND SURGERY,
Toronto, Ont., Canada.

"DEAR DOCTOR,—We are just in receipt of the October issue of the CANADIAN JOURNAL OF MEDICINE AND SURGERY, and are pleased to note your unusually excellent reproduction of our painting, "The Country Doctor," which elicited so much admiration when exhibited at the recent meeting of the Canadian Medical Association. We desire to thank you for this courtesy, and incidentally to say that we consider the JOURNAL a handsome piece of press-work, an ably edited exponent of all that is best in Canadian medicine, and withal, a medical advertising medium second to none in the Dominion.

"With best wishes for your continued success, both personal and journalistic, we remain,

"Very truly yours,

"_____."

Editor CANADIAN JOURNAL OF MEDICINE AND SURGERY,
Toronto, Ont., Canada.

"DEAR SIR,—I am probably a stranger to you and your staff, but have been a reader of your JOURNAL almost ever since its first issue. It has been getting better all the time, and I think that this month's number is certainly a credit to you. The plate of "The Country Doctor" is well worth framing, and is a beautiful piece of work. I have been reading one or two other Toronto medical journals for years, but yours is away ahead of any of them. Enclosed please find post-office order for three years' subscription, as per account recently rendered.

"Yours truly,

"_____, M.D.

"_____, Ont., October 9th, 1899."

DR. F. H. SCHERK, of the Toronto University class of 1889, who has been in practice for some time in East Toronto, has sold out to Dr. J. D. Webster (Univ. Tor. '98), and is about moving to Los Angeles, California, where he intends taking up practice. We wish him every success under the Stars and Stripes.

The Physician's Library.

BOOK REVIEWS.

Twentieth Century Practice. An International Encyclopedia of Modern Medical Science, by leading authorities of Europe and America. Edited by THOS. L. STEDMAN, M.D., New York City. In twenty volumes. Vols. IX., X., XI., XII. New York: Wm. Wood & Co. 1897.

It would seem that this work improves as one progresses in the reading of it, as if Vols. IX., X., XI. and XII. are taken as samples of the material presented throughout by the authors, it is particularly good, and makes the "Twentieth Century Practice" a work of exceptional value. Vol. IX. deals with "Diseases of the Digestive System," and has a noble army of contributors. Among the number appear the names of such well-known writers as Carl Anton Ewald, V. P. Gibney, John B. Murphy, Alfred Stengel, and John B. Walker. "Local Diseases of the Mouth" are treated of by Werner Kümmler and Johann Mikulicz, both of Breslau. They write in this section on Glossitis in its different forms, Hairy Tongue, Phlegmonous Processes of the Tongue and of the Floor of the Mouth, Pyorrhoea of Wharton's Duct, Fibroma, Lipoma, Cystic Tumors, Tumors of the Jaw, Macroglossia and Macrocheilia. The chapter on "Diseases of the Intestines" is in charge of C. A. Ewald, of Berlin, than whom there is none better able to do justice to such a department. Ewald, in this part of Volume IX., discusses most lucidly intestinal ulcers, typhlitis and perityphlitis, carcinoma, sarcoma and lympho-sarcoma, benign neoplasms, habitual constipation, internal incarceration, volvulus, intussusception, obturation of the intestine, compression of the intestine, hemorrhoids, nervous diseases of the intestine, motor, sensory and secretory neuroses, and the treatment of nervous diseases of the intestine. "Hernia" is dealt with by V. P. Gibney and John B. Walker, and very completely is the subject treated. The section on "Diseases of the Spleen" is written by Alfred Stengel, of Philadelphia; that on "Diseases of the Liver" by Mariano Semmola and Carlo Gioffredi; and the chapter on "Diseases of the Gall-Bladder" by John B. Murphy, of Chicago.

Vols. X. and XI. are devoted entirely to "Diseases of the Nervous System," composing what forms one of the most valuable portions of the entire system. The contributors to Vols. X. and XI. are Sanger Brown, of Chicago; Joseph Collins, Chas. L. Dana and Bernard Sachs, of New York; Chas. S. Fere, of Paris; H. T. Pershing, of Denver; C. K. Mills, F. X. Dercum, of Philadelphia; and L. Bruns, of Hanover. "Diseases of the Brain" is in charge of Joseph Collins, of New York, who has devoted no less than 258 pages to that subject, writing on, amongst other diseases, cerebral localization, encephalitis in its different forms, diffused sclerosis of the brain, multiple sclerosis, hydrocephalus, diseases of the cerebellum, chronic progressive bulbar paralysis, and asthenic bulbar paralysis. Chas. L. Dana gives about forty pages on Intracranial Hemorrhage, Embolism and Thrombosis. "Tumors of the Brain" forms a section of about sixty pages, and is from the pen of Sachs. Jos. Collins has, in addition to his section on diseases of the brain, contributed several chapters on "Diseases of the Meninges"; and Chas. Fere, of Paris, has contributed different sections on Hysteria, Epilepsy, and Spasmodic Neuroses. Chas. L. Dana gives between thirty and forty pages on the subject of Neurasthenia; Howell T. Pershing a chapter on "The Disorders of Speech," and Sanger Brown one on "The Disorders of Sleep."

The largest and fullest chapter on the subject of "Diseases of the Nervous

System" is that dealing with "Diseases of the Cerebro-Spinal and Sympathetic Nerves," by Jas. Hendrie Lloyd, of Philadelphia. In this section, each nerve, commencing with the olfactory, and ending with the coccygeal nerves, is treated separately, thus making it thorough and complete. "The Trophoneuroses" are written by C. K. Mills, and under this heading the author deals with hemifacial atrophy, hemilingsual atrophy, hemifacial hypertrophy, localized atrophies and hypertrophies, Raymond's disease, perforating ulcer of the foot, scleroderma, acromegaly, and adiposis dolorosa.

L. Bruns, of Hanover, and F. Windschied, of Leipsic, were chosen to write the section on "Diseases of the Spinal Cord"; P. G. Möbins, of Leipsic, the one on "Tabes Dorsalis"; and A. Strümpell that on "The Combined System Diseases of the Spinal Cord." A chapter on "Pain," at the end of Vol. XI., is contributed by Lightner Witmer, of Philadelphia. One of the most practical chapters under the heading, "Diseases of the Nervous System," is that by Dr. Lloyd, of Philadelphia, on "Torticollis." The author points out how this disease comes on gradually, though sometimes in the reverse manner. In the usual form there is an initial stage of pain and tenderness in the affected muscles, while these become stiff, and the head, consequently, is held in an awkward, painful position. This spastic or tonic stage after a while gives way to the intermittent or paroxysmal stage. In some cases the contraction is steady and tonic, and in others it is clonic, the muscles jerking the head in a series of short, even, rhythmical contractions. As a rule, the exact muscles affected are one or other or both muscles supplied by the spinal accessory nerve. If it is confined to one muscle, it is the sternocleido mastoid muscle. As a rule, torticollis is not painful, though in most cases it is associated with great mental depression. The course of torticollis is usually obstinate and progressive. The prognosis, especially in young persons, is not necessarily bad. Recovery occasionally occurs under judicious treatment, or even spontaneously. The pathology of torticollis is as yet quite obscure. The disease is usually claimed to be due to some affection of the spinal accessory nerve, but as it frequently extends and involves muscles not supplied by this nerve this explanation is not tenable, in all cases at least. The treatment of torticollis with drugs is, as a rule, very unsatisfactory. Morphine, gelsemium, conium, cannabis indica, chloral, the bromides give only temporary relief, and very often may cause the patient to form the drug habit. Perfect rest in bed should be first of all enjoined, and that for a long time. This gives the muscles complete rest, and is a useful adjunct to drugs. Electricity is of no value whatever, the author thinks. Surgery gives most relief, the most common operation being the division or the stretching of the spinal accessory nerve. This nerve, according to Keen, may be reached by an incision along either the anterior or posterior borders of the sternocleido mastoid muscle. Keen has also performed resection of the posterior cervical nerves for torticollis, and in three of his four cases he has had good results. These nerves supply the splenius, rectus capitis, and the obliquus inferior muscles.

Volume XII. is devoted to "Mental Diseases of Childhood and Old Age," and is contributed to by Jules Comby, of Paris; Cesare Lombroso, of Turin; P. A. Sollier, of Paris; G. Fielding Blandford, of London; and J. Boy-Tessier, of Marseilles. This volume is replete with the latest information on this important department of medicine. Insanity, idiocy, criminal anthropology and old age form the different sections, and each and all of them are thoroughly instructive. In his section on "Old Age," J. Boy-Tessier gives the most recent views on such subjects as normal senility, the anatomy of the old man, the physiology of senility, causes of senility, the means of combating senility, death from old age, and ordinary diseases in the senile. These volumes of this system are by no means any exception to the rule, and are in every respect fully up to the

W. A. Y.

A Manual of Surgical Treatment. By W. WATSON CHEYNE, M.B., F.R.C.S., F.R.S., Professor of Surgery in King's College, London; Surgeon to King's College and the Children's Hospital, Paddington Green, etc.; and F. F.

BURGHARD, M.D. and M.S. (Lond.), F.R.C.S., Teacher of Practical Surgery at King's College Hospital and the Children's Hospital, Paddington Green, etc. In six parts. Part I. treats of general surgical diseases, including inflammations, suppuration, ulceration, gangrene, wounds and their complications, infective diseases and tumors. Forty-two pages are taken up with a chapter on anesthesia and anesthetics by Dr. Silk. London and Bombay: Longmans, Green & Co., 39 Paternoster Row. Toronto: The Copp, Clark Co., Limited, Publishers, 9 Front Street West. Price of volume, \$3.70. The work is dedicated to the Rt. Hon. Lord Lister, LL.D., P.R.S.

The authors have not given a summary of the various methods of treatment, but only the methods which they have found best under the circumstances. When methods of equal value with their own exist they are mentioned, but not at length. All circumstances with which the surgeon is called upon to deal have been, as far as possible, included. Pathology, symptomatology and diagnosis are taken up in a short and convenient manner, but the work is more for the practitioner who has some previous knowledge in these matters.

Part I. contains fifteen chapters, 272 pages of reading matter and 270 illustrations. The table of contents and index are very complete. The work is beautifully written, and the treatment in each case is so fully dealt with that it leaves nothing to be desired. The opening chapter deals with inflammations, both acute and chronic, and the various methods of treatment are given in each case, and, where necessary to a clearer understanding of methods, cuts are given of the various appliances used. The chapter on Ulceration describes eleven varieties of ulcers, and gives a treatment for each.

The chapter on Anesthesia and Anesthetics by Mr. Silk is especially good, and should be read carefully by not only every surgeon, but by every one who gives an anesthetic. The methods of administration, the special indications for each anesthetic and the dangers to be avoided are so carefully and clearly pointed out that they form quite an acquisition to the literature of that important subject. Ether is given the preference over chloroform as an all-round anesthetic. The dangers from ether are said to be mostly of an asphyxial type. It is advised not to give it to patients under twelve, or over sixty years of age. Renal disease is mentioned as a contra-indication for ether, but no mention is made of any dangers arising after the administration from an injurious action on the kidneys. The latest and best forms of inhalers are shown, and the chapter concludes with a very useful description of the different forms of local anesthesia. The preparation of patients for operation, the sterilization of instruments, ligatures, instruments and the surgeon's hands are fully considered, and the most approved technique given.

In the treatment of sepsis, erysipelas and tetanus the various serums are spoken of in favorable terms, and are recommended in conjunction with the general treatment. In erysipelas Kraske's method of multiple scarifications is highly spoken of, and a rational explanation is given, not only for it, but for the old method of making a nitrate of silver ring in advance of the spreading erysipelas.

In the treatment of syphilis mercury is given to the physiological extent in the first and second stages, while pot. iodid is reserved for the third stage. While we think this limitation of drugs correct for the different stages, many, if not most cases, do well on smaller doses of mercury, and without even approaching the physiological effect. The different methods of mercurial administration are given, viz., per orem, injection, fumigation, and by hypodermic injection.

Tuberculosis is dealt with in a separate chapter. The treatment is taken up in a general way, and the special operations for surgical tuberculosis will be dealt with in another volume. The concluding chapter deals with tumors, and gives the prognosis and treatment of the different varieties, together with a very short and concise statement of the pathology and general history of each variety.

We are very much pleased with Part I. of this work, and think it just the kind of book needed by the busy practitioner, who does not wish to wade through

all the theories and various treatments of the larger works on surgery, but wants a work to help him through his various doubts and difficulties, and give him the most advanced treatment of the time with the least amount of research.

W. J. W.

A System of Medicine by many Writers. Edited by THOMAS CLIFFORD ALLBUTT, M.A., M.D., LL.D., F.R.C.P., etc., Regius Professor of Physic in the University of Cambridge, etc. Vol. VII. London: Macmillan & Co., Limited. New York: The Macmillan Co. 1899. Toronto: A. P. Watts.

This volume of Allbutt's "System of Medicine" is devoted to "Diseases of the Nervous System," continued from the latter part of Volume VI. It is divided into "Diffuse Diseases of the Spinal Cord," "Limited Diseases of the Spinal Cord," "Diseases of the Brain," and a short section at the end entitled "Other Diseases of the Nervous System." Under the first section, the contributors are Dr. Frederick Taylor, Dr. Andrew H. Smith and Dr. Batten. Sir T. Grainger Stewart contributes at least three articles to the section, "Limited Diseases of the Spinal Cord," one on Spastic Paraplegia, Friedreich's Ataxia, and a third on Hereditary Cerebellar Ataxia. Dr. Allen Starr writes also in this section, one chapter on Syringomyelia, and a second on Poliomyelitis Anterior Acuta. "Diseases of the Brain" has quite a number of contributors, among them being Dr. Bastian, Dr. Leonard Hill, Dr. Coleman, Dr. Barton, Dr. James Taylor, Dr. Byron Bramwell, Dr. Savage and Dr. Goodall. Under "Other Diseases of the Nervous System," Prof. Bradbury writes a very interesting chapter on Disorders of Sleep, Sir W. Gowers an article on Epilepsy, Dr. Risien Russell being, however, the principal contributor to this department, having articles on Chorea, the Tics, Paramyoclonus Multiplex, Saltatory Spasm, Head Nodding, and Eclampsia Nutans.

A chapter of exceptional merit is that on Cerebral Hemorrhage, as contributed by Dr. Howard Tooth. This article is concisely written and essentially practical. The author claims that there is a striking tendency to heredity in cerebral hemorrhage, instancing a case of a single lady, aged 41, who, during a violent attack of seasickness, became unconscious and died in a hospital, there being afterwards found a large hemorrhage in one of the lateral ventricles. There was no atheroma of the cerebral arteries, and very little of the aorta, kidneys very slightly affected, and heart scarcely at all hypertrophied. Nine members of the family, however, had died in the same way. No period of life is exempt from this disease, but as arterial degeneration is most common in later periods of life, it is after middle age that we find the chief liability to such hemorrhage, and especially between forty and fifty years of age. Women are much less liable to this disease than men. An appreciable percentage of cases occurs in the course of infective endocarditis. The author, in his article, Cerebral Hemorrhage, after taking up the causation, writes of the General Anatomical and Physical Considerations of the Disease, the Pathology and Morbid Anatomy, the Symptoms, Prognosis, Differential Diagnosis and Treatment. The author holds that, beyond the attention to symptoms, there are two main indications for treatment, viz., first, to stop the hemorrhage; and second, to relieve intra-cranial pressure. There are two methods in which the cessation of hemorrhage may be promoted: (a) by increasing the coagulability of the blood, and (b) by lowering the vascular pressure, even if only for a short time. To lower arterial pressure, two means are at our disposal, local and general. Under local means, the author explains how Horsley and Spencer have shown, by experiment on monkeys, that hemorrhage from the middle cerebral and its branches may be controlled for a considerable time by compression or ligature of the carotid on the same side; and this in spite of the anastomosis of Willis. This would suggest the expediency of trying compression of the carotid, providing the diagnosis is reasonably certain, for it is obvious that such a treatment must be directly contra-indicated in thrombosis. As to general means to bring about a diminution in the arterial pressure, the most potent agent by far is venesection, or arteriotomy of the temporal artery.

W. A. Y.

Hand-Book of Physiology. By W. MORRANT BAKER, F.R.C.S., and VINCENT DORMER HARRIS, M.D., London, F.R.C.P. Fifteenth American edition. Revised by WARREN COLEMAN, M.D., Professor of Physiology in the Woman's Medical College of the New York Infirmary; Instructor in Clinical Medicine and Materia Medica in Cornell University Medical College; Assistant Physician to Bellevue Hospital; and CHAS. L. DANA, A.M., M.D., Professor of Nervous and Mental Diseases in the New York Post-Graduate Medical School; formerly Professor of Physiology in the Woman's Medical College of the New York Infirmary; Visiting Physician to Bellevue Hospital; Consultant to the City Hospital for Nervous Diseases. With upwards of 500 illustrations, including many in colors. New York: Wm. Wood & Co. 1899.

There are few students who became graduates in medicine during the last quarter of a century who are not acquainted with that old stand-by, "Kirke's Physiology." Many there are who can justly claim to have learned all they ever knew of this subject from Kirke. Thousands there are who, but for this work, would never have surmounted the difficulties of a preliminary examination. In this, the fifteenth American edition, the book has been slightly rearranged as far as the order of the chapters is concerned. The chapter on secretion has been placed before that on food and digestion. Professor Dana has thoroughly revised the section on nervous diseases, rendering this part of the work still more complete and acceptable. The body of the text also contains alterations here and there, but of a minor character. In the chapter on the motor areas of the cerebral cortex, Professor Dana shows beyond a doubt that, by experiments upon the brains of various animals by means of electrical stimulation, there are definite regions of the cerebral cortex the stimulation of which produces definite movements of co-ordinated groups of muscles of the opposite side of the body. It is naturally of great importance to discover how far the results of experiments upon the dog and monkey hold good with regard to the human brain. So far, however, it has been possible to localize motor functions in the frontal and ascending parietal convolutions only, to the convolutions which bound the fissure of Rolando, and to those on the inner side of the hemispheres which correspond thereto, and possibly to the frontal lobe in front of the ascending convolution. Destruction of these parts causes paralysis, corresponding to the district affected, and irritation causes convulsions of the muscles of the same part. A number of cases are on record in which aphasia has been associated with disease of the posterior part of the lower or third frontal convolution on the left side. This condition is usually associated with paralysis of the right side. This district of the brain is now generally known as the motor area, and there seems no doubt whatever that from this area pass the nerve fibres which proceed to the spinal cord, and are there represented as the pyramidal tracts. This is the reason, no doubt, that movements are produced on stimulation of the white matter after the superficial gray matter of the animal's brain has been sliced off. This chapter is well illustrated, in many places in colors, and altogether the entire work is one of great value.

W. A. Y.

Materia Medica, Therapeutics, Medical Pharmacy, Prescription Writing, and Medical Latin. A Manual for Students and Practitioners. By WILLIAM SCHLEIF, Ph.G., M.D., Instructor in Pharmacy in the University of Pennsylvania. Series edited by BERN B. GALLAUDET, M.D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, New York; Visiting Surgeon, Bellevue Hospital, New York. New York and Philadelphia: Lea Brothers & Co.

Tastefully bound in red cloth, thereby easily singled out as a book of reference, this volume, remarkable rather for its conciseness than for its size, will prove of great service to the busy practitioner as well as a text-book to the student. The contents are arranged under the several headings of imponderable remedies, pharmacological remedies, actions and modes of administering drugs; weights and measures; prescription writing; classification of drugs. Under the latter classification some pages are devoted to the Belladonna group, that

deadly nightshade indigenous to Europe. The whole of the Belladonna root contains the narcotic principle. The preparation of the leaves is described, then the physiological action of the drug is shown upon the nervous system; in general, atropine may be considered to stimulate the *sympathetic* system, and to depress the motor, and in a lesser degree the sensory nerves, thus diminishing the reflexes. It is not a true hypnotic. Sufficient doses excite the cerebrum, taking the form of an active delirium, followed, if the dose be toxic, by stupor deepening into coma. In its action upon the heart, if given in large doses it may prove a cardiac paralyzer. As to its effect upon respiration it is one of the most potent measures for stimulation of the respiratory function. The temperature is increased by medicinal and lowered by very large doses, probably by an action upon the heart centre; perspiration is decreased; the effect on urinary and intestinal secretion is in doubt, though the urine is probably increased from the diminution of perspiration. Among the cardiac stimulants digitalis finds an important place. The foxglove is cultivated both in Europe and America, but the European leaves are considered the better. In therapeutic doses it produces a strong, slow, full pulse, and raises the blood pressure. Death occurs usually through systolic arrest, a tetanic condition from over-stimulation of systole; rarely, from diastolic arrest, in which case pneumogastric stimulation stops the heart. The nervous system is not affected by medicinal doses. Large doses are nauseating. In acute poisoning empty the stomach and give whiskey or ammonium carbonate, and place the patient in a recumbent position. The urine is increased in amount. By many the theory is held that after the continued administration of the drug sudden alarming symptoms may be developed. Others claim that these effects are due to the slow elimination of the drug, so that the doses overlap each other.

Medical books are now so many, and new fields of scientific research so numerous, that it would indeed be a difficult and unwilling task to exclude any recent work from an up-to-date library; in the case of handy text-books, at least, the policy would be a very unwise one, alike to student and physician.

The Hygiene of Transmissible Diseases: Their Causation, Modes of Dissemination, and Methods of Prevention. By A. C. ABBOTT, M.D., Professor of Hygiene and Bacteriology, and Director of the Laboratory of Hygiene, University of Pennsylvania. Illustrated. Philadelphia: W. B. Saunders. Toronto: J. A. Carveth & Co. Price \$2.00.

"The frequency with which requests are received for information concerning the detailed management of transmissible diseases is in part the reason for the publication of this book." These are a few of the modest and well-chosen words with which this volume makes its bow to the public. And an interested medical public it will surely find awaiting to read its pages. Incidentally a section, illustrated, on the causation of disease, and the reader follows naturally into section 2 upon transmissible diseases. Among this number typhoid fever finds a place. The author states plainly that this disease is not contagious, but infection occurs by way of the alimentary tract, *i. e.*, "it results from actually swallowing materials that have come directly or indirectly from the bowels of individuals affected with the disease." Also under the non-contagious, infectious diseases, cholera is dealt with at some length. Tuberculosis is referred to as an infectious disease, resulting from the presence in the tissues of a specific micro-organism, *bacillus tuberculosis*, discovered by Koch in 1881-82. To the Bubonic plague a chapter and an illustration is given. Among other departments treated of are suppurative and septic infections: Venereal diseases, leprosy, tetanus, anthrax, actinomycosis, madura foot (tungus disease of India; mycetoma), small-pox, measles, scarlet fever, malarial fever, dengue, typhus fever, relapsing fever; freely illustrated by diagnoses, maps, etc. In a chapter on rabies the author states that numerous efforts have been made to detect the etiological factor of rabies, but as yet no trustworthy results have been reached. Still the behavior of the tissues are rich in the poison corresponding in so many ways with that of tissues containing a living virus that there is little doubt that the disease originates with the invasion of a specific micro-organism. "Diseases Due to highly-developed Animal Parasites" is the subject of the closing chapter

of section 2. The third section is devoted to "Prophylaxis in general Against Infectious Diseases." Few physicians of to-day are not deeply interested in the public health, and trying individually and collectively to enforce the laws that govern long life and health to the betterment of the great mass of humanity. To all such this book of Dr. A. C. Abbott's will prove of more than passing interest.

B. L. R.

The Treatment of Pelvic Inflammation Through the Vagina. By WILLIAM R. PRYOR, M.D., Professor of Gynecology, New York Polyclinic; Consulting Surgeon City (Charity) Hospital; Visiting Surgeon St. Elizabeth Hospital. Philadelphia: W. B. Saunders, Publisher. Canadian Agents: Carveth & Co., Toronto.

This admirable little book has been written at the request of the gentlemen who have attended Dr. Pryor's lectures in the New York Polyclinic. There is no doubt that inflammatory disease of the pelvis constitutes the large majority of gynecological lesions, and consequently the subject is an important one. The book will be found valuable to the practitioner, under whose care so many of these cases first present themselves, and a careful perusal of its pages will afford a clearer and more intelligent insight to many practitioners in the management of these sometimes troublesome and difficult cases.

As the name designates, this work is chiefly devoted to treatment. Sufficient attention, however, is given to the pathology and diagnosis of pelvic diseases for all practical purposes, and although the treatment advocated is largely aggressive surgery, palliative measures are given due attention when operative interference is not advisable.

The results of the author by the vaginal route are certainly encouraging and satisfactory, and will, doubtlessly, assist in bringing this means of attacking pelvic lesions into more favorable consideration.

The author's improved table and instruments, which are carefully described, are certainly of material assistance, and will help to overcome some of the objections to operating in this manner. He mentions in his preface, "that he has put down every little detail, no matter how insignificant, which might be of service." This fact adds greatly to the value and usefulness of the work, and the illustrations, which are numerous, and most of them clear and descriptive, help greatly in the comprehensiveness of the text.

The work will be found valuable and useful, both to the expert and specialist, as the author is evidently imbued with the true spirit of scientific investigation and experimentation, and especially to the general practitioner, who will arise from the study of the work with a greatly increased knowledge of pelvic inflammations.

G. T. M'K.

A Compend of the Practice of Medicine. By DANIEL E. HUGHES, M.D., Chief Resident Physician Philadelphia Hospital; late Demonstrator of Clinical Medicine in the Jefferson Medical College of Philadelphia, etc., etc. Sixth physician's edition. Thoroughly revised and enlarged. Including a section on Mental Diseases, and a very complete section on Skin Diseases. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1899.

We can very easily remember the first edition of this book, and at once recognize how greatly it has increased in size in every new edition published. As the name indicates, the author originally intended that the work should be for students mostly, and not in any way replace the text-books proper. But as Dr. Hughes noticed that each and every edition was larger than its predecessor, he came to find that his book was receiving so encouraging a sale that it would not be long ere it would be purchased in place of the regular text-book at the medical colleges. Judging from the appearance and the completeness of the material contained in the sixth edition, we augur a still larger sale for the book than ever. The addition of the sections on Skin and Mental Diseases will enhance the value very much. Under the latter, the author takes up melancholia, mania, epileptic insanity, circular insanity, katatonia, delusional insanity, paranoia, general paralysis and dementia. Under each disease, the author gives shortly but concisely the causes, pathology, symptoms, diagnosis, prognosis and

treatment. Under Diseases of the Skin, Dr. Hughes gives the principal affections with the same attention to detail as under Mental Diseases. The author is to be congratulated upon this last and best edition of his work.

International Clinics. A quarterly of Clinical Lectures on Medicine, Neurology, Surgery, Gynecology, Obstetrics, Ophthalmology, Laryngology, Pharyngology, Rhinology, Otolary and Dermatology, and specially prepared articles on treatment and drugs. Edited by JUDSON DOLAND, M.D. (University of Pennsylvania), Philadelphia. Vol. 2. Ninth series. 1899. Philadelphia: J. B. Lippincott Company. Canadian Agent, Chas. Roberts, 1524 Ontario Street, Montreal.

In the space at our disposal it is impossible to give a complete list of the contributions to Vol. 2, but we have noticed a great many familiar names. Among them are Fournier, Fraenkel, V. P. Gibney, H. A. Hare, König, Lassar, Von Bergman, and W. W. Keen. An excellent lecture on "The preventive treatment of paternal syphilitic heredity during pregnancy," by Alfred Fournier, appears. Von Bergman describes the steps of an operation for "Double hare-lip with a projecting inter-maxillary bone." W. W. Keen gives a brief report of several interesting cases: one of subdural drainage of the left ventricle for hydrocephalus; one of extrophy of the bladder. König gives a series of cases of "Shot wounds in the heart region." Lassar relates an interesting series of cases of "Prurigo: indurated sore of the lower lip in a cornetist"; Pityrian's Rosea; injuries, irritation and localization of syphilitic lesions.

The book-making, like all that of the Lippincotts', is well done, the type good, and the book is of convenient size. If one might criticise, it would be as to the proof-reading, which is in some instances defective. As to the selection of contributors, one feels prone to suggest that the addition of British and Canadian writers would increase the usefulness of an already useful work.

F. N. G. S.

Over 1,000 Prescriptions or Favorite Formule of Various Teachers, Authors and Practising Physicians. The whole being carefully indexed, and including most of the newer remedies. Cloth. 300 pages, postpaid \$1.00. The Illustrated Medical Journal Co., Publishers, Detroit, Mich.

This is the second edition of this handy manual, and is just from the press it has nearly 100 pages of new matter added. As the practical worth of this kind of a book consists in its having a handy and complete index, this book has it, for some sixteen pages of small type are devoted to this object, and some of the lines have as many as twenty different references to as many different formulæ; this would go to show that there are about 2,000 different prescriptions given in the volume. In other words, taking the price of the book into consideration (\$1.00), it would argue that there are furnished some twenty different prescriptions for one cent. We notice that many of the newer remedies are among the prescriptions, thus bringing the treatment of many of the diseases down to date. Both old and new writers of both home and foreign countries are represented among its formulæ.

Blank pages are frequently introduced, so that a handy place is furnished for recording any new prescription that one might wish to preserve. The printed index will index all such pencilled additions, if care is taken to write them opposite a page with a formula for similar disease; this would then save the bother of indexing the pencilled additions.

Enlargement of the Prostate. By C. MANSELL MOULIN, M.D. Second edition. London: H. K. Lewis, publisher. 1899.

This a good book! Any surgeon interested in prostatic diseases, and any practitioner upon whom may devolve the care of patients who have reached what used to be termed catheter life, will make no mistake in its purchase. Since the classical essay by Sir Henry Thompson passed out of the realm of practical usefulness and became simply of historical value, we have had nothing to equal or to approach in the literature of this subject the book before us. All the latest investigations regarding the genital function of the prostate, and all

the surgical substitutes for repeated use of the catheter, are discussed and carefully and candidly weighed by one whose experience has been ample, whose reasoning is clear, and whose judgment, as a rule, is sound, safe and conservative. We commend the work without reserve, and hope to see successive editions appear as it becomes better known.

N. A. P.

A Compend of Gynecology. By WM. H. WELLS, M.D., Adjunct Professor of Obstetrics and Diseases of Infancy in the Philadelphia Policlinic; Instructor of Clinical Obstetrics in the Jefferson Medical College; Fellow of the College of Physicians of Philadelphia and of the Gynecologic Section thereof; late assistant in the Out-Patient Gynecologic Department of the Jefferson Medical College Hospital. With illustrations. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1899.

Since the publication of the first edition of this book, and which received so encouraging a reception from the medical profession, operative gynecology has made such strides as to demand of several additions to this work, going more into the detail of this important department. We notice also that the author has given the most recent methods of both diagnosis and treatment, with quite a number of new illustrations. For examination purposes, we can conceive of no better investment than the price of Dr. Wells' "Compend of Gynecology."

American Pocket Medical Dictionary. Edited by W. A. NEWMAN DORLAND, A.M., M.D., Assistant Obstetrician to the Hospital of the University of Pennsylvania; Fellow of the American Academy of Medicine, etc., etc. Containing the pronunciation and definition of over 26,000 of the terms used in medicine and the kindred sciences, along with over 600 extensive tables. Second edition. Revised. Philadelphia: W. B. Saunders, 925 Walnut Street. 1899. Toronto: Carveth & Co.

It only took a matter of six months to exhaust the last edition of this useful work, so that Dr. Dorland took this opportunity of revising, and, in many instances, adding to the book. A large number of new words and terms have been added, thus rendering the work one of exceeding value and completeness. The second edition will doubtless meet with as large a sale as its predecessor.

Quiz Compend's! No. 8. A compend of the diseases of the eye and refraction, including treatment and surgery. By GEORGE M. GOULD, A.M., M.D., and WALTER L. PYLE, A.M., M.D. Second edition, 80 cents. Philadelphia: P. Blakiston's Son & Co.

What's in a name? The title, "Quiz Compend's," has always been to us a red rag. Had the name of George M. Gould not been on the title page, into the waste basket the compend would have gone. This compend is full of good common-sense and practical points, and it is not a quiz; wherefore, Drs. Gould and Pyle are forgiven. Good wine needs no bush, though hidden in a "sample parlor."

J. M. M.

The Sexual Organs: Their Use and Abuse. By J. E. HELLER HETT. Published by the author, Berlin, Ont., 1899; Buffalo, N.Y. Paper binding, 75 cents.

Dr. Hett's book, which is dedicated to single and married young and middle-aged men and women, is an endeavor to place the basal facts of sexuality in man in a plain manner, so as to be understood by the ordinary reader. He also indicates the various venereal diseases, and the physical and moral evils arising from an improper use of the sexual organs. In the second part of his book the author describes laziness, anger and other evils which accompany the perversions of sex, and shows how they may be resisted and overcome.

J. J. C.

Golden Rules of Psychiatry. By JAS. SHAW, M.D., Queen's University, Ireland, formerly Medical Superintendent and Co-Licentiate, Haydock Lodge Asylum, Lancashire, etc. Golden Rule Series, No. V. Bristol: John Wright & Co. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd.

"Golden Rules of Psychiatry" give, in vest-pocket size, many hints which ought to prove of value to the physician in examining a patient for insanity. The small book gives a great deal of information on this subject in the most condensed possible form.

Selected Articles.

ON THE TECHNICAL CONSIDERATIONS INFLUENCING
THE SURGICAL TREATMENT OF APPENDICITIS
OCCURRING DURING PREGNANCY.*

BY ARPAD G. GERSTER, M.D., NEW YORK,

Surgeon to Mount Sinai Hospital; Consulting Surgeon to the German Hospital, New York.

DURING the year 1898, 148 cases of appendicitis were admitted into the surgical department of Mount Sinai Hospital. The diagnosis was verified by operation in all of these cases with the exception of 10, in which operation was declined by the patients. Of this number 80 were in men, 38 in women, and 30 in children under 12 years. This proportion can be accepted as fairly representative of the numeric relation of the disease in the sexes, showing that men are affected by the disease more than twice as often as women. Up to within a few years the true balance was still more depressed on the female side by the undoubted fact, so well pointed out by Dr. Mundé, that every inflammation on the right side of the female pelvis, suppurative or non-suppurative, was invariably attributed to disease of the uterine appendages. Thus it came that it was universally believed that women enjoyed a remarkable immunity from appendicitis. With the knowledge of this fact it is not difficult then to comprehend that a coincidence of *pregnancy* with *appendicitis* was not recognized, and dealt with accordingly, until 1894, when Mundé† published a case successfully operated upon by himself. Two years later Abrahams‡ read a paper before the New York County Medical Association, in which he was able to give a report on 17 cases, in 12 of which the diagnosis was verified by operation. These operations were followed by the death of 7 patients, a most formidable fatality. In 5 other cases, which were evidently of a milder type, no operation was done, and these patients all recovered from the then existing attack.

The papers so far written on this subject,§ though meritorious, inasmuch as they all insist on an energetic interference whenever the conditions require it, fail to deal adequately with the technical questions that confront the practitioner, a failure explained and

* Read before the Orange Mountain Medical Society, January 20th, 1899, and contributed to the *Philadelphia Medical Journal*, February 14th.

† *Medical Record*, December 1st, 1894, p. 673.

‡ *American Journal of Obstetrics*, Vol. XXXV., No. 2.

§ Abrahams. *Ibid.*

excused by the paucity of the material. Knowing the difficulties the surgeon meets in dealing with the many variations in the character of appendicitis, ever full of surprises, it will richly repay the time spent to consider, in a rapid manner befitting the occasion, the peculiar circumstances characterizing appendicitis during pregnancy. My object will be briefly to survey the salient features, to suggest rather than to exhaust a most interesting and comparatively new subject.

Diagnosis.—The difficulties of a differential diagnosis, often considerable in the absence of pregnancy, may become nigh insurmountable when the abdomen is filled with a gravid uterus. Great circumspection and a conscientious exhaustion of all the diagnostic means at disposal will, in most cases of early pregnancy, enable the attending physician to arrive at a positive conclusion. Bimanual palpation per vaginam and per rectum will often yield a positive result, clearing up the question, "Are the uterine appendages involved or not?" Normal parametrium of the right side, the relatively high location of either the characteristic point of spontaneous and pressure pain, or of a tumor, together with the well-known group of morbid symptoms of a general character indicating a local peritonitis, will lead directly to the proper diagnosis.

But when the right parametrium is clearly involved, presenting a painful mass holding close relations with the uterus, there may still be an appendicular morbid process. The deep situation of a long appendix, lying in contact with the womb and its appendages, is not uncommon, and its inflammation may produce physical conditions that the finger cannot distinguish from those produced by suppurative processes that have their primary seat in tube or ovary; or, a circum-appendicular abscess may have gradually extended down to the vicinity of the uterus from above; or, finally, an appendicular infectious process may have directly communicated itself by contact to the uterine appendages, establishing a complication, not altogether rare, of appendicitis with septic salpingo-oophoritis.

But even in these difficult cases, the good observer may elicit the truth by paying due attention to the clinical aspects of the general condition. It should be borne in mind that, with the exception of cases occurring after childbirth, a sepsis as intense as that characteristic of perforative appendicitis is extremely rare in suppurative or even perforative salpingo-oophoritis. Previous attacks which were well observed, may give a significant hint one way or the other. So much can be said, however, that, as with the progress of gravidity the size of the uterus increases, crowding aside the other viscera, a precise diagnosis is apt to become more and more difficult, and even impossible, grave symptoms of great urgency compelling the surgeon to make an exploratory incision, a last resort disliked by the careful diagnostician.

Before leaving this subject it is necessary to mention a compli-

tion observed by McBurney, Bull, Mundé, and myself, simulating appendicitis. I mean the presence of a small ovarian tumor of the right side, having a twisted pedicle causing a complex of symptoms very suggestive of acute appendicitis. In the earlier stages of pregnancy a careful examination under anesthesia will generally clear up the diagnosis. In a case of far-progressed gravidity, only the probatory incision can give the desired light.

Indication and Prognosis.—The prognosis in appendicitis complicating pregnancy depends in the main, first, upon the character of the inflammation; secondly, the stage of pregnancy, and, finally, upon the time and means taken to combat it.

It is undeniable that, as Abrahams shows, a respectable proportion of all cases of the disease in pregnant women is not of a malignant type. In these cases a purely medicinal or expectant treatment would be the proper course to adopt, were we always able authoritatively to identify these cases as mild ones. But just here lies the difficulty. That the fatality among the bad cases is very high, is shown by the fact that, according to Abrahams, of 12 women operated upon 7 have succumbed to septic peritonitis. The histories of all of these cases show, however, that the operations were performed very late, and in the presence of extremely grave local and general disturbances. There are sufficient data at our disposal to prove that the operation for the early stages of appendicitis presents no serious difficulty or risk in early or late pregnancy. Indeed, the safety of both mother and child will be insured by nothing better than radical measures directed toward the elimination of present or future danger lurking in a diseased appendix. As a rule, the early stages of pregnancy will not be interrupted, and if the operation occur near the end of the term, adequate and reliable measures can be taken to make delivery safe. A timely, that is, early, operation will usually deal with a process limited to the interior of the unperforated appendix; will eliminate the focus of infection, and thus remove the danger threatening the fetus from prolonged septic fever; will eliminate the dangers of perforative peritonitis; and last, but not least, will permit a complete and sound closure of the abdominal wound, an extremely important point in the later stages of pregnancy, when, in the presence of an open wound maintained for purposes of drainage, an accidental escape of the intestines may take place during the expulsive efforts of parturition. We shall see that, when the abdominal cavity can be securely closed by suture, parturition may, and generally will be, completed without hindrance to its own progress or damage to the suture, and that the ultimate and smooth healing of such a well-sutured wound is nowise interrupted by the violent efforts of the abdominal walls observed during the birth of a first child.

On the other hand, when perforation has already taken place, and an abscess has formed, the conditions are extremely serious, especially during the end of pregnancy. Usually, a portion of the

wall of this abscess will be formed by the gravid uterus itself. Supposing that such an abscess is evacuated by the surgeon, a most embarrassing element is introduced into the after-treatment by the circumstances that with the setting in of labor, existing adhesions may be ruptured; that the infected surface of the contracting uterus itself will undergo a marked displacement downward, and may spread infection to hitherto intact parts of the peritoneum.

But this is not all. It has already been shown that the maintenance of drainage during the act of parturition is a serious matter, on account of the tendency of the viscera to escape from the abdominal cavity during expulsive efforts. To guard against this danger effectually, yet in such a manner as not to interfere with proper drainage, is another problem not easy to solve.

To recapitulate, we may say then, that though there are and must be a certain number of cases of appendicitis occurring during pregnancy, in which it may be safe and proper to pursue a waiting policy, yet, in view of the tremendous dangers threatening patient and fetus from a far-progressed septic appendicular process, especially during the later stages of gravidity, it may be safely laid down that the prognosis is very uncertain at best, and that certainty of a favorable prognosis depends in direct ratio upon the earliness of the diagnosis made by means bloodless or bloody, and upon the promptness and thoroughness of the surgical measures taken to fulfil the indications.

Treatment.—As hinted at before, while most of the meritorious papers that treat of this subject lay great stress on the indication, that is, they, whenever the symptoms are progressive, agree in urging an early operation, their recommendations as to the manner in which the technical problem is to be attacked, are too general, hence rather vague, lacking enough precision for the guidance of him who is called to act in similar emergencies without previous experience.

For the sake of clearness we shall endeavor to define and group the various pathologic states, upon the correct appreciation of which must be based a rational treatment.

(1) *Appendix imperforated; peritoneum not seriously infected. Absolute closure of wound permissible.* In the earlier as well as in the late and latest stages of pregnancy it will be proper to remove the appendix as soon as local and general symptoms of growing severity manifest a progressive tendency. A high pulse, vomiting or nausea, the characteristic local pain, spontaneous and on pressure, in the right iliac fossa, a tumor not involving the parametrium,—all summon us to prompt action. And the problem will be a simple one. The free or slightly adherent appendix can be easily found, freed and brought out through a comparatively small incision, tied off with catgut, the stump thoroughly charred with the actual cautery or cauterized with pure carbolic acid, dropped back, and the wound closed. Pregnancy will not be

interrupted by these steps, and a trustworthy suture will restore the integrity of the abdominal wall. Though McBurney's incision, consisting of a mere longitudinal separation of the fibres of the several muscular layers, can be practised and may be successful, my experience does not extend to its employment in cases of pregnancy. In the three cases that came under my care, one at the end of the second month, one in the fifth month, the last at the end of the eighth month, the following procedure was successfully put in effect.

The method described by several surgical authors, notably not long ago by Kammerer, consists in making a longitudinal incision near the outer edge, but still within the limits of the right rectus muscle. After division of the skin and the aponeurosis of the external oblique, the anterior portion of the sheath of the rectus is opened, so that the edges of the incision through the external aponeurosis and the sheath of the rectus should be well distinguishable and fit for the application of an individual suture. Now the rectus is liberated and pulled aside towards the median line by a blunt retractor. One, two or even three oblique strands, each consisting of vessels and nerve, are seen traversing the field. These should be divided between two artery-forceps only so far as necessary to yield adequate space, and the vessels ligated. Should it be necessary to extend the incision downward, care must be taken not to injure the epigastric vessels, which, carefully exposed, can be easily displaced nearly two inches downward by a blunt retractor. Now the transversalis fascia and peritoneum are opened, and the appendix is removed in the usual way. After this comes the closure of the wound, the manner of which will vary somewhat according to the stage of pregnancy. In the early stages it is better simply to endeavor to restore the abdominal wall so as to get a solid and reliable union against the expected delivery at full term. First, put in as many retention sutures of silkworm gut, at intervals of about an inch, as the length of the incision requires, leaving them, however, open for the time being. These should not be more than three-quarters of an inch from the edge of the wound, and ought to include all the layers of the abdominal wall. After these are ready, the peritoneum and fascia transversalis, here forming the posterior portion of the sheath of the rectus, are united by a running chromicized catgut suture. Then the rectus is permitted to slide back into place, and the anterior portion of the sheath is closed by a similar suture. Then the aponeurosis of the external oblique is likewise closed, followed by suture of the skin. Thus there are brought together the components of the abdominal wall in the same order as they were severed. To relieve all these lines of suture from all possible strain, the retention sutures are closed by applying either buttons or quills, thus additionally relieving the line of sutures from transverse pressure or strangulation, caused by the ordinary surgical knot. If the asepsis is faultless, the wound heals kindly, layer to

layer in the anatomical order, and on the seventh or eighth day, the button or quill sutures can be removed. The healed wound is further protected for another ten days by adhesive straps armed with tape, which are tied over the dressings. In both my cases of appendicitis, in which the operation was done during the first half of pregnancy in primiparæ, the fetus was delivered at term, and the cicatrix admirably withstood the strain of parturition.

Similar is the procedure when the operation must be done near the completion of term, with this difference only, that proportionately more retention sutures are put in with a view towards the possibility of labor setting in before the wound is firmly united. Button-sutures are applied at intervals of about one-half to three-quarters of an inch, the catgut sutures being identical with those previously described. My experience in Case I. has demonstrated that when labor set in 28 hours after the completion of the operation done at the end of the eighth month of pregnancy, it was carried in 4½ hours to a successful termination by the delivery of a viable child. The sutures held very well, indeed, did not cause pain to the primiparous patient, and, examined immediately after the expulsion of the placenta, looked as when applied. There was no hematoma, and the wound healed smoothly, leaving an inconspicuous scar. It is probable that the same would have occurred had a normal delivery taken place at the end of term.

The question, Why did labor set in in this case directly after the operation? is answered by the circumstance that an ovarian tumor was removed at the same time. The irritation by the ligature of the muscular fibres that run from the cornu into the tube is an adequate explanation. Could this have been avoided, it is very probable that gravidity would have extended to full term.

Hitherto our conclusions were based upon the sound basis of actual experience. They are borne out also by analogy derived from the large number of cases in which abdominal tumors of various character were removed during the progress of pregnancy.

What is outlined in the following is only a plan of action to be adopted when circumstances should demand. Yet an earnest endeavor will be apparent to base every step of the technic upon safe principles universally accepted by modern surgeons.

(2) *Appendix is gangrenous or perforated, or both, the peritoneum is more or less septicly infected. An abscess is present.* In the early stages of pregnancy this condition of things will not materially interfere with the plan of treatment now usually bestowed on such cases. Free exposure of the focus of infection; protection of the adjacent normal peritoneum by a carefully arranged wall of packings from contact with pus or ichor; removal of the appendix if this can be done with safety; and subsequent drainage by gauze-wicks or tubing. The wound is closed by through-and-through sutures so far as possible; that is, so as not to interfere with drainage. If the existing sepsis does not destroy the life of the fetus, and is effectually cut short by a thorough

operation, term may be completed. The wound will heal in part by granulation, and this circumstance may lead to the formation of ventral hernia, which, however, need not seriously interfere with safe delivery.

Much more formidable is the state of affairs if a woman is unfortunate enough to contract a perforating appendicitis with septic local peritonitis during the last stages of her pregnancy; and the gravity of affairs is the more pronounced the nearer she has come to full term. Great circumspection and a correct technic must come into play if the lives of mother and child are to be preserved. The problem to be solved will consist here of several factors;

First, septic matter in the shape of pus and dead tissue must be eliminated.

Second, adequate drainage must be maintained under peculiarly difficult conditions, these being dependent upon the local changes wrought by a contracting womb.

Third, effective measures must be taken to prevent the accidental expulsion of intestine during labor, yet so as not to interfere with indispensable drainage.

First of all, then, septic matter must be exposed and eliminated. To do this thoroughly an adequate and, especially, a *low-reaching* incision is absolutely necessary. It should enable the surgeon to survey and explore every part of the infected area, so as not only to permit pus to escape from one cavity, but to give some assurance that no secondary abscess has been overlooked and left behind to burst and infect. If the appendix is easily reached and its situation accessible, it should be removed. But the principal care should be directed towards ferreting out and *not overlocking* pockets or separate abscesses. Prior to evacuation the healthy parts of the peritoneum must be carefully protected by packings.

Having satisfied ourselves that the work of evacuation was thorough and complete, the question arises, how to establish and maintain good drainage not only at the present moment, but also should labor set in.

The difficulty, as pointed out by Abrahams, lies in this, that one of the walls of the abscess being formed by the uterus, labor itself, but principally uterine contraction following delivery will lead to a general shifting of relations, to the severance of protective adhesions and hence to a possible spread of infection. Furthermore, that part of the infected uterine surface which was on the level of the pelvic brim, will descend after delivery to the bottom of the small pelvis, thus becoming considerably more remote from the primary incision. Hence the recommendation to extend the incision well down to Poupart's ligament.

To accomplish the object in view it will be necessary to line and fill the entire cavity of the abscess with a carefully arranged systematic packing of iodoform gauze, providing each recess and pocket with an individual wick, the ends of all tampons to be

brought out through the external incision. Experience teaches that gauze packings soon become matted to the surfaces they touch, and for a number of days this adhesion is quite intimate, requiring considerable traction to dissolve it.

If the surgeon had to do only with coils of intestines, such a packing would be perfectly reliable and adequate. But in view of the impending evacuation of the gravid womb, and its inevitable change of size, shape, and location, a still more reliable safeguard is necessary. The packing which is in contact with the infected surface of the uterus, must be so arranged that it may, under all circumstances, follow the changing viscus, maintaining relative positions during and after delivery.

To secure this, I propose to employ here an expedient which I have successfully used in operations performed for the excision of tumors from the oral cavity, notably upon the tongue, the floor of the mouth, and the pharynx. Here, raw and continually shifting surfaces of considerable extent had to be protected against the perpetual danger of contact with the poisonous elements of saliva and of vomiting matter, until a protective barrier of sturdy granulations should have arisen. Repeatedly it happened, that during retchings and the efforts at deglutition, even Bilroth's adhesive iodoform-gauze became detached and came away long before it was safe to leave the parts unprotected. These experiences finally induced me to stitch a thin "mattress" of gauze directly to the surfaces to be protected by a running suture of catgut, a little additional labor well repaid by the security it gave to the packings.

The analogy of conditions impels me to propose the employment of a similar measure to the field now under discussion. Four layers of iodoform gauze should be exactly adapted to the uterine surface of the abscess cavity, and should be stitched to the peritoneal covering of the organ by a running catgut suture. The redundant skirts of this lining should then be gathered up, filled with a loose packing of additional gauze according to the plan of Mikulicz, and brought out through the external wound. It may be fairly assured that such a packing would follow the uterus wherever it may retract.

It remains now to consider what steps are necessary to avert an accidental expulsion of intestine during the efforts of labor. It is known to what an energetic extent uterine contraction is aided and supplemented towards the close of parturition by contractions of the abdominal muscles, the object of which supplementary work is to increase intra-abdominal pressure. A more or less gaping incision at the bottom of the abdominal wall offers, at such a time, an obvious point of lessened resistance, and may, nay almost certainly will, be the route by which the slippery and insinuating coils of gut will succeed in escaping. True, the vast experience gained in the treatment of suppurative appendicitis tells that in ordinary cases a well applied packing reinforced by strips of adhesive plaster and a snugly-fitting binder does not interfere

much with efforts of coughing and vomiting, and is a sure preventive of the accidental expulsion of gut. But the labors of parturition are infinitely more energetic and persistent, and certainly demand additional safeguards.

There is another thing to be considered, and that is, that the very fact that the abdominal wall contains a gap, must interfere with the energy of muscular contraction, lacking in the indispensable factor of existence exercised by the abdominal contents. To bring out the full force of the abdominal muscles, the viscera must be safely and firmly confined.

By sewing up the wound securely over the packing as soon as labor begins, escape of gut will be prevented, and the necessary resistance created, but the objection will arise, that drainage will be shut off for an indefinite period of time, and by this, at once the plan must be condemned.

Means, then, to confine the intestines must be found, which, at the same time, will not interfere with drainage. And this can be done in the following manner: As soon as the packings are in their place and their ends are brought out of the external wound, the edges of an iodoform gauze compress of about eight layers are slipped in all around under the parietal peritoneum until the compress is spread out evenly, occluding the abdomen like a diaphragm. Now the edges of this diaphragm are firmly stitched to the full thickness of the abdominal wall all around with rather stout silk, thus supplementing the defect in the abdominal wall by a resisting sieve, which, while safely retaining the intestines, will yet permit the free escape of morbid secretions during the time of labor. So soon as the birth is finished, this diaphragm can be removed.

The histories of parturient cases observed by me are these:

CASE I.—Pregnancy at the end of the eighth month; history of many mild attacks of appendicitis, followed by a violent attack; laparotomy; removal of small dermoid cyst of right side (twisted pedicle), and of an adherent appendix, inflamed through juxtaposition; premature labor, safe delivery; recovery without ventral hernia.

Mrs. C. K., aged 23, primipara, had, at frequent intervals during and before her pregnancy, suffered from attacks of violent pain in the right iliac fossa, which were looked upon as due to appendicular colic or mild seizures of appendicitis. On the patient's admission it was stated, that since two days the old pain had recurred with greater intensity than ever, accompanied by severe and frequent vomiting and great dejection. The abdomen was found occupied by the enlarged womb of a size proper to the end of the eighth month of pregnancy; palpation by the rectum and the vagina yielded, on account of the presenting head of the fetus, negative results, the only local symptom of significance being the rigidity of the abdominal wall over the right iliac region, and, on pressure, an exquisite pain corresponding to the space above and in front of the anterior upper rim of the iliac crest. The pulse

had been rapidly rising, and was then 136 per minute, though the temperature was only 100.4° F. in the rectum. The constant vomiting, a growing pulse rate, and ominous facial expression determined an immediate operation, done in the presence of Dr. Mundé, at Mount Sinai Hospital, December 3rd, 1897, at 11 p.m. The incision along the outer edge of the right rectus gave exit to a large quantity of bloody serum. As soon as the pregnant womb was rolled aside, a small, flattened, blue-black tumor became visible, occupying the deeper parts of the right iliac fossa, proving to be a dermoid cyst, twisted on its long pedicle. Closely adherent to it, and much congested, the appendix was found to follow it on being withdrawn, and both cyst and appendix were together removed, the ligated pedicles being thoroughly seared with the actual cautery. The appendix was sharply bent upon itself, atresic near its base, and much distended by turbid, sanguinolent fluid. Adhesion must have evidently taken place after the twisting of the cystic pedicle.

As the ligature securing the latter lay close to the cornu of the pregnant uterus, it was justly expected that uterine contractions and expulsion of the fetus might soon follow. Hence the closure of the abdominal wound was attended to with the greatest care, so as to guarantee the durability of the sutures under the muscular efforts of impending delivery. A close row of double-gutted silk-worm button-sutures, reinforced by separate sutures of each layer of the abdominal wall, was applied, and the usual adhesive strips and a snugly-fitting binder were added. Following the operation vomiting continued for another day, undoubtedly on account of the existing local peritonitis. But the pulse-rate began to fall immediately, especially after flatulence was relieved by a high enema. December 5th, at 3.20 a.m., labor began, and was brought to a successful termination under the guidance of Dr. Morrison, house-surgeon. Immediately after the expulsion of the placenta, I examined the sutures, and found them absolutely intact, no hematoma present, and everything in best order. An uneventful recovery was followed by the discharge of the cured patient December 17th; both mother and infant doing well.

CASE II.—Relapsing appendicitis during second month of first pregnancy; operative removal of appendix; recovery; normal delivery at end of term.

Mrs. M. W., aged 21, had had altogether five attacks of appendicitis, the first and the last ones having been the most severe. Since the last attack patient had married and become pregnant, and sought advice regarding her chances toward the safe delivery of a child, both herself and her husband being very anxious to have progeny. The thin abdominal wall permitted of excellent palpation, and, though the appendix could not be distinctly felt, pressure at one point was exquisitely painful. Unhesitatingly the advice was given to have the appendix removed immediately, as its presence, with progressing pregnancy, put the lives of both mother

and fetus in great jeopardy. January 13th, 1896, a somewhat enlarged appendix attached to the congested omentum was easily removed. Its mucosa was ulcerated in several places, and it contained three fecal concretions. Its base was stenosed. The abdominal suture was very carefully done. The patient was discharged, cured, on January 27th, and was delivered safely at full term by Dr. Marx, the scar behaving admirably under the strain.

CASE III.—*Acute appendicitis during the fifth month of pregnancy; removal of erect and congested appendix; recovery; safe delivery at end of term.*

Mrs. S. F., primipara. Typical, severe attack of appendicitis with vomiting, rising pulse and temperature, which were 126° and 102° F., respectively, the local pain being especially violent. Operation was had December 15th, 1896, when the congested, and in one place nearly perforated, appendix was easily removed, all the threatening symptoms subsiding directly after the operation. Uneventful and prompt recovery followed, and the patient was delivered at full term.—*Phila. Monthly Journal.*

HEMORRHOIDS AND THEIR TREATMENT.

THE anatomical division of hemorrhoids into external and internal is based not only on the fact that one is formed without, and the other within, the cavity of the rectum, but also on the relation they bear to the venous supply of the part. There are three sets of rectal veins, as there are three sets of arteries—the superior, the middle, and the inferior. These vessels constitute the hemorrhoidal plexus, and surround the lower third of the rectum subjacent to the mucous membrane. The superior hemorrhoidal vein is one of the rootlets of the portal vein; the middle hemorrhoidal vein empties into the internal iliac, and the inferior hemorrhoidal vein into the internal pudic, both tributaries to the general venous system. It is owing to this arrangement that the hemorrhoidal plexus is regarded as the link between the systemic and the portal system of veins; and this fact has also an important bearing upon the production of hemorrhoids. It should also be remembered, in this connection, that the hemorrhoidal plexus forms a free anastomosis with the prostatic and the vesical plexuses, hence disturbances in and about the bladder increase any hemorrhoidal tendency. Dr. Charles B. Kelsey further classifies the venous channels of the lower bowel into a rectal and an anal circulation; the former consisting of the superior hemorrhoidal vein, and the latter of the middle hemorrhoidal vein, which receives the blood from the anus, and the inferior hemorrhoidal vein, which carries the blood from the adjacent integument.

External hemorrhoids are divided into (1) the venous, (2) the cutaneous, and (3) the compound.

1. The venous variety occurs in three forms: (a) as a marked

varicose condition of the plexus of external hemorrhoidal veins; (b) as a thrombosis of this plexus, and (c) as a clot of extravasated blood, due to a rupture of a varicose vessel.

2. The cutaneous pile consists essentially of a hypertrophy of the skin surrounding the anus. It frequently is the result of a venous hemorrhoid, a fold of skin being left after the clot has been removed either by absorption or operation. When uninfamed, it occasions no great inconvenience; but when aggravated by improper diet, irregular habits, uncleanliness, etc., it invariably causes the patient, as stated by Messrs. Allingham, an amount of suffering quite disproportionate to the pathological appearance. Dr. Joseph M. Matthews states that in his opinion the cutaneous pile is not an excrescence, as some authorities think, but an enlargement of the superfluous tags of skin sometimes found around the anus.

3. The compound, external pile, in which the hemorrhoid is largely external, but is also covered with mucous membrane, and is contained within the area of the internal sphincter muscle. This variety is so frequently observed as to justify its separation into a distinct class.

Dr. Charles B. Ball applies this name to a form of external pile, which is found to consist principally of connective tissue, and which contains several thrombosed veins of considerable size, instead of one central cavity, as in the common variety of venous hemorrhoid. The form of hemorrhoid described, and not the one designated by Dr. Ball, should be understood when the term "compound external hemorrhoid" is employed. Unless inflamed, external piles (with the exception of the thrombotic variety) give rise to no pain and but slight inconvenience. Any annoyance occasioned is largely due to the mental effect produced by the knowledge that something abnormal exists about the rectum. In the acute stage a thrombotic pile is always attended by severe pain (due probably to distension), and by considerable constitutional disturbance. All varieties of external hemorrhoids, when inflamed, are accompanied by pain, spasmodic contraction of the levator ani muscle and the sphincter muscles—a disagreeable sensation, as if there was a foreign body about the rectum, which induces more or less tenesmus, as well as a constant feeling that the bowels must be evacuated. Finally the general health is affected and the reflex symptoms are often present.

When excoriations or fissures coexist with piles, the pain is always more intense and the swelling more marked.

With proper treatment and rest all the aforementioned symptoms subside, the piles shrivel, but, though much smaller, do not entirely disappear. They may continue in this state for an indefinite time, occasioning no inconvenience; but under the influence of irritation they are liable to become swollen and painful. The so-called edematous pile is the result of such a condition—the cutaneous tag, as the result of some irritation, becoming acutely inflamed. Ex-

ternal hemorrhoids rarely suppurate, and when they do a marginal fistula usually results.

Hemorrhoids occur in all walks of life and with about equal frequency among the two sexes. Few people of middle age escape without in some degree suffering from them. Some occupations and modes of life undoubtedly act as predisposing causes in the production of this disease. Some authorities regard the affection as often of an hereditary nature, but the consensus of opinion at the present day is against that view.

Mr. Harrison Cripps, F.R.C.S., writing on this point, states: "Without for a moment believing that the actual piles are inherited, I think it not unlikely that such predisposing causes as a weak sphincter muscle, abnormal thinness or delicacy of the skin and mucous membrane, or even deficiency in thickness in the coats of the vessels, may be a transmitted tendency, increasing the liability to piles."

Hemorrhoids rarely occur before puberty. Those causes which determine blood to the rectum, or which impede its return from the pelvis, tend to produce this malady. Drastic purgatives; the accumulation of feces, occurring in constipation; disease of the liver interrupting portal circulation; abdominal tumors pressing on the inferior mesenteric vein; the impediments to the circulation caused in women by the gravid uterus, especially during labor; the strain induced in urination when urethra is obstructed, as in stricture, or by the presence of an enlarged prostate; violent exercise, as in playing hand-ball, may all be regarded as causes of hemorrhoids. Among other causes of this disease may be mentioned diarrhea, sitting on damp or cold seats, friction from clothing, the employment of printed paper for detergent purposes, from which the ink readily comes off; and, finally, the neglect of observing necessary cleanliness of the part—some persons seeming to forget that the anus requires as much, if not more, washing as any other part of the body. From the description given, and after a careful examination has been made, the diagnosis of external piles should not be a difficult matter. It is uncertain the length of time it will take to afford relief from pain when palliative treatment is pursued. The radical cure of piles ensures almost immediate relief from pain, and a cure in the course of a week to ten days. The local condition is not the only point for consideration in the treatment for external hemorrhoids. Permanent relief or the most satisfactory results are obtained by the correction or removal of those causes, systemic or local, which are the predisposing, if not the exciting, factor in the production of the disease under consideration. A few of the more important conditions will now be considered.

(a) Regularity in the time of going to the closet is the first step to be taken in the correction of this condition. Patient should be directed to go at the same hour every day, whether the desire exists or not. Before or after the morning meal will usually prove

the best time. Physical exercise is another very important factor in correcting costiveness. To be of benefit it must be taken regularly. Certain articles of food often aid in the removal of this affection, such as the fruits, of which apples, oranges and prunes are the best. A dozen uncooked French prunes eaten before retiring, will be found a very agreeable laxative. Medically, the treatment of constipation covers a wide range of remedies. No one plan can be outlined that will benefit all, or even the majority of persons so afflicted. In some instances a tumblerful of hot or cold water taken before breakfast will nicely regulate the bowels. Elderly persons often find it of advantage to take the water before each meal. Should this fail, the mineral waters may be tried, of which the Hunyadi Janos is by far the most satisfactory in every way. A wineglassful of this water, followed by a similar quantity of hot water, taken the first thing in the morning, is the dose which should be employed. It will be found to cause a free movement in one to three hours afterwards, and in cases of this kind will be found exceedingly beneficial. Fluid extract of cascara with equal parts of glycerin, in doses of 30 to 60 drops, at bedtime, will always prove useful.

(b) If dependent upon a gouty or lithic acid diathesis, the treatment must be directed towards the relieving of these conditions. In all cases the diet should be carefully regulated. Meat should be taken in small quantities. Rich gravies, sauces and pastry are to be avoided, as well as all sweets. The use of alcohol should be restricted. All wines, except claret, are particularly objectionable. Considerable benefit is to be derived from the use of aperient medicines, of which the salines are the best, as the sodium phosphate or the sulphate, or some of the natural mineral waters. In a number of cases marked improvement results from the use of mercury in some form, such as fractional doses of calomel, or blue mass in five to ten-grain doses. Ammonium chloride, in ten to fifteen-grain doses, four times daily, is a useful remedy in hepatic congestion. Strong nitrohydrochloric acid, in combination with the tincture of nux vomica and the compound tincture of gentian, in the proportions of one-half a fluid drachm of the acid to one-half a fluid ounce of the remaining drugs, often proves of value when administered in doses of twenty-five drops in a wineglassful of water three times a day after meals. Turkish baths are beneficial when taken once or twice a week. Massage is of decided advantage. Lithium salts are indicated, either in the form of the effervescent citrate, or the waters of some of the numerous mineral springs. In some cases the wine of colchicum is an efficient remedy, in doses of from five to twenty minims.

(c) These, when accompanied by destruction of the capillary vessels, are rather subordinate factors in the causation of piles, but nevertheless demand consideration and treatment when associated with the malady under discussion.

(d) Polypi, irritable ulcer of the rectum (more commonly called fissure), rectal stricture, phymosis, adherent prepuce, store in the

bladder, enlarged prostate, urethral stricture, malpositions of the uterus, and growths or other diseases of that organ, as well as of its appendages, must receive attention before we can hope to deal satisfactorily with the hemorrhoids. Errors in diet and mode of living should likewise receive proper attention.

The local treatment of external piles will be considered later.

THE CRUSADE AGAINST TUBERCULOSIS.

THE Crusaders who went to Palestine several centuries ago to wrest from the possession of the Turk the Holy Sepulchre, represented the choicest chivalry of Europe, and they were animated by a most holy enthusiasm. A new crusade has recently been undertaken in England, the participants of which will not need to leave home, don armor, carry banners nor imperil their lives. But the movement in which they are engaged promises more glorious achievements than those of Godfrey of Bouillon and Richard the Lion-Hearted. And mankind is likely to derive more benefit from its success.

Moreover, the new crusade—that of the National Association for the Prevention of Consumption and other forms of Tuberculosis—has already enlisted the support of many of the most prominent and influential people of the United Kingdom. A meeting was held to advance this admirable cause a month ago at Marlborough House, under the presidency of the Prince of Wales, and was attended by Lord Salisbury, Lord Rosebery, Lord Derby, the Medical Director-General of the Army and Navy, the president of the British Medical Association, the heads of several medical colleges, and no end of other representative people.

The first step to be taken by the chivalry of modern Britain in this warfare is to enlighten the public as to the nature of the disease which it is proposed to fight, show the ease with which it may be communicated and emphasize the possibilities of eradicating it entirely from the land. The newspapers are being filled with simple statements of the appalling number of deaths that result from this one cause—60,000 in the British Isles alone every year. Then there are explanations of the fact that tuberculosis is due to a special germ, or bacillus, whose identity was established years ago by the German investigator, Robert Koch. It is pointed out that the bacillus of consumption cannot be taken by a well person from a sick one by breathing air expired by the invalid (as was commonly supposed), but finds its way out of the patient only as expectorated matter. This may dry and liberate the germs of the disease, which are then inhaled with other dust by unsuspecting persons.

The object of this elaborate plan for disseminating detailed information as to the mechanism of infection is to pave the way

for the restrictive measures which constitute the fundamental part of the crusade. If people can be induced to stop spitting in public, or to expectorate only into vessels that may and will be disinfected promptly, an end will be put to consumption. It is necessary to the success of the scheme that this prohibition shall be general. It is not enough to persuade the consumptives to stop spitting. It is a curious fact that a vast number of people who are not suffering from tuberculosis nevertheless carry around in their throats and lungs millions of the bacilli of consumption. No more serious mistake could possibly be made than to suppose that one succumbs immediately to these germs.

Thousands of men and women inhale and nurture consumptive germs in their lungs and throat without ever knowing it. Frequently no harm whatever results. Sometimes the disease makes a little headway and then stops, and the person eventually dies of something else. Consumption often cures itself, and in a great many cases is cured by careful treatment. So that there are countless persons going about to-day, with no suspicion that they have or are just as dangerous to the community as well-developed consumptives. Their sputum is liable to convey disease in the manner described. The principal aim of the new crusade is to persuade those who do not think themselves capable of transmitting disease to stop spitting in public.

The appeal thus made is to the philanthropic instincts of human nature. Although compulsion would be justifiable within certain limits, and although more or less legislation will undoubtedly be invited and secured, the general policy is to make the proposed reform a purely volunteer matter. Consumption may properly be classed with diphtheria, scarlet fever and smallpox as an infectious disease, and made the subject of strict quarantine regulation. But John Bull is warned by a recent vexatious experience.

A very unfortunate movement, based on ignorance and prejudice, has led to a modification of the old compulsory vaccination law, and invoked upon Great Britain the condemnation of scientific men of other lands. This concession is regarded as a backward step, a surrender to cranks, and something more than a merely foolish humoring of a cantankerous element of society. However, just now it is regarded good policy in England to avoid even the appearance of compulsion in the anti-spitting crusade. Until it is seen how much or how little can be accomplished by persuasion, it is deemed unnecessary to go further.

The second great preventive measure that is being urged by the association is the sterilization of milk. Tuberculosis is a disease that affects cattle as well as human beings, and infected cows transmit the germs to people that drink their milk. Now the destruction of diseased cattle is possible within certain limits, but a thorough prosecution of that programme is not considered practicable. But if the milk is sterilized by boiling, danger is obviated. Fortunately, sterilization is easily accomplished, and if agitation is

carried on judiciously and earnestly the milk supply of the cities, and especially the supply for infants, can be safeguarded.

Finally, it is proposed to aid the recovery of persons now or in the near future suffering from consumption. For this purpose the establishment of sanatoria is recommended. Something is already being done in this direction. The sum of \$100,000 has recently been given for the erection of a sanatorium in London, and another is to be built in York. It is hoped that the discussion of the subject that is now going on in England will lead various millionaires to provide for further construction and treatment of this sort. These institutions are not to be run as free charities, but conducted somewhat like model lodging-houses, on a commercial basis. A good many persons who could not afford to go to Switzerland or the Mediterranean for a prolonged sojourn, but could pay a modest weekly stipend for their board, would be accommodated here.

Two of the newest ideas that have been accepted by the medical profession in regard to consumption are that it may be treated with more success in a high place than in a warm place, and that out-door air, in place of the atmosphere of a closed dwelling, is the best guarantee of recovery. The first of these theories led to despatching consumptives to the Alps instead of to the balmy South of France. The other scheme has been embodied in sanatoria, where people sit and walk out of doors a great deal. Emphasizing this point only two or three weeks ago, the *London Spectator* remarked:

"What is so valuable to the Swiss treatment is not the air of the Alps, but the air. People who in England would have been shut up in their rooms all the winter, have been encouraged to be a great deal out of doors, and to live as much as possible out of doors, and have gained fresh life and strength by the process. Air can be had in England as well as in Switzerland; indeed, it has been thought a fault in our climate that it gives us too much air. But for the consumptive patient this is just what is wanted. Quantity, not quality, is the secret of cure, and experiments carried out in districts so unlike as Edinburgh, Norfolk and Ireland have convinced the medical profession that treatment which at Davos or St. Moritz is of necessity costly, may be had at home at comparatively small outlay."—*Selected*.

RHUS POISONING.

I RECALL an incident of my childhood when I had been in the swamp and gotten a more than usually severe dose, which defied stump-water, sour buttermilk and lead-water—the usual home remedies—and the good family doctor was sent for.

He provided a lotion from his capacious saddle-bags, which soon relieved my sufferings, and on a subsequent visit I was very curious

to learn what he had used. I have not forgotten the way the kind old gentleman answered me: "My boy, it is evident that you want to be a doctor. We call this preparation yellow wash. It is poisonous; you must not drink it, and must keep it out of your eyes." This was the germ of what medical knowledge I have since gained.

I have frequently dropped my yellow wash for some new remedy for rhus poisoning which was recommended, but have as often returned to my first love. It is the *Lotio Hydrargyri Flava* of the B. P., which I use in full strength, continuously applied by means of a cloth wet with the lotion, as soon as irritation is recognized. In my own case it seldom prevents vesication, nor have I succeeded in finding anything which would. It is cooling and germicidal. (Notwithstanding the fact that the germ has not been found, I cannot help giving in this case the Scotch verdict of "not proven," and await developments.) It will certainly arrest the formation of a new crop of vesicles, and keep down much of the inflammation.

After the specific symptoms of rhus poisoning subside, there sometimes remains an inflammatory or excoriated condition, which is best allayed by some emollient application, like the carbolyzed ointment, or if something astringent as well seems indicated, the alum ointment of Sir Astley Cooper made up with eucalyptus, which has recently become so popular among us.

There are generally some constitutional symptoms, which are best met by treating them as they appear. Aconite or gelsemium for the febrile condition and quinine are often required.—DR. J. H. HUNT, in *Brooklyn Medical Journal*.

ORTHOFORM (HOECHST).

BY PROFESSOR EINHORN AND DR. HEINZ.

A LOCAL anesthetic, in order to relieve the pain of wounds, ulcers, burns, excoriations and the like, must possess the following properties: It must be absolutely non-poisonous, and it must be slowly absorbed. Cocaine salts do not fulfil either of these conditions. Their toxicity limits their employment, and as they are readily soluble they are quickly absorbed, so that at the end of a quarter of an hour, or, at most, one hour, the anesthesia has disappeared.

After several years' research we have at length succeeded in finding a non-poisonous substance which produces complete and lasting local anesthesia. Like iodoform, it is very slightly soluble, and therefore remains on the surface and maintains a constant action.

Transplantations.—The first trial, and a very instructive one, made on a human patient with orthoform, was in a case of transplantation. The patient, affected with lupus, had already borne four transplantations, and on every occasion experienced extremely

severe pain, lasting several hours, in the part from whence the skin was removed, although covered with boric acid ointment. During narcosis, a patch of skin the size of the hand was taken from the left breast, and upon return of consciousness the patient was surprised to feel nothing, the surface having been anointed with a 10 per cent. orthoform ointment. The bandaged breast was absolutely free from pain and remained so. On changing the dressing two days later no irritation of any kind was observed in the vicinity of the wound, whilst secretion was remarkably small and growth of skin normal.

Ulcers.—Equally satisfactory to the medical attendant and comforting to the patient is the action of orthoform on painful ulcers. A patient with exulcerated carcinoma of the face, who had suffered severe pain for months, was able by an application of orthoform to pass a painless night in sleep. Within a week nearly two ounces orthoform was applied in powder form to the face of this patient. This had not been possible if orthoform were not non-poisonous. Being also antiseptic and desiccative, orthoform answers excellently for ulcers of the feet and legs. The results were most satisfactory in a number of painful ulcers of the feet, where the very severe pain was relieved for many hours or days.

Ulcerated Throat.—An excellent prospect for the employment of orthoform in ulcerated throat is afforded. A number of patients severely affected had been treated with cocaine with only temporary relief. In about an hour the unpleasant sensations returned; the act of swallowing was painful and difficult, and the patients lost in weight. On the other hand, a single insufflation of orthoform powder dispersed the pain for twenty-four hours. The patients could take nourishment easily and their general condition and weight soon improved.—Extract from Clinical Reports (*Munch. med. Wochenschrift*, 1897, No. 34).

SPREAD OF TUBERCULOSIS BY FLUID PARTICLES.

FRAENKEL (*Berliner Klinische Wochenschrift*, January 9th, 1899) believes that the studies of Flügge in the spread of tuberculosis by fluid particles greatly weakens Cornet's doctrines. Flügge and his pupils have shown that during speaking and coughing minute particles are ejected from the mouth and upper air-passages which may, in the tuberculous, contain tubercle-bacilli. Schäffer demonstrated that leprosy patients who had lesions in the mouth and pharynx, while speaking expelled, during a period of ten minutes, thousands (up to 185,000) of lepra-bacilli. Bussenius, an assistant of Fränkel, found tubercle-bacilli on the lenses of his spectacles after examining laryngoscopically patients who coughed during the examination. Flügge found tubercle-bacilli in the saliva of tuberculous patients, especially in the morning; these bacilli are readily conveyed to the

air during simple speech. The tiny drops that are expelled during speech, coughing, etc., can readily be rendered visible by being caught on a mirror held about 30 cm. from the face. Flügge's important researches render it apparent that disinfection of the sputum alone is not sufficient to prevent the spread of tuberculosis, and the author, in order to deal with the germ-bearing fluid particles, proposes that phthisical patients should wear a mask day and night, which should be removed only during eating or to expectorate. On the inside of 26 out of 52 masks worn by patients tubercle-bacilli were found. In order to induce patients to wear the masks, the gauze which covers them, was moistened with pine-needle oil or peppermint-oil, so that they might think the mask had also a therapeutic purpose. The oils do have, the author adds, a value in the latter direction. At the present time a compulsory wearing of the mask is out of question, but everywhere where tuberculous and healthy persons are constantly in the same room, the former should be induced to wear the mask. The only objection to the mask in Fränkel's eyes is that it renders its wearer conspicuous.—*Phil. Med. Jour.*

Gonorrhœa, Septicemia, and Heart Disease.—Not very long ago it was thought that gonorrhœa was a serious local disease in the male but relatively trifling in the female. Then it was found that women often suffered from grave local complications. General infection is fortunately rare in either sex, but it may occur. Drs. Thayer and Lazear have published an important monograph on Gonorrhœal Septicemia and Ulcerative Endocarditis in the January number of the *New York Journal of Experimental Medicine*. It contains much original work and a well-prepared table of thirty-two cases. The authors conclude that an acute gonorrhœal urethritis may be the starting point of a grave general septicemia, with all its possible complications. The infection may be mixed or secondary, due to the entrance into the circulation of organisms other than the gonococcus, or they may be purely gonococcal. Endocarditis, an occasional complication of gonorrhœa, may be quite transient, or may result in a chronic valvular lesion, or may pursue a rapidly fatal course with the symptoms of acute ulcerative endocarditis. The complication is generally due to the direct action of the gonococcus, but may be traceable to a secondary or mixed infection. The same applies to gonorrhœal pericarditis, a rarer complication than endocarditis. Grave myocardial changes, necroses, purulent infiltration, embolic abscesses are common in the severe gonococcal septicemias. In instances of this special form of blood poisoning the diagnosis may in some cases be made during life by cultures taken from the circulating blood according to proper methods. There is reason, when we remember the evidence already referred to about chronic valvular lesions, to suspect that cardiac disease may be more often a result of gonorrhœa than is usually supposed.—*Brit. Med. Jour.*