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Original Communications.

EPITHELIOMA OF THE PHARYNGO-ORAL CAVITY, INVADING THE LARYNX.

BY CONSTANTINE O'GORMAN, M.D., ETC., TRINITY, COBOURG, ONT.

In April, 1893, the patient, an hotel-keeper, came as an ordinary office case. Scotch by birth, stoutly built, æt. 65 years, of a decidedly bilious temperament; pale, jaundiced complexion, with marked anæmia. The tongue was pale, flabby, furred, broad, indented; conjunctivæ yellow. Symptoms of disturbed and inefficient nutrition were plain. Diagnosis: hepatic derangement, with probably catarrhal state of the stomach.

Habits of life: For the previous 40 years a free liver, constant smoker of cigars, never inebriate, but always taking his diurnal quantum of stimulant.

Putting him upon ordinary treatment, *e. g.*, pil. colocynth co., ammon. mur., with acid nitro hydrochlor. dil., and gentian, the patient improved fairly; the complexion cleared, the conjunctiva lost its jaundiced hue, more buoyancy of manner was manifest, and a general feeling of "being much better" was the result.

About a month afterwards, I was again consulted concerning pain in the left ear, not constant, but chiefly when deglutition was performed. Examination by gaslight and speculum revealed nothing abnormal, though audition was obtunded. Inflation by means of a Politzer bag was tried for a time, with very negative results. Direct inspection of the oral cavity revealed nothing. Some days later, it was observable that the patient's voice would change for a while and then resume its normal tone. It was not exactly hoarse, nor yet the *vox rauca;* but a frequent "hemming" and clearing of the throat was noticed during conversation, which more notably developed as the case advanced; together with the expectoration of white, frothy sputa, without any recognizable fetor. These symptoms led to an examination by forehead and laryngeal mirror, after first spraying the throat with a cocaine solution to render manipulation more easy. Then an area, irregular in outline, small in extent, congested, darkened and injected was found posteriorly, in the oro-pharyngeal region. This was certainly suspicion on the eve of being confirmed, not by the bishop, but the specialist.

Bearing in mind a case, some years ago, of syphilis in this region, which being tertiary or ulcerative, ran a rapidly fatal course, I inquired carefully into the patient's history, but elicited no information which would point to a bygone initial lesion; giving him the benefit of the doubt, he was placed upon potass. iodid., Donovan's solution and bitter tonics, without any positive results, excepting, perhaps, faintly retarding rapid infiltration of surrounding tissues. Vaporized medication by means of Coulter's inhaler was also used, affording some amelioration of active, local symptoms; though these increased as the weeks went on, showing a slowly-growing area of erosion, with slight tumefaction.

The advisability of consulting some specialist was mooted, and Dr. Burnham, of Toronto, was agreed upon, who confirmed all suspicions, and after the second examination—a week later—suggested an independent opinion. Dr. Spilsbury of the same city, was referred to, and, as we expected, unhesitatingly confirming the diagnosis of pharyngo-laryngeal cancer, pronouncing the case as beyond interference, likely to lead to a rapid crisis, involving the operation of tracheotomy, or sudden hæmorrhage from erosion; though at the same time counselling general treatment, local, tonic and alterative. The patient was then informed that he was hopelessly incurable, but that relief might be obtained by continued treatment.

Stoically resigning himself to the inevitable, he day by day gradually but surely emaciated, until a loss of 63 lbs. was sustained from a previous weight of about 180 lbs. Complete alteration in the timbre of the voice ensued, amounting to times to aphonia. Dysphagia and regurgitation of, even liquids, was now of constant occurrence; though with strong will and effort, he forced himself to swallow, the liquid sometimes appearing

through the nasal cavities. During September and October, he led the life of a chronic invalid, giving up business, but taking drives or walks in fine weather. The inhalations, as he said, "gave him something to do," tr. benzoin co. being mainly used. The nightly application of the cocaine spray, 4%, with glycerine and boric acid, cleansed and anæsthetized the parts, as also bland gargles of rose-water and pot. chlor. The tumefaction, especially towards the left lateral cervical region, now increased, and was easily felt by digitation. The constriction of a collar caused distress, so with a view, if possible, of modifying or retard, ing the swelling, ungt. plumbi iodi was applied nightly, with apparent relief. As November advanced, the patient was confined to the house; the breathing became distressed, the sputa darker in color and more offensive in odor. The heart's action became intermittent, vertigo was frequent, anxietas was apparent—dyscrasia had set its seal upon him. It was patent to all that the end was near. Being hurriedly summoned upon the night of November 30th, with thoughts of various complications having ensued, I hurriedly obeyed, and found that about 8 p.m. the hydra-headed la grippe had embraced him, as evidenced by intense rigors, violent pains over the region of the kidneys, a rapid pulse, intense dyspnœa, with heavy accumulation of mucus throughout the bronchial tubes. At 11 p.m., the lungs drowned in their own secretions,

> "He died, exactly as a child would die,
> With scarce a groan or a convulsive breath;
> Closing, without a pang, each quiet eye,
> Gliding composedly from sleep to death."

Conscious to the last, death being by apnœa.

Securing permission to make an autopsy, I next morning extirpated from the root of the tongue, the pharynx and œsophagus to the middle third, with the larynx and upper third of the trachea. Upon opening the specimen, in mass posteriorly, I found the whole interior bathed in thick, ashen-gray, fœtid pus—having a roughened, villous surface—a truly cancerous mass. The epiglottis was indurated at its base, and closed imperfectly. Had the case lasted longer, the tumefaction, before spoken of, would eventually have ulcerated into the region of the left internal carotid, or some of its branches, with the obvious result of sudden and uncontrollable hæmorrhage. The liver was normal in size and appearance, a state of things not expected. The heart, slightly fatty. The gall-bladder was enlarged. The kidneys abnormally large, infiltrated with blood, denoting a sudden *suppressio urinæ*, which would account for the great pain in the lumbar region the night before.

I am indebted to Mr. G. H. Field, a fourth-year student, and to Dr. Anderson, pathologist at Trinity, for the very beautifully stained and mounted specimens, which demonstrate an epithelioma. The cells are squamous, arrayed in nests with a large amount of intervening connective tissue. The gross specimen can be seen in the museum of Trinity Medical College. Before closing, I would like to make a few points of personal observation, differentiating between syphilis and cancer of the throat in general; though of course these are fully treated of by McKenzie, Sajous, and, more recently, by Morrow. Let me crave space, as I still proceed. In the syphilitic case I found early and intense fetor of the breath—not that due to mercurialism, but an odor which may be termed necrotic and peculiar to itself. Also placques, invading the intra-oral mucous membrane; early softening and rapid ulceration in the oro-nasal space; enlargement of the cervical glands, and, in the case referred to (tertiary), nodes in the long bones, and exostosis of the ramus of the jaw; involvement of the cerebrum, as verified by the facial paralysis of Bell; ptosis, apathy and mental hebetude.

In the cancer case: Fetor of breath, not well marked at first, but white frothy mucus, early seen (confirmed by McKenzie). Later on, rusty-colored, frothy sputa; marked voice-change, at times ægophonic; increased fetor; gradual onset of cachexia; general progressive emaciation; no marked hebetude; faculties remaining clear to the last. This would indicate that cancer does not, in the same manner, invade the nervous system, as the virus of syphilis is so prone to do; it being conceded that cancer is a malignant proliferation or overgrowth of perverted cell-tissue, in any part of the body; its origin unknown, but manifesting itself locally, and leading in time to vitiation of the blood-current (dyscrasia), rapidly going on to a destructively fatal issue in that part or organ of the body on which, from some cause, it first encroached and manifested predeliction, especially when heredity is a factor.

Syphilis, on the other hand, being a specific virus, is a blood-poisoner and disorganizer, *ab initio*, manifested by an initial sore, sometimes unnoticeable, in any part where mucous membrane exists, or abrasion of the cuticle occurs; amenable to treatment, and happily cured in its primary manifestations, and to material amelioration even in its advanced stages, provided that extensive gummata have not developed within the cranium. A disease which will, in the course of years, exhaust itself in an exceptionally vigorous subject, of good heredity and family history; but, as it were, burn itself out, leaving its victim maimed and disfigured by the wayside of life—a sufferer, if not from facial deformity, yet, knowing that the "iron has entered into his soul"—a veritable "thorn in the side," in the shape of visceral disorganizations, with a residuum of healthy tissue. These are but limited observations, crudely collated. To enter more fully upon this subject would indeed be enticing: for the more extended literature, culled from vast fields of experience and learning, I would refer the reader to Morrow, vol. ii., pp. 331-364; Sajous, pp. 270-349; McKenzie, pp. 244-261.

THE PRESENT STATUS OF INTUBATION IN THE TREATMENT OF CROUP.

BY J. O'DWYER, M.D., NEW YORK.

Most difficult would be the task of the impartial reader who would attempt to arrive at any definite conclusion regarding the value of intubation from the most careful study of the literature of this subject, unaided by personal experience. So conflicting are the opinions that have been expressed by the numerous writers on this subject, that the partisan, choosing whichever side his fancy or prejudice might dictate, could produce an array of authorities and statistics in support of his arguments, either *pro* or *con*, that to the inexperienced would appear overwhelming. Jumping at conclusions from a limited experience, the one thing above all others that the practice of medicine should teach us to avoid is the principal cause that has led to the confusion and difference of opinion that still exist on this question. The more fatal a disease, the more caution is necessary in making deductions from the evidence derived from a few cases, because, under these circumstances, the element of chance or coincidence often plays an important part which is excluded when large numbers are considered. For example, I recently intubated a patient for a physician in my neighborhood, who informed me that it was his eighth case of this kind, and that seven of them had recovered. For another physician, only a few blocks distant, I had intubated a similar number of cases, every one of which died. At the Great Ormond Street Hospital, London, in the year 1890, intubation was first tried in eleven cases of croup with only one recovery. This result was considered sufficiently unfavorable to condemn the operation, and it was therefore abandoned. At the end of two years, owing probably to more favorable reports from other quarters, it was again tried in another series of eleven cases, this time with eight recoveries, (*British Medical Journal*, July 22, 1893. Whether only one case or eight cases out of eleven recover proves absolutely nothing except that some cases do recover after intubation. Neither would it have proved anything had every one of the twenty-two cases died, except that the mortality following intubation for croup was very large—a fact which no one with sufficient experience disputes. The literature of intubation abounds with similar examples of reaching conclusions from a limited experience, and it is on such evidence that this procedure has been over-estimated by some and condemned as useless by others, according to the varying results obtained in a few cases.

The fatal and complex nature of croup, which renders such contradictory results possible under the same method of treatment, is also to some extent responsible for this condition of things.

Acute non-traumatic stenosis of the larynx in children that endangers life by suffocation is, with rare exceptions, diphtheria, either true or false. This disease, if unrelieved by mechanical means, proves fatal in about ninety per cent of the cases, and, with all the aid that medicine and surgery can afford, it still continues to be, with few exceptions, the most fatal of all the acute diseases. The much-dreaded Asiatic cholera seldom carries off more than half its victims, while croup claims a much larger percentage. Even some epidemics of cerebro-spinal meningitis are more merciful than this disease, the terrors of which are less apparent because always present.

In considering the causes that lead to such frightful mortality and the unsatisfactory results obtained from any method of treatment yet devised, the important fact is often lost sight of that the word croup means a good deal more than obstruction in the larynx. Did it only mean the latter, there would be no room for any difference of opinion as to the best method of treating it, because under those circumstances intubation in skillful hands would have no failures.

Those familiar with the pathology of this disease know that the most frequent cause of death, after the laryngeal stenosis has been overcome by means of intubation or tracheotomy, is the extension of the disease to the bronchial tubes, where surgery can not reach it; and that there are several other causes, such as pneumonia, systemic poisoning, paralysis, especially of the heart, and nephritis, each of which contributes its quota toward swelling the mortality of this terrible disease. It goes without saying that the results of any method of treatment in a disease having so many complications, the fatality of which is so great under all circumstances, and which varies so widely in different epidemics, must be obtained from a large number of cases in order to be of any value. Not even are the results of intubation obtained from a large number of cases collected from numerous operators, each contributing a few, of much value, because the ability to intubate without immediate danger to life can not be acquired by the amount of practice derived from a few cases.

It is therefore to large individual experience alone that we must appeal for conclusive evidence as to the value of intubation, not only as a means of saving life, but also as to its more important function as a means of euthanasia in the most excruciating of all forms of human suffering—that of slow strangulation.

There are at present a sufficient number of operators, both in this country and Europe, who possess this kind of experience, and they speak on this subject with no uncertain voice. Among the American intubationists who have had large individual experience and whose opinions on this question are well known, I may mention Waxham, formerly of Chicago, now of Denver; Brown, Northrup, Huber, Caillé, Lester, Stanton, and the author, of New York; McNaughton, of Brooklyn, Hailes, of Albany; Eichberg, of Cincinnati; Richardson and Henrotin, of Chicago; Shimwell and Montgomery, of Philadelphia; Cheatham and Pusey, of Louisville; von Glahn, of Cleveland; Pyne, of Yonkers; and Graham, of Toronto. All of these and many others whose names I have not at hand have had in the immediate neighborhood of or exceeding a hundred cases. Several of the operators mentioned can count their cases by hundreds, and four names could be selected whose aggregate number of cases now exceeds two thousand.

The latest intubation statistics are those by Dr. McNaughton and Dr. Maddern, of Brooklyn, who have collected from 242 operators in various parts of this country and Canada 5,546 cases, with 1,691 recoveries, or 30·5 per cent. (*Brooklyn Medical Journal*, August, 1893). Notwithstanding that it is only within the last three or four years that intubation has been adopted to any considerable extent in Europe, some valuable statistics have already been accumulated. And these statistics are valuable not only because they are the result of large individual experiences, but also from the fact that they have been obtained exclusively from children's hospitals in which tracheotomy had hitherto been the only surgical measure available in the treatment of croup.

Professor Ranke, of Munich, as the result of a collective investigation on the subject of intubation in Germany, reports 1,324 cases of primary laryngeal diphtheria intubated, with 516 recoveries, and 121 cases secondary to measles, scarlet fever, pneumonia, etc., with 27 recoveries—a total of 1,445 cases, with 553 recoveries, or thirty-eight per cent. (*Münchener medicinische Wochenschrift*, No. 44, 1893). Of this number, Ganghofner, of Prague, contributed 498 cases, with 213 recoveries, 42·7 per cent.; Ranke, of Munich, 368 cases, with 128 recoveries, 34·7 per cent.; von Muvalt, of Zurich, 106 cases and 38 recoveries, 35·8 per cent.; Jabenowski, of Cracow, 165 cases and 73 recoveries, 44·2 per cent.; and Unterholzner, of Vienna, 164 cases and 55 recoveries, 35·5 per cent.

Secondary tracheotomy was resorted to in 250 of the cases, with only 20 recoveries, or about seven per cent.

In regard to the value of these statistics Ranke speaks as follows: "This number proves for itself that O'Dwyer's intubation, which at first and until lately was severely fought on all sides, has in the

course of a few years gained more and more friends on this side of the Atlantic, and it proves that the dangers which were formerly charged against intubation must have been very greatly exaggerated."

And again, in giving the true explanation of the insignificant results obtained by means of secondary tracheotomy after intubation had failed, as follows: "The extraordinary small percentage of recoveries from these secondary tracheotomies is explained in this way: that in the majority of these cases secondary tracheotomy is resorted to after the diphtheritic process has extended to the bronchi, and that, under these circumstances, tracheotomy could not accomplish any more than intubation."

Similar testimony as to the value of this procedure comes from Hungary. Bokai, medical director of the Stefanie Children's Hospital of Budapest, has already intubated over 500 cases of croup, with recoveries of thirty-six per cent. In the medical report of the hospital for the year 1892, with an experience at that time of nearly 300 cases, Bokai, after referring to the necessity of having an additional diphtheria pavilion constructed, proceeds as follows: "That this construction was required was demonstrated by the fact that all the beds and extra rooms were continuously filled. The cause of this great attraction of our diphtheria division was due chiefly to the employment of intubation, and it gives us pleasure to be able to state that this procedure has given splendid results, so that tracheotomy has become almost wholly superfluous. In consequence of these splendid results, numerous friends have been added to the side of intubation, both in the country as well as in the city, and many colleagues have availed themselves of the rich material at our disposal to practise intubation under our direction. Convinced of the extraordinary importance of O'Dwyer's intubation in hospital as well as in private practice, I deemed it my duty to so instruct my colleagues, and it gives us pleasure to say that this acquision has spread from our hospital throughout all Hungary."

Such is the evidence regarding the present status of intubation in Europe furnished by men whose reputations are more than national, and whose experience with this procedure has been amply sufficient to entitle them to speak on this subject with the voice of authority. It will be noticed that the percentage of recoveries is considerably larger in Europe than is generally obtained in this country, and the same is also true of tracheotomy. The ready accessibility at all times of a skilled intubationist should give some better results in hospital than in private practice, which may in part explain the difference, as the statistics from the other side come exclusively from the hospitals, while in this country they are furnished, with few exceptions, from private practice. In 186 cases treated at the Willard Parker Hospital in New York, thirty-eight per cent. recovered, while at the Boston City Hospital 392 cases gave only twenty per cent.

In the former the resident physician and one trained assistant performed all the intubations, while in the latter they were done by successive house staffs, each member of which had charge of the diphtheria division in rotation. Under the latter circumstances the individual experience was necessarily small, so that no single operator could have had a sufficient amount of practice to enable him to avoid the accidents, not infrequently fatal, that are inseparable from intubation in the hands of the novice. That the different conditions which existed in these two hospitals explains the great discrepancy in the results I do not believe; but that they were sufficient to produce a very considerable difference in the percentage of recoveries there is not the slightest room for doubt.

In regard to the comparative merits of intubation and tracheotomy as life-saving measures in the treatment of croup, I do not know of any stronger argument that could be produced in favor of the new procedure than a short quotation from a paper by Dr. L. S. Pilcher, of Brooklyn, during a discussion on this subject before the King's County Medical Society (*Brooklyn Medical Journal*, August, 1893).

Dr. Pilcher, while advocating the claims of tracheotomy as the greater life-saving operation, makes the following very candid statement: "I believe that it has been my lot to be called upon to do tracheotomy for the relief of croup in a considerable proportion of the cases that have sought surgical relief, and yet during the seventeen years in which I have been operating I have been called upon to do the operation but 66 times, notwithstanding the deaths from croup in our city during

this period amounted to between 400 and 500 every year. On the other hand, during the past four years Dr. McNaughton has been called upon to intubate 142 times. He has been instrumental in saving 42 lives in four years, I but 22 in seventeen years, notwithstanding 33.33 per cent. of my cases recovered and but 29.5 of his." In other words, Dr. Pilcher was doing tracheotomy on an average of four times in a year, when the deaths from croup during the same period amounted to between 400 and 500.

Estimating from the deaths as given above, the total number of croup cases that occurred in Brooklyn during the seventeen years referred to was somewhere between 8,000 and 9,000, and out of this vast number the most celebrated tracheotomist of that city succeeded in saving the lives of only 22. This is a good example of the life-saving qualities of tracheotomy, an operation which the poorer classes, among whom croup principally prevails, seldom consent to, and if they did the skilled nursing so essential to the proper after-treatment would not be available. Intubation, on the contrary, is rarely objected to either by the rich or the poor, the ignorant or the intelligent, and no skilled nursing is required, the one and only requisite being trained operators. Outside of hospital practice there is, therefore, no room for comparison between these two procedures, the question as to whether, in a given number of cases, one operation may save a small percentage more or less than the other being one of scientific rather than of practical interest.

The difficulties and dangers of placing a tube in the larynx or removing it in the short space of time that is compatible with safety, are either great or small according to the practical experience of the operator. When this important fact shall have been more generally recognized, intubation will not be attempted by so many as heretofore, but will be left to those who have had some sort of preliminary training, if not on the cadaver, at least on a larynx, or on one of the smaller animals. By any of these means sufficient dexterity with the use of the instruments may be acquired to avoid at least some of the accidents inseparable from this operation in the hands of beginners.

NEURASTHENIA.

BY PROF. G. RAUZIER, OF MONTPELLIER.

Translated from the French, by D. Campbell Meyers, M.D., Toronto.

(Continued from March No.)

Few diseases are, as far as symptoms are concerned, so richly provided as neurasthenia. This neurosis, as we said at the beginning, may affect any system or organs of the economy, simultaneously or separately, and will therefore exhibit the most varied symptoms. Hence it is indispensable that a choice of these symptoms should be made, to separate from this too intimate combination a certain number of signs rarely varying, forming a characteristic group. At the present time, the following are described: *(a)* Symptoms "of definition," or *stigmata*. *(b) Accessory symptoms*, or those of the second degree.

Mathieu includes in his classification a third category, that of the *objective symptoms* of neurasthenia; but the list of these symptoms is so limited (dynamometric test, characters of the sphygmographic tracing) and are on the other hand so void of conclusions, that we prefer to confine ourselves to the first two divisions.

(a) Stigmata. The principal manifestations of neurasthenia are *cephalalgia*, *vertigo*, *insomnia*, *cerebral depression*, *amyosthenia*, *rachialgia* and *gastro-intestinal troubles*..

1. *Neurasthenic headache* has been traced by Lafosse, who made it a special study, in 44 cases of neurasthenia, out of 45 cited by him. According to Bouveret, it is noticed in three quarters of the cases. Levillain says it can be ascertained in four-fifths of the subjects attacked.

Sometimes a genuine pain exists, sometimes a simple heaviness or compression; the patients feel the sensation of a leaden cap, of a heavy and close-fitting helmet (Galeati). The greatest *centre* of of the pain varies widely; it occupies most frequently the frontal or occipital region, as if the bezel of an enormous ring pressed upon the forehead or the occiput. At other times, it is a horribly painful sensation of intra-cerebral void, or, again, the idea of water bubbling in the cranial cavity. The pain may be localized on one sibe of the skull; it is then the hemicrania of authors. Hyperæsthesia of the scalp is not uncommon.

The headache is especially diurnal; it begins on awakening and remains the whole day, ceasing momentarily after a meal; sometimes, on the contrary, it appears immediately after food is taken. It is aggravated by labor, emotions, and certain conditions peculiar to each individual. It is accompanied sometimes by visual troubles, murmurs, and humming in the ears, causing an uncertain and staggering gait.

2. *Vertigo*, in connection or not with gastric troubles, presents itself under two forms: in the light form there is a vague feeling of instability, easily removed by argument, and unaccompanied by any apparent difficulty of equilibrium; in the serious form, a veritable titubation is joined to the erroneous idea that the patient experiences regarding surrounding objects.

Often in the acute periods of the disease, it happens that the patients lose, for short periods, the consciousness of their personality, of the objective reality of their acts; in their wanderings, they do not feel the surface on which they are walking, and think they are floating above the pavement; they are unconscious of the movements they make, of which the realization appears to them to be due to an unfamiliar personality; even the sound of their own voices is not recognized. They go, come, converse, salute automatically, instinctively correct and apparently lucid. In reality the mind is vacant, the sight confused, the idea of their surroundings warped and undecided. Happily these phenomena are transitory, they are noticed from the commencement of the acute stage of over-pressure, and an occasional cause may be recognized even in the moderate use of toxics (tobacco, alcohol), to the effects of which the vertiginous neurasthenic is particularly susceptible.

3. *Insomnia* shows itself among neurasthenics under various forms; in many diseases, it is a striking phenomenon, the symptom to which your attention is first directed. Most frequently there is more or less difficulty in going to sleep. There results from this a state of painful agitation, aggravated by the ardent and restless pursuit of slumber, joined to the firm conviction that they may remain a long time awake; then heavy slumber supervenes, broken by nightmare and restlessness. At other times, on the contrary, sleep comes at once, but is of short duration, and is very soon succeeded by an anxious wakefulness. The symptoms of *cerebral depression* play nearly always the chief *rôle* in neurasthenia. They impress on the physiognomy and gait the peculiar seal which often discloses at first sight the nature of the illness. The facial expression is sad and preoccupied, anxious; the cerebral faculties are dulled; memory, especially of proper names, is defective; the attention cannot be concentrated more than a few minutes without fatigue. But of all the operations of the mind volition suffers most. The neurasthenic cannot wish; his will, dormant as if struck by catalepsy, has yielded to a persistent aboulia, to an invincible disgust at all things, which makes the execution of any act whatever constrained and painful; hence, indecision, irritability and the caprices of a character so modified; hence the difficulty of working among neurasthenics who are still able to work. "An accountant," says Bournet, "can calculate no more without making errors; a preacher can no longer follow the trend of his ideas, nor coordinate the different portions of his sermons; a professor becomes incapable of following to an end the demonstration of a geometrical problem. The greater number of the patients thus afflicted see themselves, with great uneasiness, threatened with the necessity of renouncing their occupation."

"The unfortunate neurasthenic," writes Prof. Grasset, "does not revolt, does not struggle, becomes discouraged, and gives way to everything. His impressibility and emotions create a monster out of nothing; a small pebble becomes a huge rock, a shadow becomes a phantom. There results from them for him an apprehension and a veritable despair, because he is aware of his weakness and lack of reaction."

In addition there is an extreme and constant preoccupation for his condition, a minute analysis of all the organic symptoms and all the sensations experienced, a scarcely credible faculty of *auto-observation*. All that unfolds itself, usually by the delivery of a more or less detailed note to the physician on the origin and characters of the disease, by the communication of some voluminous compilation, relating day by day the progress of the disease, and later by long letters intended to rectify or complete some insignificant details. These are almost certain indications of the neu-

rosis—the "man with scraps of paper" of Charcot is a neurasthenic.

The troubles of the mind can go still further; it is not always sufficient to the neurasthenic to concentrate his remaining attention on the troublesome symptoms that he experiences. He often creates imaginary perils, some absorbing and irrational obligations, which are evidence of a greater decline; the question of phobias then arises, of which we will speak later.

5. From cerebral weakness we approach muscular weakness or *amyosthemia.* Neurasthenics constantly complain of a sensation of general lassitude, of exhaustness of the forces, which manifest itself principally on awakening, or succeeds the least fatigue. This diminution of muscular energy of which the dynameter furnishes the objective demonstration, can be pushed to the point of necessitating the patient's remaining in bed for some weeks, or even months. However, there exists no modification of the sensibility of the reflexes, of electric reactions, or of the sphincters. There is here no question of a paresis of organic nature, but only of purely subjective phenomena because muscular energy which has remained latent may be rudely awakened under the influence of some powerful stimulation of the nervous system.

6. *Rachialgia*, which is the spinal analogue of headache, consists of pains spontaneous or induced, in the course of the spinal column; these pains most often take place at the bottom of the cervical region, or in the lumbo sacral region (plaque sacrée of Charcot), sometimes in the coccygeal region (coccydynia). One frequently finds shooting pains in the lower extremities coinciding with rachialgia without the subject presenting on the other hand any of the symptoms of tubes, Sometimes, in addition, dorsal pain is accompanied by scattered neuralgic pains, then it is the general neuralgia of valleix.

7. *Gastric troubles* are observed among neurasthenics with such frequency that they may take the rank of stigmata. It need not be thought however, there is a form of dyspepsia especially related to neurasthema. The greater number of the principal types of ordinary dyspepsia may be found in the latter.

. . . . . .

Accessory symptoms.—The symptoms of the second order may be divided uniformly enough among the greater number of organs, and this generalization seems to justify my opinion. The neurasthema held by Mead, *non unam sedem habet, sed morbus totius corporis est.* Let us review them systems by system, and analyse first of all the state of the functions of the *nervous system.* As regards the "intellect," one frequently notices outside the defects previously pointed out (weakening of memory, attention of will-power, auto-observatiou), an irritability of temper, an instahility of character, which belongs, it would seem, to a fundamental neuropathy, hereditary or acquired, rather than to neurasthema itself.

It is, also, extremely frequent to see patients absorbed in and dominated by the idea that they are smitten with some organic disease, for instance, a lesion of the heart or of the stomach. But contrary to what is passing among Nosomaniacs equally possessed of the idea of an organic affection, the neurasthenic only asks to relinquish his fixed idea, to be convinced of its fallacy—show him that he is wrong, furnish him with arguments, he coincides with your opinion at once and immediately recovers his spirits. Unfortunately it is quite as easy to discourage as to convince and he returns quickly to his melancholic ideas. The nosomaniac, as confirmed in his opinion as any maniac, will listen to your arguments with indifference or irritation, thoroughly convinced beforehand not to allow himself to be persuaded and in fact, you will never succeed in modifying his opinion even should this rest on no other foundation whatever.

Among patients possessing a hereditary degeneration, mental troubles may exhibit themselves in phobias and even terminate in mental alienation.

Besides amyosthenia, which we have previously discussed, *motor troubles* are not uncommon, Beard and Bouveret, describe some forms of paralysis; imperfect, variable and of short duration, most frequently proceeding by attacks of a few minutes only. Regis has even observed aphasia.

The weakness of the legs has been frequently noticed; certain forms of functional weakness, for instance writers cramp are far from being exceptional.

Recently Pitres has described the characteristics of neurasthenic *tremor*; the oscillations are short, rapid, vibratory, similar to those of exophthalmic

goitre or of ethylic tremor. Oftenest it is only apparent in certain conditions and must be sought for in the attitude of administering the oath for instance, it is exaggerated by fatigue, emotions, or by excesses. In short it is most marked at the period of the crisis of acute neurasthenia. When this symptom is permanent, Pitres recognizes its value as a symptom.

The same author has described among neurasthenics, muscular jerkings similar to those of paramyoclonus, of cramps, of rhythmic spasms of the neck, of the tongue, of the œsophagus, astasia-abasia, (which is not therefore always an hysterical symptom), instability in the vertical position. The *tendon reflexes* are often absent or diminished, sometimes normal, rarely increased.

In regard to *sensory troubles*, in addition to headache and rachialgia (of which we have spoken before) one notices an excessive susceptibility regarding external influences (heat, cold, moisture, or the electric condition of the atmosphere). Neurasthenics are barometric neuropaths of the first order. Besides they often complain of abnormal sensations, such ss creepings, prickings, burnings, lightning pains, pruritus similar to that observed in a certain number of neuroses. At other times there are permanent pains localized in one organ or one region of the surface (topoalgia of Blocq). Finally, we should mention among the abnormal reactions of the sensory nervous system those which frequently follow the ingestion of remedies. The neurasthenic is particularly susceptible in regard to medicines and reacts, to therapeutic agents, in an exaggerated or paradoxical manner.

The *organs of sense* do not exhibit any constant or special modifications. On the part of the eye, the nervous twitching of the eyelids is a common occurrence, conjunctival hyperæmia is frequent (Beard), the pupils, often dilated, may be for a short time unequal. Charcot and Pitre have noticed a transitory contraction of the visual field and spots before the eyes are not uncommon. But the most constant symptom is the participation of the visual function with the general asthenia, rapid and transient enfeeblement of sight on the least fatigue.

Accommodative asthenopia deprives the neurasthenic of many pleasures. Very often he is obliged to give up his correspondence and his reading. With this, the fundus oculi is normal, no one has ever found by ophthalmoscopic examination more than a slight retinal congestion. One often notes the over-exciteability of the *hearing*; the patients complain of whistlings and buzzing noises in the ears, they mention a troublesome perception, in the ear, of arterial throbbing, etc.

Taste and *smell* only offer for consideration some peculiarities of a neuropathic order. Salivation is frequently noticed. Certain disorders of taste have been particularly observed by Peyer, in that particular form of neurasthenia, called by the Germans, sexual neurasthenia..

The *circulatory system* presents a certain number of disorders, whose predominance characterizes a special form of neurasthenia, the *cerebro-cardiac neuropathy* of Krishaber. On the part of the heart, frequency of palpitations, or arrythmia, of tachycardia, of subjective sensations in the left submammary region, often accompanied by an abnormal force of contraction, give some color to the idea of a cardiac affection.

The *neurasthenic angina pectoris*, thoroughly described by Laudouzy and Huchard, is only one of the varieties of neurasthenic anger, and participates in the general characteristics of this neurotic manifestation; the duration of the crises is prolonged, the suffering may last hours, days, even weeks, without assuming the gravity of organic angina pectoris.

The pulse is generally unsteady; in the grave forms, a marked diminution of the arterial tension has been noticed, strong pulsations of the arteries of the temples, the neck and the epigastrium (abdominal aorta) are frequent. Let us describe again, in connection with the vaso-motor system, the frequency of emotional roseola, the congestive attacks which appear in the face immediately after a meal; the facile production of the symptom wrongly named *tache cerebràle*, coldness and alternating congestion of the extremities, etc. Beard has also described true attacks of neurasthenic fever (?)

The *respiratory function* is that least attacked in neurasthenia. At the most, there has been described in some cases a little dyspnœa, or a slight cough—dry and irritating—not at all connected with any lesion whatever of the thoracic organs.

The *genito-urinary* functions, on the contrary, are frequently deranged. Genital troubles possess an importance which serves to characterize one of the forms of the neuroses, the "*sexual neurasthenia*" of the Germans; we have explained heretofore that one might consider, in a certain number of these troubles, a cause or a consequence of neurasthenia, according to the theory adopted.

In the female, it is not uncommon to observe lesions of the uterus or its appendages, lesions whose reaction on the nervous saystem displays complex causes (persistent pains, sterility, despondency produced by the consciousness of a sexual infirmity), and which in their turn are unfavorably influenced by the general asthenia.

In the male there has been noticed, previous to neurasthemia, or to its origin, symptoms of genital excitement (excess of coitus, onanism), and later, a complete impotence. Any perturbation in the genital system strongly pre-occupies the patient. "Neurasthenics, writes Mathieu, are always very much affected by the existence of a genito-urinary affection, by blenorrhagia in particular, they are really smitten in their virility, in their self-confidence. When the discharge has almost totally disappeared, they are not released from their disquietude. They live in contemplation of their urethra. They pass hours in trying to express a drop of muco-pus. They dote upon the presence of some spirals, of some whitish filaments, in the first urine passed. Willingly they have recourse to injections, to catheters, to remedies of various kinds, often advised by persons of doubt ful competence. By these means they augment the affection, they maintain the prostatorrhea, which has left behind it the blenorrhagic discharge. Neurasthema is the consequence of that permanent condition of inquietude among neuropaths 'by profession.' A genital trouble often associated with neurasthema is spermatorrhea, the involuntary and frequently repeated discharge of sperm. In slight cases the seminal fluid flows on the least provocation from the beginning of an attempt at coitus under the influence of lascivious dreams; later, the evacuation of semen is produced during defæcation or micturition. The urinary system is generally least affected, however, some troubles of the bladder of cystalgia have been pointed out; and on the other hand, the frequency of displacements of the kidney, of which we will speak later. In short, Beard and Rockwell have mentioned tho abundance of urates, of phosphates, and of oxalates in the urine of neurasthenics.

(*To be continued.*)

ANOTHER UNIQUE CASE.

BY E. J. BOYES, M.D., OAKLAND, CAL.

About 4 p.m., on December 21st, Mr. O. called me in great haste, and on our way to his residence, informed me his wife had been in labor for twenty-four hours, and was in a critical condition.

On the previous night, they had called the family physician, and he was still in attendance. A consultation had been suggested, because of the delay and a suspicion of mal-presentation.

A nurse was in charge, the baby wardrobe was warming before the fire, and there was present every circumstance of the usual lying-in chamber.

Dr. B. briefly outlined the history of our patient: the cessation of menstruation nearly *ten* months previous to date, gradual enlargement of abdomen and breasts, and, in short, an ordinary gestation in all respects other than time. The woman was about 45, rather stout, and quite healthy in appearance, and years ago had two children.

The powerful expulsive efforts suggested advanced labor. And I was informed that the waters had escaped hours before. My *confrère* asked me to examine her. While doing so, the husband ominously inquired if the child were "crosswise."

Meantime, I outlined the usual land-marks carefully, and noted a full flow of "waters" at the moment. But my finger was in contact with an undilated os. The cervix uteri was normal in size; the uterus was small and freely movable. The "waters" were being expelled from the bladder. In a word, she was not pregnant, and had not been; a piece of information which, when imparted to the family, caused them to look on me with suspicion as to my capability in such diagnoses.

However, with the consent of Dr. B., I gave her a little chloroform, and presently, not only did the bearing-down cease, but the abdomen collapsed.

And only then, and not too gracefully, did they accept my decision and relinquish their purpose of increasing the family forthwith.

Selected Articles.

THE DISSEMINATION OF TUBERCULOUS DISEASE BY MEANS OF INFECTED DUST.

The theory has been so readily established that tuberculous disease may be, and probably often is, conveyed into the receptive lung by means of inhaled dust, and precautions against the possibility of such conveyance have been so widely advocated, that it would seem to be superfluous at the present time to offer any observations or criticisms which might tend to throw doubt upon so simple and satisfactory a demonstration; but, however satisfactory the facts may appear to be when looked at from the purely experimental point of view it must be confessed that from the clinical standpoint they admit of considerable discussion. In order to satisfy the clinical mind it is necessary that evidence should be forthcoming to prove that those who are especially liable to the inhalation of infected dust should also be more prone to tuberculous disease than others who have not been so exposed. It is to the records of the hospitals for the treatment of phthisis that we should naturally turn for such evidence, and more especially to the records of the years anterior to the publication of Dr. Cornet's observations. It has, however, been abundantly proved that no such evidence is obtainable in this country. To take the experience of the chest hospitals at Victoria-park and at Brompton respectively, the figures collated and published by Dr. Andrew and Dr. Theodore Williams made it clear that no special liability to tuberculous disease could be demonstrated amongst the medical and nursing staffs of these hospitals during a period of twenty years. Quite recently Drs. Heron and Chaplin, in an article entitled "The Relation of Dust in Hospitals to Tuberculous Infection," published the results of a series of experiments made upon susceptible animals by actual injection of dust taken from wards occupied almost exclusively by tuberculous persons, and have shown that such dust possessed but little infective power. From these observations it must be concluded that the dust of a consumption hospital is not especially dangerous to those who must of necessity inhale it, nor does it always set up tuberculous disease in susceptible animals when introduced by way of direct inoculation. It is an old-established theory that dusty occupations are to be reckoned amongst the predisposing causes of tuberculous disease of the lung, and modern research has grafted upon that the view that such dust must be infected with tubercle, and that it becomes so infected by admixture of particles of dried sputum containing the bacilli. In the trades of the miner, the grinder, or the feather-sorter, although there is much dust, there is no direct likelihood of its being infected with bacilli, although such infection is not impossible if there be any sufferers from tuberculous disease amongst the workers. By far the larger quantity of tuberculous sputum finds its way—or, until the enforcement of recent precautionary rules, did find its way—into pocket handkerchiefs, diapers and cloths of all kinds. Sputum thus preserved soon becomes dry, and when the handkerchief or cloth containing it is shaken, minute particles of tuberculous sputum must be scattered broadcast. A special danger must therefore theoretically attach to those occupations which involve the handling, shaking, or tearing of old and dirty linen. Foremost among these must be placed the occupation of paper making. Anyone who has visited a paper factory and has passed through what is generally known as the "sorting-room" will appreciate what the danger (theoretically) must be. It is in these rooms that the large bales of linen rag are unpacked and are sorted into different classes by large numbers of pickers, mostly young girls or young women. The rags themselves are of the most varied description. Old handkerchiefs, old aprons, dusters, diapers, sheets, towels and every variety of wearing apparel may be recognised among them. Some are clean, but others are extremely dirty. In the process of picking and sorting, shaking, and tearing these rags an amount of dust is produced which in some rooms is so dense as to give the appearance of a mist around and above the heads of the pickers. The rooms as a rule are admirably lighted and ventilated, but on first entrance the cloud of fine dust is very decidedly irritating to the unaccustomed larynx. Under such conditions it would seem more than likely that some cases of tuberculous disease would arise amongst those who were required to inhale this dust for many hours in succession day after day, and who would most likely include in their number some who might be assumed to be predisposed to tuberculous disease by heredity or otherwise. Nearly all the workers, too, are of the period of life when such disease is apt to declare itself. In order to test the question I instituted a series of inquiries amongst some of the largest paper mills in England and Scotland, and by the courtesy of the respective boards of management and medical officers I am enabled to present the following results. In each case I asked the same series of questions, as follows:—

1. Does tuberculous disease of the lungs or other organs often occur amongst the young adults employed at the paper mill?

2. Is there any reason to believe that the inhalation of the dust in the rag-sorting rooms may be a cause of such disease?

3. Are the rags—such as old pocket handkerchiefs, etc.,—cleansed, disinfected, or wetted before they are sorted?

4. Have any cases of inoculation of skin been observed, or any case of lupus presumably due to the handling of infected rags?

To each and all of these queries I obtained negative answers. As regards the disinfection of the rags, it was stated by some that the bales of rags were opened and sorted without any preliminary measures. At Messrs. Pirrie's, at Auchmill in Aberdeenshire, one of the directors kindly took the trouble to write to me on the subject and stated that "the rags are not disinfected or wetted by us; they are presumed to be disinfected at the place of despatch if they have been in any way in contact with disease. What we do on receipt of the bales is to split them open and throw the rags into a mechanical duster, where they are thoroughly shaken up and dusted before being placed in the hands of our sorters." Dr. J. E. Fowler, of Auchmill, who sent me the direct reply to my questions, stated in answer to question 4 that "occasionally poisoned wounds of the finger happen, but only one case of lupus, and in that case the disease attacked the lip" From Mr. Wilkinson, of King's Norton in Worcestershire, whose special field of experience lay in the large works of Messrs. Baldwin, where paper of all kinds is manufactured and where the coarsest as well as the better kinds of rag are employed, I received negative replies to all four questions, with the following rider: "In a practice of twenty-two years at King's Norton I cannot call to mind a single case of tuberculous disease among the employés at Messrs. Baldwin's paper mills." In the extensive works of Messrs. Towgood, at Sawston in Cambridgeshire, nothing had occurred to suggest that the inhalation of the dust had ever been followed by tuberculous infection. From Bury in Lancashire, where are the mills of Messrs. James Wrigley and Son, Limited, the testimony of Mr. W. H. Barr was kindly supplied to me and bore out very fully the evidence afforded from other paper mills. Writing to the directors, he says: "During the twenty years I have been attached to the Dispensary and Infirmary, together with my observations as medical officer of health for a like period, I have perceived no connection whatever between the diseases named and workers in not only your paper mill but many others; moreover, as certifying surgeon under the Factory Acts, I have failed to notice any special connexion between the said diseases and the handling of rags, etc., in paper mills. I may add that the daily opportunities I have of observing such a connexion, if it existed, could not have escaped detection."

From the specimen replies which I have quoted it will be gathered that my questions were not answered off-hand, but that the answers were sometimes made through the boards of management and sometimes referred to outside authority, from which it is fair to assume that they were deliberately and carefully drawn up. To the many gentlemen who have thus taken the trouble to aid in this inquiry I have already expressed my private acknowledgments, and I gladly seize this opportunity to repeat them publicly.

The evidence thus afforded is, of course, open to considerable criticism. It is not easy to prove that the rags in question are infective or that they contain any remnants of sputum, tuberculous or otherwise; but it is a somewhat striking fact that such prolonged exposure to inhalation of fine dust, whether tuberculised or not, should be so seldom associated with phthisis. The facts, however, go to support the view derived from the vital statistics of the consumption hospitals that presumably tuberculised dust is not a striking factor in the dissemination of tuberculous disease. That it is occasionally such a factor must be held as proven by the results of experimentation under Dr. Koch's own supervision. Hence such negative evidence as I have brought forward must not be regarded as in any way suggesting that the strict rule of disinfection of tuberculous sputum may be relaxed. Such a scourge as tuberculous disease of the lung must be met and stamped out at every point where we may reasonably cope with it; but at the same time it is not advisable to rest assured that its dissemination is only effected by the agency of bacillus-bearing dust, since clinical observation abundantly shows that, in those very places where dust is most likely to be tuberculised, tuberculous disease does not appear to be disseminated.—*Clifford Seale, M. A., N.B., in Lancet.*

SCIENTIFIC TREATMENT OF INEBRIETY.

The treatment of inebriates is invested with much mystery and superstition in the minds of the common people. Every few months the old superstition is revived and goes the rounds of the press, that in certain asylums inebriates are surfeited with spirits—everything that is eaten or drunk is mixed with spirits, until at last the spirit taste is destroyed never to return again. The only basis for this was an experiment made in Bonn, Germany, in 1863. Three inebriates were confined in a house and treated this way, by mutual consent. Two of them had delirium tremens, of which one died within a week; the other lived two months and died from paralysis. The third became insane and was sent to an asylum. The experimenter was sentenced to prison for life. No man with any practical knowledge would ever take the risk of such an experiment. No such method was ever attempted seriously, for the reason that nothing could be more certainly fatal to both the patient and the experimenter.

Another delusion is also common, that some

medicines may be given which will destroy the craving for spirits; or some kinds of food will have the same effect. All the numerous quack specific remedies for inebriety are based on this. Practically all these remedies are narcotics in disguise, and merely change the drink craze from the narcotic of alcohol to some similar drug. Opium is the most common, because it is cheap and can be disguised. Fusel oil is another very common ingredient of alcoholic specifics. Cocaine is also greatly used. It is safe to say that all these specific remedies for the cure of inebriety are not only worthless, but literally more dangerous than the alcohol itself. One of the shrewdest of these quack methods (sold for $10 under promise of secrecy) was a solemn oath not to use spirits for six months, to be signed in blood, which was furnished by the advertiser, and a pledge to submit to the most horrid tortures if he violated this oath, together with dark hints of how the advertiser could find out his failure to keep it, and how the punishment would follow. No medicines were given, simply an appeal to the fears and imagination. Strangely, this method has the strong endorsement of many persons who claim to have been fully cured by it.

Another less scrupulous schemer advertises a sure cure for inebriety to be sent for $5 in advance. In return the victim gets a plain card, on which is printed, "Stop drinking, and mind your own business." Over a dozen specific medicines are advertised for the cure of inebriety, all of which are base swindles, and yet they flourish and fatten on the superstition and credulity of the poor victims who are looking for help. If the friends of the inebriate would exercise common sense, and observe closely the history and conduct of such cases, very different impressions would appear. When the inebriate and his friends become alarmed and begin to look about for help, the case has always reached an advanced stage and become chronic. To this there are very few exceptions. A man who has been intoxicated many times, or one whose steady drinking has so far impaired his power of control that he cannot stop practically, no matter how strong he may appear otherwise, is an advanced case. All mild methods and remedies are useless.

A man just beginning to use spirits may sign the pledge, and be helped by it; but a few years later, when the continued use of spirits has impaired his higher brain power, and made him more or less incompetent to realize his condition or to appreciate the relations which he sustains to the world and his friends, such means are largely powerless. They are not to be ignored, but are to be used experimentally with other methods.

All inebriates are of necessity brain and nerve-exhausted cases. Alcohol has in all cases perverted and damaged the nerve processes and functions, and debility and exhaustion with lowered vitality are always present. Such cases require positive, tangible, physical remedies. Appeals to the mind and spirituality of the man are addressed to defective and damaged powers of the brain. He must be taken out of his old surroundings; he must have new environment, new conditions, that can be regulated and anticipated by others. No matter what his life has been, he must have a change of all his conditions of life and living. This can be had most perfectly in an institution. Here he can be free from the contagion of spirits, the spirits can be kept away, and he can be protected from gratifying every morbid impulse to procure it. The diet and regularity of living can be enforced, and all the conditions of physical vigor and training can be put in force. The man must be trained back to sobriety—not driven back, or coaxed, or pledged, or converted, but taken back step by step along the line of natural laws of growth and development. His body and brain must be trained and developed as far as possible to abstain from all narcotics of every kind, of which alcohol is the most dangerous. He is sick, palsied, worn out prematurely, and needs nerve and brain rest. The failure to live a temperate life is the evidence of this. This training process has for its first object the physical development—the improvement of nutrition by regular diet of the best character; the building up of the brain by medicines, rest, change, and diversion; the repair of the organs of the body by exercise and baths. The higher brain power soon feels the new life and vigor from this process, and responds to the prayer and pledge, and the efforts to live a more rational existence. Many poor victims from all circles of life have never been in training along these lines of physical and mental development. For the first time they realize the power of correct living, correct, healthy surroundings, the need of brain rest and brain culture along paths they have not known before. The worn-out money-seeker dies leaving a fortune, and a family of low vitality, unable to bear the strains and drains of a busy life. Unconsciously they turn to alcohol and opium for relief, and soon become helpless victims. The asylum, with its quiet, steady applications of nature's forces addressed to all parts of the human body, is the only hope for the future. There is no "short-cut" or by-path to a healthy temperate life—no specific remedy that will remove the tearing down process of alcohol—no will-power that can restore the lost vigor or the damaged brain centres of control. To stop the use of spirits is only one step; to repair the conditions for which alcohol is unconsciously taken is another equally important. It is not a question of original causes, but is one of present conditions. The inebriate has a compound and comminuted fracture that requires the application of splints

and bandages, and every condition for restoration along the lines of nature's laws.

The scientific treatment of inebriety is simply the application of every means known to science, experience, and common sense; to remove the patient to the safest surroundings; to repair the injuries done to body and brain, and build up the man so as to prevent future failure. This can only be done effectively in literal training hospitals, where the physical comes first, then the mental and spiritual. It is no implication that the exclusively moral means urged by many good people are not valuable, but science teaches that their value depends on the conditions and time in which they are used. The appeal, pledge, or prayer does not reach the starving man; but give him food to build him up, and these means are valuable. The inebriate is starved in a most literal sense, and needs relief and literal help first. All asylums and hospitals where inebriates are treated are based on this fact: Removal of the spirits, and repair of the brain and nervous system, gives the most certain possibility of cure and restoration. Experience shows that a certain increasing number of inebriates are permanently cured in these places every year, Unfortunately for asylums, nearly all these curable cases disappear from view, and never refer afterwards to the benefit received from such places. Public sentiment makes it necessary for many persons to conceal this part of their life. On the other hand, the incurable, who has not received any permanent good, takes pains to condemn the asylum and its work, and is a standing monument of his own failure. The very few asylums now in operation are only the advance guard of a new era in the treatment and cure of these cases. There are many reasons for believing that not far away in the future every town and city in the country will have hospitals for this class, the same as for the insane at present.—Dr. Crothers, in *Am. Lancet.*

WHAT ARE THE INDICATIONS FOR A VAGINAL EXAMINATION?

Believing that a large proportion of the members of this section are men in the practice of general medicine, it seems fitting that the writer should discuss a subject which, although it may seem prosaic, is certainly of importance, and that especially to the general practitioner. Fortunately the time is passed when a man who makes a vaginal examination, on a proper indication, is regarded as immodest or a charlatan. Diseases of the pelvic organs demand a correct diagnosis just as clearly as do diseases of the thoracic organs, and the man who neglects diseases of the one is as worthy of censure as the one neglecting the other.

By the use of the term "vaginal" examination, I do not mean to convey the idea that the vaginal is the only examination made at the time; it is usually a part of the bimanual. I speak of it only as one of the elements in a procedure which leads to a knowledge of the condition of the pelvic organs.

The object of this short paper is not to exhaust the list of indications for this examination, but to bring before the general profession the need of being on the alert for symptoms pointing to disease of the pelvic organs, and to refer chiefly to those which seem to be neglected.

For purposes of present discussion we will divide a woman's life into three periods:

1. Prior to marriage.
2. Married life during child-bearing period.
3. Near or subsequent to the menopause.

The indications for a vaginal examination in a young single woman are relatively few, yet they do exist and are imperative on a conscientious physician. One is often consulted by anxious mothers because their daughters do not menstruate as early as they themselves, or other members of the family, did. Here not only is a vaginal examination of the patient not indicative, but as a rule it is to be strongly deprecated. In general we may say that, leaving out of account illegitimate pregnancy, the only cases of amenorrhœa demanding vaginal examination are those of atresia of the genital tract, or symptoms of absence or lack of development of the generative organs when the question of marriage is at stake.

Mild cases of dysmenorrhœa do not call for a vaginal examination. Every honest gynecologist will admit that the longer a woman can go without the thought that she has trouble with her pelvic organs, the better it is for her; and for this same reason we sometimes meet with individuals neurotic, and inclined to be despondent, in whom, although we find on examination some slight departure from the normal, yet the best advice is that they receive no local treatment; and this advice we give, fearing that repeated examination may fix her mind upon, and strongly color her whole horizon with, the idea of uterine disease.

We all of us know how wretched a woman is who will sit in one's office and describe the pathology of the different diseases of each of her pelvic organs. This description need not be prolonged. The picture is familiar to most of us, and needs only to be kept in mind to warn us that, not without good reason, should we subject a patient to repeated vaginal examination and treatment.

There are cases, however, of dysmenorrhœa of a more severe type, where the patient, in spite of all authorized medication, is confined to bed three or four days of every month, and with suffering indescribable. In such a case the writer believes not only that a vaginal examination is proper,

but demanded. Such an examination is often best conducted under anæsthesia, for the purpose of avoiding both pain and mental shock. One other symptom in a young unmarried woman often indicates a vaginal examination, viz., an almost constant pain in the lower region of the back. We all know that this may be a symptom of many diseases, yet if the physician can find no anæmia, nephritis, or other general condition accounting for it, by all means let the patient have the benefit of a thorough pelvic examination, and have it ascertained whether her pelvic organs are displaced or not. As to whether this examination would best be conncted per vaginam, per rectum, or with the two combined, we shall not now discuss

The next period concerning which I shall speak is *married life during the child-bearing period.* Perhaps the first indication for a vaginal examination will be pregnancy. It is a common practice among many physicians, even in this city, not to examine a pregnant patient until called to attend her in labor. The writer believes this practice to be wrong. Many a life both of mother and child has been exposed to peril which, had the condition of the pelvis and pelvic organs been previously known, might have been averted.

Pregnancy itself constitutes an indication for a vaginal examination, and long before the time of the expected labor the pelvis and its contents should be carefully examined. Nor does the indication for a vaginal examination cease with the parturition. Before the parturient is discharged from the care of her physician, it should be the duty of that physician, after having thoroughly cleansed his hands, to carefully examine the position and condition of the patient's pelvic organs. This examination is perhaps even more demanded in the lower classes of society than in the higher, for at a time when, by the stern necessities of life, the former are obliged to resume their usual household duties, the uterus is often large, flabby, and easily displaced. Before the physician makes his last obstetric visit on such a case as this, he should ascertain whether or not the uterus lies in the hollow of the sacrum, and if found there, an attempt should be made to replace and maintain it in proper position until involution is complete.

A very large number of the patients who present themselves to me at the Roosevelt Out-patient Department, come suffering with posterior displacements of the uterus, and of these a large proportion can be traced to a puerperium in which this displacement has occurred, and not being discovered, has been allowed to continue until the uterus has become fixed, the patient subjected to months of suffering, and weeks or even months may be required before the condition can be relieved. Most of this could have been prevented by due care following parturition. Preventive medicine is the key-note of our profession to day, and of this prophylaxis preventive gynecology should form a prominent part.

Nor should the responsibility of a physician, in a case of obstetrics, cease with what might be called his last obstetric visit. I believe that in the near future the physician will consider it his duty to examine each obstetric case at the end of two or three months after her confinement, to ascertain by vaginal examination not only the question of the uterus being in its proper positition, but also the condition of the patient's cervix; and whether at the expiration of lactation a trachelorrhaphy will not be indicated before her nervous system has become undermined and perhaps malignant disease has started. If we take these precautions in our own obstetric cases, we must be on the lookout for symptoms with similar indications in patients who were formerly in the hands of others. The discussion as to whether a cervical laceration needs operation will not concern us here; we are all pretty thoroughly agreed that *bad lacerations need repair.*

Another symptom in which a vaginal examination is often neglected is menorrhagia or metrorrhagia. Many a case has come under the writer's observation where a patient has been allowed to bleed for weeks, perhaps for months, while the physician soothed his conscience by prescribing some ergot or hydrastin, or by telling the patient to come and be examined when her flow ceases; but never taking the trouble to ascertain by vaginal examination whether the patient has a polypus, a cancer, or needs to be curetted. There is ground for great improvement in this mode of practice. Many a patient's health has been ruined, many a valuable opportunity has been lost, by just such neglect of the vaginal examination and the information it would convey.

While the previous indications for the vaginal examination are important and their neglect greatly to be deplored, they all shrink into insignificance when compared with the indications which are more common during the last period of life, of which I shall speak, viz., *Near or subsequent to the menopause.* I refer to symptoms of malignant disease. It is unfortunate for the profession, and still more unfortunate for the patient, that the impression is wide-spread that floodings at the menopause are normal, and therefore need no attention. The soothing explanation of "only the change of life" has been the funeral dirge of many a death from cancer of the uterus.

Another unfortunate circumstance for both physician and patient is the fact that uterine cancer, in its early and operable stage, is often associated with no pain. Being handicapped by these two circumstances, the physician must be more and more impressed with the fact that he

must be ever on the alert, especially at this period of life, for symptoms which might mean cancer. It is not enough that these symptoms may be explained on other grounds; if there is the slightest suspicion, from the appearance of an irregular flow or discharge, that the patient might possibly be suffering from incipient malignant disease, a vaginal examination should be made, and malignancy if possible excluded. Why is it that so many more correct diagnoses of ectopic gestation are now made than formerly? It is simply because the profession is now on the lookout for that condition. This ought to be more and more the case in the search for cancer. Mistakes will be made and cases diagnosed malignant which are not, just as cases are diagnosed ectopic gestation which are not; but better far an error in this direction than in neglect till past help. It is the general impression that in early life we need have very little fear of malignant uterine disease, yet even here we find we are not safe. It is only a short time since the writer had under his observation a patient suffering with inoperable malignant disease of cervix and vagina, and who died before she reached the age of thirty. It is only by bearing in mind the fact that uterine cancer is possible at almost any age from puberty till death, that we can appreciate the importance of a vaginal examination, when presented with symptoms which are associated with malignant disease. Certainly in a patient who has passed the menopause and then experiences a bloody flow, not a day should elapse before an attempt is made at an accurate diagnosis.

This need of alertness in search for malignant disease will apply even more to the general practitioner than to the specialist. It is the family physician who is usually first consulted, and he it is who usually has the privilege of an early diagnosis.

The technique of operation for uterine cancer seems well-nigh perfect, but there is still a field, a large field, for improvement in early diagnosis. There is where we hope we are to make advance in the near future. The writer this evening does not expect that he has presented anything new. The object of the paper was entirely practical, viz., to impress upon the profession the need of alertness for indications for a vaginal examination. —Edwin B. Cragin, M.D., *in Med. Rec.*

WORKERS AND WEARINESS.

Professor Michael Foster has published his Rede lecture in the current number of the *Nineteenth Century*. Weariness is his subject, and it is one which demands the intelligent thought of all people of the present day. We recently called attention to the insanity which refuses to recognize weariness as the most dangerous symptom of mental fatigue. It may be true or false that the world will not see the year A.D. 2000. It is, however, undoubtedly true that the Mother of Parliament, as the present House of Commons delights to cal itself, is being rapidly reduced to a state of impotence which threatens the national safety. It is notorious that very young people frequently have abnormal energy which spurs them on to acts of foolhardiness, which may, and frequently do, have a fatal termination. It would be impossible for any business undertaking of importance to be conducted successfully on the principles which at present govern the conduct of business in the House of Commons. Those principles as laid down by the Premier in the resolution of which he gave notice for Monday, and which were to apply to the rest of the present, and the whole of the autumn, session, could have but one result. In its modified form it is fatal to all useful legislation. That it was not strenuously opposed proves to demonstration the condition of weariness to which Members of Parliament have been brought. Any legislation pushed forward by the continuous use of the spur and the whip must prove defective and harmful to the well-being of the people. Members of Parliament being men are subject to physiological laws as all are, and the absence of proper rest, and the refusal to conduct business within reasonable hours can only result in breakdown and disaster. The plan of business formulated by the Premier is opposed to every principle which enables any average mortal to master his work and maintain his health. In an ordinary business any such experiment as that about to be tried upon the House of Commons would very properly end in bankruptcy. We are no doubt a long way removed from national bankruptcy, but the ship of state is now within measurable distance of irreparable damage and discredit. This is not a political journal, but common-sense makes it apparent that the well-being of the people and the State demands the prompt presentation of a monster petition to the House of Lords not to pass the Appropriation Act, and to the Queen, urging the exercise of her prerogative, by the immediate dissolution of the present House of Commons.

Let us now see what Professor Foster has to say on the subject of weariness and its effects upon men and women. It is a popular belief that weariness is a physical symptom alone; that is to say, people become tired because their muscles are weary, whereas, in truth, muscular weariness depends not on the muscle alone, but on the manner in which the muscle in its work is aided and supported by the rest of the body. "The blood, sweeping throughout the whole body, washes out of the muscle all hurtful bodies, providing always the blood-stream is pure. If the blood-stream be sluggish, or if the blood coming to the muscle be already loaded with hurtful bodies, the clearance

is slow or wholly fails, and weariness comes on apace. But even the simplest and rudest muscular tasks are not carried out by the muscles alone, for the brain and the nerves share in them too. It is a common experience that when we are weary almost, it may be, to death, some sudden emotion, some great joy or fear, may spur us to an effort which just before seemed impossible; conversely an emotion may appear to take from us all our muscular strength. Now the muscles neither know nor feel; their weariness cannot be affected by any emotion. That weariness which is put aside by hope, or which is hurried on by despair, must be weariness not of the muscles, but of the nervous system." It would be interesting to follow Professor Foster as he goes on to prove the difference between the brain and the nerves, the brain being, of course, the central mechanism, the nerves mere bundles of fibres which carry the impulses to the muscles. We must, however, refer our readers to the article itself for this and other information, and would direct their attention especially to the experiments by which Professor Foster proves that the greater part at least of weariness is begotten not in the muscle, but in the brain.

Let us now consider a few of the mental symptoms of fatigue or weariness. Professor Foster insists that two facts must be grasped and remembered. While it may be said of each member that the blood is the life thereof, it may with equal truth be said the blood is the death thereof; the blood is the channel for food, but it is also the pathway for poison. Again, all our knowledge goes to show that the work of the brain, like the work of the muscles, is accompanied by chemical changes, that the chemical changes, though differing in details, are of the same order in the brain as in the muscles. It is true that the changes in the brain are smaller than those of the muscle, but this is counterbalanced by the exceeding sensitiveness of the nervous substance; the last fact giving point to the caution that to do the maximum of brain-work it is essential not to render the brain more agile, but to encourage its humble helpmates so that their more efficient co-operation may defer the onset of weariness. Mind and body being thus intimately associated, no sensible person will risk the destruction of health by neglecting either the one or the other. Sleep, good food, healthy surroundings, rational hours of work, and sufficient exercise, are points which many people have long recognized as essential to their well-being; yet the race for wealth, or for political advancement, or the mere struggle for existence, may cause the most enlightened to neglect them. At first a man so circumstanced attributes his lassitude, which is usually confined to the early morning, to anything but the right cause—a feeling of depression and a sense of ill-being may make him miserable, but unless his doctor takes him in hand they will not check his downward course. Next he will become oppressed with the need of increased effort, a loss of memory, and the difficulties of remembering what he reads. To this point a man may advance without fatal injury, but should he proceed until everything appears to him dark and hopeless, a worry and an apprehension, then he may be beyo rescue, and his next step may land him in a lunatie asylum if it does not terminate earlier in a graveyard.

Dr. Cowles, of the McLean Hospital, has written a most interesting paper on the mental symptoms of fatigue, which all brain-workers should read. He shows in a practical way how difficult it is to restore the weary to energy and strength. Overworked women, professional men, politicians, and others, "work on their nerves," and say they "don't feel tired, and nothing is the matter." Many of them, indeed, insist that they feel better when actively pursuing their ordinary occupations. Dr. Cowles declares this condition, which comes on insidiously, to be a most dangerous one. With the impairment of the natural fatigue sense the mental effect is that a man will not believe even his physician's diagnosis of fatigue. He is, therefore, prone to look for some other reason for his sense of ill-being and inefficiency, and finds in retrospection cause for self-reproach and hopelessness in the future, or insists upon a revolution in his affairs as the only remedy for a condition of which he himself is the central cause. Here, then, we arrive at the two great factors which have to be faced to-day in our national and political life. The first, or retrospective cause, lies at the root of the present epidemic of suicide of which the papers are full. The second, or impairment of judgment cause, lies at the root of the political *impasse*, which its authors declare can be cured only by revolution. The papers of Professor Michael Foster and Dr. Cowles are therefore most timely, and if the lessons they teach can be driven home they may prove fruitful by producing a more natural and healthy tone, not only in our Parliamentary, but in national life too.—*The Hospital.*

SLEEP, SLEEPLESSNESS AND HYPNOTICS.

A theory of sleep phenomena, to be complete, must have data for its construction drawn from wider sources than we find have been surveyed in the average physiologic essay on the subject.

Notwithstanding the strides made by biology, more particularly in its morphologic aspects, the past quarter century had added but little to Wm. B. Carpenter's summary of "Sleep and Somnambulism," in his famous "Physiology," or what is

contained in J. G. McKendrick's article in the *Encyclopædia Britannica*. A full bibliography is given in the *Dictionnaire Encyclopédique des Sciences Médicales;* McNish, Durham, Kohlschütter, Pflüger and Mosso afforded the main discussions, which have been added to but little by later writers.

Herbert Spencer (*Principles of Biology*, Vol. I., Chap IV.) on "Waste and Repair," summarizes much that could be more directly applied to a satisfactory consideration of the study than was required in his "Synthetic Philosophy."

Spencer notes that reptiles maintaining no great temperature and passing their lives mostly in a state of torpor, suffer but little diminution of mass by waste, but with the higher order of animals which are active and hot-blooded we see that waste is rapid, and when unchecked, bulk and weight decrease, ending very shortly in death. From these and allied considerations, he formulates the dictum that in the same creatures there is most waste when most motion is generated. Valentin computes the carbonic acid exhaled by the waking marmot as seventy-five times more than when it was hibernating, and the oxygen inhaled was forty-one times greater in the waking state. Invalids who are able to take scarcely any nutriment, by being kept warm and still, are able to lessen waste by thus reducing force expenditure.

Experimental comparison between the hibernating marmot and starving pigeon shows the latter loses forty times more muscular substance than the torpid marmot, eleven times more fat, thirty-three times more alimentary canal tissue, eighteen and three-tenth times more liver, fifteen times more lung, five times more skin, so that the parts least consumed in hibernation are the hydro-carbonaceous deposits which serve as a store of force, while in the awake and active pigeon, equally unsupplied with food, the greatest loss takes place in the motor organs. The diminished ability of bodily organs to perform their functions after activity, is noted. That legs, arms and eyes become enfeebled, and that concentrated attention prostrates the brain, are familiar truths.

Repair is everywhere and always making up for waste. While awake, waste is in excess and repair is going on, but not to the same extent as when asleep; though repair is at this time in excess, still some waste is necessitated by the carrying on of never-ceasing functions.

"During activity, the reintegration falls in arrears of the disintegration, until, as a consequence, there presently comes a general state of functional languor, ending at length in a quiescence which permits the reintegration to exceed the disintegration and restore the parts to their state of integrity."

Extending these considerations of Spencer and those who had previously written to the same effect, we are confronted with the fact that tissue restoration is undeniably a chemic process, and the queries arise, why, in such states as cerebral congestion, with its surplusage of blood, the brain may not rest, and why should sleep occur at all if there is proximity of food to the tissues undergoing waste?

Surveying the physiologic accompaniments of sleep in all animal life, we find that in the simplest forms, surfeit and extreme privation arrest motions, and the rational explanation of this would be that the majority of molecules that compose such simple forms are relieved of tension, either by the completion of molecular construction or by their not having within combining reach, atoms with which combinations are possible.

Nutritive processes are certainly carried on during sleep, and the quiescence of sleep facilitates this action by staying the waste of such tissues as are most in need of such reparation and, obviously, nourishment is transferred from such parts as can spare it best to those that are deficient in this regard. If repair were instant and incessant upon waste, then sleep would not be needed to transfer nutrition about the body, and one of the best evidences of this is that, often, massage may so redistribute blood and feed the jaded tissues as to largely take the place of sleep, at times rendering it unnecessary. At other times, massage or a warm bath may induce sleep more rapidly by starting a redistribution such as takes place normally during profound sleep.

If we look upon sleep as merely an *effect*, or an accompaniment of a nutritive process, and as not in every case even a necessary one, we substitute a regard for the real instead of the apparent phenomenon.

In æstivation, amœbic encystment, hibernation, the absence of food requires quietude that will conserve what little there is present in the animal itself. In plethora, apnœa, etc., this quietude is enforced by the surcharged molecules being incapable of further assimilation, which drops the activity of the entire animal towards the lowest expression.

A parallel is afforded by the action of soil which at times agriculturists claim "needs a rest." It is conceivable that time may be necessary to effect certain chemic combinations even in the presence of the requisite elements for the soil restoration. Fertilizers of appropriate sorts may cover the exhausted soil, but time is needed for the assimilation of such fertilizers and the ground must lie fallow until its productive capacity is regained, however long this may require; and very likely this necessity for a greater or

less loss of time in building up complex cerebral or sarcodal structures explains why sleep occurs, and shuts off further decomposition until reconstruction can take place. The limit of comfortable activity having been reached, sleep takes place because further drain through waste may be distressing, and this discomfort becomes agonizing when prolonged, a fact taken advantage of by the Chinese as a method of torturing criminals.

Less heat and carbonic acid being produced during sleep further indicates the reduction in chemic decomposition that then occurs. Helmholtz estimates 40 calories produced during sleep and 112 when awake. "He who sleeps, dines," is an old saying, and much sleep favors obesity.

Mass motion being suppressed in sleep enables molecular rebuilding the better, as the molecules are not then engaged in the major activities but eat, so to speak, themselves, while the body rests, just as workmen take an hour off to dine, and discontinue the work upon which they are aggregatedly engaged.

Whenever supply is constant to the animal or to its tissues, the necessity for sleep diminishes in proportion to the ability of such animal or tissues to rapidly reintegrate the compounds destroyed. The differences between the sleeping habits of animals are thus at once explained. It is conceivable that animals may exist whose nearly every cell is so constantly bathed in absorbable food as to place it comparatively beyond the need of sleep, but such animal, as a rule, could not be very highly organized, or, like the sloth, could not be very active, and the *rete mirabile* in the axilla of the sloth shows how part of the muscular strain is provided for while the animal hangs to the tree.

A still further important factor in this connection I communicated to *Science*, New York, Nov. 11, 1892, in an article entitled, "Preliminary Note on Sleep."

"That there is a relative anæmia of the brain during sleep is well established, but the hypotheses advanced to account for this or any other of the sleep phenomena are unsatisfactory. In "Comparative Physiology and Psychology," 1884, I treated the subject briefly, and since then have been gradually accumulating and arranging data for a theory which I have finally adopted, and which appears to me to be fairly complete as enabling the major phenomena to be accounted for.

"Briefly stated, where there is physiologic waste there is, normally, repair, and the activities of the brain demonstrably are kept up by renewed nutrition derived from a blood supply adjusted to the ordinary needs. When there is cerebral anæmia, as in chlorosis, then there is increased desire to sleep, the brain does not receive the necessary quantity to compensate waste, and it rests, just as any commercial activity will cease with withdrawal of means to continue it. Those who are familiar with my nutrient reflex theory, mentioned in the book referred to (Professor C. K. Mills, of the Pennsylvania University, and Professor C. L. Herrick, of the Dennison, Ohio, University, have written approvingly thereon), will understand that with the cessation of sensory stimulation there will be less blood attracted to the brain and other nerve centres, the heart-beats lessen in vigor and number, and, with the pulse-rate fall there is ordinarily less blood in the brain.

"Now, it is evident that the anæmia of sleep is not caused by constricted blood-vessels, else there would be the facial pallor seen during an attack of epilepsy, or paroxysm of anger or fright; and with this quieting of the brain processes by stimuli withdrawal, such as is afforded by darkness, silence and absence of irritation generally, a further lessening of molecular interchange in the brain occurs; and I claim that *it is the molecular activity in the brain that attracts the blood there chemically and mechanically*, and the sympathetic, or vaso-motor system has been evolved to facilitate this regulation of demand and supply. Then, granting this, there will be, during sleep, a passive condition of the blood-vessels, and the blood supply will fall to a minimum.

"An extension of these considerations will enable all that pertains to sleep to be accounted for, such as æstivation, hibernation, insomnia, dreams, and all derangements of sleep."

At this stage we may conveniently condense what otherwise could easily fill a volume, in reviewing as much of sleep phenomena as may be necessary to test the consistency of this mainly chemic theory. Larval and fœtal inactivity or sleep, the prolonged sleep of infants, and the drowsiness of pregnant females can be understood as demands for lessened activity during constructive processes. An army is recruited and accoutred before it fights, and the molecular cell-building is the process of getting ready for the major life activities.

The suspension of consciousness during sleep is apparently due to the lessening of function of organs generally. Consciousness, being a function of the gray matter, or central nervous system, is in abeyance because the gray matter is undergoing reconstructive rest as well as other portions of the organism. Imperfect sleep and dreams are caused by this rest not being complete, the circulation in these centres being irregular.

Worry notoriously exhausts more than many kinds and degrees of work, and sleep overcomes the exhaustion produced by this as well as other excessive brain taxation. In such instances we have a painful cerebral activity, and the molecular

breakdown is greater than in simple mental application.

Stimuli withdrawal ordinarily lessens the nutrient reflexes, less blood is forced to the head, and the fall of blood-pressure in the medulla drops the heart-beats to a lesser number through pneumogastric action. Closing the eye reduces optic excitation, noises are heard and the blood does not immediately fall to a minimum in the brain, hence sleep may not appear until time has passed. As the vaso-motor reflexes are less and less called upon, an ebb of blood finally admits of obtuseness to noises, etc., when they do occur. With the restoration of general cell-nutrition, the desire for activity increases and general reflexes are easier provoked. The nutrient reflexes of the brain now begin to send blood there upon stimulation, and the person awakes with the noises and light of day, or upon slighter provocation, if these are absent. The instance is often cited of a boy who was blind and anæsthetic, who fell asleep when his ears were closed to sounds.

But stimulation is a relative matter, for many who are accustomed to continuous noises become adjusted thereto, as does the miller who is awakened by the machinery stopping. In Arctic regions, also, the exclusion of light is not necessary to induce profound sleep.

Somnambulists have been separately classed as the speaking, the acting, the speaking and acting, and the hearing, seeing, speaking and acting. In all these, consciousness is absent, hence somnambulism is more or less automatism of important organs; dream acting. Sleep, to be complete, must overtake all portions of the body, and if from any cause irritation persists in any part, as during pain, then imperfect sleep results. It is conceivable that a speech centre, centres for arm and leg movements, etc., may be hyperæsthetic independently of the adjacent parts. Dr. George W. Jacoby, in a paper read before the New York Metropolitan Medical Society, Feb. 15, 1893, ably surveys the matter of "periodical sleep seizures of an epileptic nature," in which this sort of unconscious automatism is mentioned, and he believes that there is a relationship between the corpulence in some of these cases, such as that of Dickens' fat boy, Joe, and perverted nutrition due to a pathologic condition in the psychic centres. Dr. Jacoby concludes that "sleeping attacks, occurring alone or in combination with other symptoms, if of brief duration and followed by amnesia, are probably epileptic in character. If somnambulism, particularly of a noisy kind, is present, this probability becomes a certainty."

In narcolepsy, he claims that there is consciousness of what is going on during the attacks, the patient is not obtuse when awakened and he at once has full possession of his intellectual faculties. In this instance it would seem as though consciousness was the only faculty that was not asleep. Hysterical lethargy is associated with other evidences of the disease, such as more or less hemianæsthesia. Hysterical sleep, in my opinion, is directly due to partial brain ischemia through contracted blood-vessels to one or more parts. The amblyopia, deafness, aphonia, etc., could be also thus accounted for, as well as the fact that sudden impressions, or the cerebral suffusion produced by nitrite of amyl, cut short the attack.

The prolonged somnolence of cerebral syphilis, Buzzard (Diseases of the Nervous System, p. 288) assigns to the remarkably thickened walls of the arteries at the brain base—usually of a nodular character—diminishing the calibre of the vessels. Huebner, in *Ziemssen's Cyclopædia*, also has important observations upon this subject: "The consequence would appear to be that the cortical substance of the hemispheres must be starved of blood to a considerable extent."

The great sleeplessness of mania for long periods and the supervening emaciation, show that not only cerebral but general rehabilitation is interfered with; waste is not only in excess of repair but the latter is seriously impeded by disease. Hence the necessity for sustaining treatment in this disorder. I have occasionally known stimulants to secure an abatement of the furor and produce sleep, when other routine measures merely added to the trouble. The hot bath, while temporarily beneficial, too often is followed by collapse, additionally going to show the necessity for sustentation in many of the cases that are frequently overdosed with depressants. — S. V. Clevenger, M.D., in *Jour. Am. Med. Assoc.*

(To be continued.)

CRIMINALS AND CRIMINAL ANTHROPOLOGY.—The new school of criminal anthropology, as represented by Lombroso, Benedikt, and others, insist that criminals have the marks of physical 'degeneracy' writ large upon them in certain peculiarities of size and conformation of skull and brain, ear, eye, and body generally. In other words, according to these observers, the criminal has a characteristic physiognomy whereby he can be known, and which, like the rattle on the tail of the crotalus horridus, should put society on its guard against them. That there is a solid basis of truth in the teaching of Lombroso and his followers no physiologist would deny, but it must, we think, be admitted that criminal anthropology is at present very far from being an exact science. It would be as unjust to condemn a man accused of a crime because he looked a Caliban as it would be dangerous to acquit another because, as Sydney Smith said of Francis Horner, he had the ten commandments

written on his face. A good deal of dissatisfaction has been expressed by French scientific men that the body of the recently-guillotined anarchist Vaillant was not handed over to them for purposes of research. It may be doubted whether criminal anthropology has lost anything hereby. A writer in the *Revue de Thérapeutique Médico-Chirurgicale*, who for three weeks had daily opportunities of observing Vaillant, gives the following particulars of his appearance. He was middle height and well-proportioned figure. With the exception of the head of an Indian surmounted by two crossed arrows tattooed on his right forearm, there was no mark or blemish on his body. His hands showed the usual marks of hard manual labour. His head was rather larger than the average, well developed, and presented no asymmetry. The forehead was high ; at its base the supra-orbital ridges stood out in prominent relief. The nose was thick, and somewhat aquiline, of the type called by Adrien Marx "the thinker's nose." The jawbones were not disproportionately developed ; the eyes were large, dark, and rather deep set, looking one full in the face with a bold, confident, but not violent expression. Altogether, Vaillant's physiognomy impressed the observer not unfavourably, and the stigmata of the criminal as described by the criminal anthropologists may be said to have been conspicious by their absence. Vaillant's intellectual equipment, though very deficient, was more that of a clerk than a working man, and he had even something of the "artist" in his mental constitution. During his imprisonment, he showed a tranquility of mind, an evenness of temper, and an indifference about the future which surprised those about him. Vaillant certainly seems to have had at least one characteristic of the artistic temperament—the love of notoriety. His "act," as he called it, was probably prompted more by this than by any desire to regenerate society by purging it of the *bourgeois* element. It was doubtless love of artistic effect which led Nero to make torches of Christians for the illumination of his gardens, and to set fire to Rome that he might see it burn to his own music. We cannot help thinking that the morbid love of notoriety fostered by the cheap newspapers of the present day with their blood-curdling "bills" and their puffing paragraphs, is responsible for more crime and is a greater danger to society than "atypical confluence" of the fissures of the brain and the other signs relied upon by criminological Zadigs.—*Brit. Med. Jour.*

OIL OF PEPPERMINT IN PULMONARY CONSUMPTION.—Dr. Carasso has recently published (*Deut. Med. Woch.*) a new method of treating pulmonary consumption by means of the continuous inhalation of the oil of peppermint, with the internal administration of the same drug in combination with creasote and chloroform.

Dr. Carasso claims remarkable results in his treatment of cases of phthisis with the oil of peppermint : Not only were cases cured in the first stages of the malady, but even the more advanced stages, where cavities had already formed, were cured. Dr. Carasso states that if there is fever associated with this condition, it will disappear in a few days under this treatment. He ends by citing no less than thirty-nine cases of phthisis pulmonalis in which these remarkable results were obtained.

It has been already demonstrated by Braddon that the oil of peppermint had a bactericidal action, and further, it is a well-established fact that chloroform posesses in a marked degree the same properties as an antiseptic. The writer was induced to give the above treatment a trial in a case of phthisis that was well advanced and had resisted almost every form of modern treatment. The patient had been given creasote in increasing doses in combination with cod liver oil, tonics, etc., without any appreciable change in his condition. For the administration of the oil of peppermint the two following formulæ were prescribed :

℞—Creasoti, ... mxcvi.
Chloroform, ... mxxx.
Olei menthæ pip., . . . mxcvi.
Spiritus vini rect., q. s. ad. fʒvi.—M.
Et fiat mistura,
Sig.—Capiat drachmam unam ter in die, ex pauxillo lactis.

and as an inhalant,

℞—Creasoti, ... fʒj.
Olei menthæ pip., ... fʒij.
Tr. conii., ... fʒij.
Alcohol, ... q. s., ad. fʒj.—M.
Sig.—Inhalet gtt x. quarta quaquehora.

Carbolic acid in a somewhat smaller dose or thymol may be substituted for the creasote in this last formula.

In less than one week's time the patient returned and reported remarkable progress in his case since taking the above formulæ. His cough had almost ceased ; the expectoration was diminished to a marked degree ; a sharp pleuritic pain that had troubled him in his right side for some time past, had entirely disappearod. And there was a return of appetite, so that now the patient ate his meals with a relish that he had not experienced for many months. And finally, he was able to resume his occupation as a carpenter, at which he had not worked steadily for eight or nine weeks.

The dose of the oil of peppermint mixture has been increased from one teaspoonful three times daily, to a teaspoonful every four hours, or four times daily. The patient is rapidly improving under the above treatment.

At the present era in medicine the advocates

for new methods of treatment in disease are legion, but their claims for success in nine cases out of ten must be looked upon with suspicion and taken *cum grano salis*. A new drug or a new method of treatment can take rank with the old and classic remedies only when it has been found by repeated experiment or trial to cure, or at least ameliorate, the pathological conditions of the human body for which it has been employed.

Dr. Carasso has claimed great things for the oil of peppermint in phthisis pulmonalis; he cites thirty-nine cases of consumption in all its stages, every one of which have been more or less benefited by this simple drug. And, when we come to think, it has been by tho use of simple drugs that the physicians of the good old times attained success in the treatment in the their cases, for they used remedies that had been tried fer centuries and had been proven by experience and practice to relieve certain pathological conditions, the writer thinks that this simple drug should at least be given a fair trial in order to ascertain fully whether it will effectually combat the invasions of that dread disease, consumption.—*Med. and Surg. Reporter.*

THE VALUE OF CREOSOTE IN GASTRIC FERMENTATION.—Creosote has been so largely used within the last few years in the treatment of bronchial or general pulmonary disease, that many of us have forgotten the valuable results to be obtained by its employment in the treatment of gastro intestinal troubles associated with fermentation. As is well known, the name of the substance is derived from the fact that it was found to prevent decomposition of nitrogenous matter, and that it therefore acted as a distinct antiseptic. There are two classes of cases of indigestion or disorder in the alimentary canal in which creosote is of great value. Aside from those instances of persistent vomiting, where by its local action it often renders us great service, it is also useful in those of fermentation or chronic indigestion in which there are formed large quantities of flatus some time after eating. Whether the distention is caused by the fermentation of starches or the decomposition of nitrogenous materials, a minim or two of creosote half an hour after eating, or immediately after eating, will often help such cases. Another instance in which crosote is of value is in a case of severe acute gastro-intestinal fermentation, which is often manifested, in the more severe cases, by an actual attack of cholera morbus. The administration of creosote in such an instance, not only tends to prevent the vomiting, but to inhibit the production of poisonous products which are developed from the bad food that the patient has been unfortunate enough to take. Here, again, the dose of from one to three minims of creosote well diluted, proves of value. In those instances in which the vomiting is too intense to permit the swallowing of much liquid, it may be administered in the dose of from one-half to one minim in a tablespoonful of water, milk, or brandy, a few drops of this mixture being given at a time. Notwithstanding the laudatory statements which have been made as to the value of thymol, naphthaline, and other gastro-intestinal antiseptics, we believe that creosote is the best one which we can employ, and we doubt, if it is administered carefully, that it is as apt to produce disturbance of the digestion by irritation of the mucous membrane, as some of the more highly praised and more expensive remedies. It is hardly necessary to add that it is important to use the beechwood creosote, and not that derived from the mineral kingdom.—*Therapeutic Gazette.*

A DOCTOR'S TROUBLE.—"My dear fellow," said my doctor to me, "you have no idea what we have to put up with. If I call to see a patient frequently, I am 'trying to run up a bill;' if I don't, 'it is shameful neglect.' If I manage to get to church, and am called out, I hear afterward, 'Working the Bob Sawyer dodge on Sundays, eh, Doctor?' If I am so busy that I cannot go, I am sure to be asked, 'How is it that you doctors are all atheists?' If my wife calls on people, 'it is because she is trying to get patients for me,' but if she doesn't, it is because she is 'too stuck up.' If I cure a patient quickly—get credit, you say? Oh, dear, no!—the patient 'wasn't half as bad as the doctor tried to make out;' but on the other hand, should the case develop serious complications, 'Ah! the doctor never understood the malady; in fact, he was worse when he had been taking the medicine a week than when we called him in.' If I suggest a consultation, it is only because I don't know what is the matter; if I pooh-pooh the idea as unnecessary, I am 'afraid of showing my ignorance.' I am expected to, so to speak, cast a horoscope on a baby's life, and tell its mother what its ailments will be. If I can't do that, I 'cannot possibly know very much.' I am expected to foresee all the 'ills that flesh is heir to,' six months before they come. I once lost a patient whom I had treated for influenza, because I did not foretell an attack of rheumatism which came on three months later. In all cases, if they get worse, the fault lies in the medicine. If I send in my bill, they say, 'He is in a terrible hurry for his money;' if I don't, it is 'so unbusinesslike.' 'But we get well paid?' do you say. My dear sir, if I received payment for one-half I do, I should die from shock."—*Medical Record.*

THINGS WORTH REMEMBERING.—It is authoritatively stated that headache almost always yields to the simultaneous application of hot water to the feet and back of the neck.

Ordinarily one woman in eight is sterile, but among women who have fibroids one in three is sterile. (Parvin.)

In facial erysipelas, where you cannot conveniently apply ordinary means, paint the part with a ten per cent. iodoform collodion. (Prof. Gross.)

In posterior displacements of the uterus, always replace the organ before introducing a pessary; the frequent failure of its use is generally due to this cause. (Parvin.)

Where there is a collection of foreign matter, as pus, in the antrim of Higmore, extract the first molar tooth (or more, if necessary), and drain the cavity in this way. (Sajous.)

For specific vaginitis, Prof. Parvin ordered mucilaginous injections and warm hip-baths in the acute stage, followed by injections of $\frac{1}{100}$ corrosive solutions and tampons of boracic acid and glycerine.

Gelsemium will often do more good in irritable bladder than any other remedy. It is especially adapted to those women of hysterical type troubled by irritability at the neck of the bladder, calling for constant urination.

Without exception, the first symptom of pregnancy is an increased frequency of the desire to micturate.

Rhus aromatica, or the fragrant sumach, which grows all through the Northern States, is strongly recommended for incontinence of urine in atonic states of the bladder. From ten to fifteen drops of the tincture are given three times a day.

Salicylic acid is highly recommended as an application to ringworm. It may be used as an ointment, but is much better as a saturated solution in collodion. One application is often all that is necessary to effect a cure, but it may be repeated if necessary. The pain caused is not usually severe.

Boro-tartrate of potassium is the first remedy for calculus in pelvis of kidney; a weak solution must be used, and for a long time, a strong being detrimental. (Bartholow.)

Drop into urine in a test tube a few drops of the tincture of guaiac, heat it to about 100°, and if it turns pale blue, pus is present in the urine.

Houghton, of Dublin, says that two hours of severe mental labor abstract as much vital strength from the system as a whole day of physical labor.

Unna treats "red nose" with zinc and sulphur ointment externally and ichthyol internally.—*Mass. Med. Jour.*

PEROXIDE OF HYDROGEN IN STOMATITIS.—Boennecken, in a paper on stomatitis (*Deut. med. Woch.*) insists upon the importance of paying attention to the mouth daring acute febrile or wasting disease; stomatitis originating in neglect of attention to the cleanliness of the teeth, gums, etc., may have a serious influence in retarding convalescence. The value of antiseptic applications is generally accepted, but the solutions of chlorate of potassium and permanganate of potassium commonly used are not sufficiently concentrated to have an antiseptic action, especially when the short time they can remain in contact with the mucous membrane is taken into consideration. Moreover, these strong solutions are apt to be painful. Boennecken strongly recommended solution of peroxide of hydrogen; it is not poisonous, does not cause pain, and has an effective antiseptic action even in solutions so weak as two per cent., or even less. He states that by its use fœtor is corrected in a few minutes, and that its continued use was followed by a marked improvement in the condition of the epithelium in twenty-four hours, and complete cure of even severe cases in five or six days. Leo, in the discussion which followed the reading of the paper, stated that he had also obtained very good results, but that in chronic stomatitis a solution stronger than two per cent. acted better. Wolters had found the peroxide in five to ten per cent. solution very useful in mercurial stomatitis. Binz, however, regarded chlorate of potassium as equally effective, and observed that it probably acted in the same way as the peroxide, namely, by liberation of nascent oxygen.—*Brit. Med. Jour.*

CHLORIDE OF AMMONIA IN RENAL DISEASE.—Corrie finds chloride of ammonia an excellent remedy in cystitis. He prescribes ordinarily a No. 1 capsule of Squibb's pulverized purified ammonium chloride, to be taken three or four times in the twenty-four hours, preferably when the stomach is somewhat empty, each dose to be followed immediately by half a goblet or a goblet of pure cold water. The following are some of the conditions in which the drug has been given faithful trial, with most satisfactory results in *every instance:* Cystitis dependent upon stone in the bladder, stricture, hypertrophy of the prostate; deposits of urates, etc.; gonorrhœa (male and female); cystic irritation from uterine disease or menstrual disorders, malarial disease, masturbation, early pregnancy, simple urethritis (traumatic) in newly-married women; cystic and renal sequelæ of *la grippe.* In the majority of cases it was simply surprising to note the rapidity with which the urine was cleared of bladder-mucus, blood-corpuscles, pus-corpuscles, urates, phosphates, etc., the distressing symptoms disappearing therewith; and in no case did the salt occasion any gastric or other disturbance when taken as ordered. No explanatien of the *modus operandi* of the remedy is offered. The capsules are to be filled only as needed for administration, as the salt dissolves the gelatin in a short time.—*Virginia Med. Monthly.*

CONSERVATIVE TREATMENT OF HEMORRHOIDS.—P. Reclus, *Gaz. des Hospitaux*, 1893, No. 35, treats painful hemorrhoids by sitz baths and washings with water at a temperature of about 120°—130°, and believes that their worth is far greater than that of cold baths. Before and after defecation the patient should insert into the anus cotton tampons soaked in a 2 per cent· cocaine solution. As the first operative procedure he recommended dilatation, not the digital, but by means of Trelat's two-bladed speculum. General narcosis is unnecessary. A tampon soaked in a 2 per cent. cocaine solution is placed in the ampulla recti for three or four minutes; then he injects into the sphincter ani itself in different places 1 hypodermic syringeful, dr. j. of a one per cent. cocaine solution, which produces full anæsthesia in a few minutes. The speculum is then introduced and opened to the maximum. The author has used this method in sixty cases with but one troublesome case. All the others were permanently cured. Incontinence never followed, and in only one case was there a relapse. In such cases an operation is the only recourse, either with the knife or scissors. This can be accomplished with local anæsthesia from cocaine. The author has operated with success in thirty cases in this manner, and in only one was there complication, a secondary hemorrhage, which was easily controlled by a deep stitch. He believes that the extirpation should be the last resort, and that the other methods should be used in the order described.—*Am. J. Med. S.*

SORE NIPLES.—Dr. T. E. Teter, in *Omaha Clinic*, says: "If the following sentence, "A sore niple causes great pain when the child nurses," which occurs in a very valuable "System of Obstetrics," was reversed, it would approach my experience with this important disease. I have found great pain when the child nurses is generally followed by inflammation, excoriation, fissure and sometimes mastitis. The pain which is the first symptom of sore nipple, is caused by sudden tension on the lactiferous ducts produced by the child each time it begins to nurse until the nipple is elongated sufficient to fill the child's mouth and to allow it swallow to without losing its hold. There is a constant jerking, with friction between the tongue and nipple. Acting on this theory, I have directed the mother or nurse to manipulate nipple and areolæ between the thumb and two fingers, using vaseline and drawing gently outward for about a minute. The child is then put to the breast and nurses gently, saving the mother that agonizing pain which is generally experienced in a case of short nipples. I have yet to hear of a case where the pain has not been relieved by this method, and I have seen deep fissures heal in a few days after this relief from pain. If mothers were treated for retracted nipples immediately after confinement, there would be few cases of sore nipples; and as long as the women of the present day will not recognize the evil effects of the corset, there will exist this condition of short nipples.—*New Eng. Med. Monthly.*

DEATH AS IT IS.—Perhaps the most common mistake of the lay mind is the association of the dramatic with the conception of death. Nothing is more common than to hear from the pulpit, pictures in words of excitement, of alarm, of terror, of the deathbeds of those who have not lived religious lives; yet, as a rule, if these pictures are supposed to be those of the unfortunates at the moment of death, they are utterly false. In point of fact, ninety-nine of every hundred human beings are unconscious for several hours before death comes to them; all the majesty of intellect, the tender beauty of thought or sympathy or charity, the very love for those for whom love has filled all waking thoughts, disappear. As a little baby just born into the world is but a little animal, so the sage, the philosopher, the hero, the statesman, he whose thoughts or deeds have writ themselves large in the history of the world, become but dying animals at the last. A merciful unconsciousness sets in, as the mysterious force we call life slowly takes leave of its last citadel, the heart, and what is, has become what was. This is death! *Cgrus Edson, in North American Review.*

CHRONIC BRONCHITIS.—The following is a formula of the late Dr. Wm. Thompson, who died several years ago, at Lazaretto, Philadelphia, of yellow fever:

℞—Fl. ext. tarax, ...
Fl. ext. rhei, ...
Syr. senega, ...
Tinct. tolulan, ... āā ʒ ss.
Sod. bicarbonat, ... ʒ j.—M.

Dr. Thompson prescribed this for a patient who had chronic bronchitis, acid dyspepsia, etc., with good effect, in doses of one teaspoonful three or four times daily.—*Med. and Surg. Rep.*

THE TREATMENT OF VULVAR VEGETATIONS BY PURE CARBOLIC ACID.—Derville, of Lille, cured a case of vulvar vegetations, covering both the anus and the vulva, and reaching the size of a man's fist, by local washing with pure carbolic acid. The whole surface of the vegetations was painted with the pure acid; this application was repeated about every fourth or eighth day. The treatment occasioned no pain, but frequently caused erythema, vesiculation, and excoriation of the surrounding parts. This is prevented by the application of vaseline to the healthy skin.—*New Eng. Med. Monthly.*

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THE INCH-AND-A-HALF INCISION AND WEEK-AND-A-HALF CONFINEMENT IN APPENDICITIS.

Dr. Robert T. Morris, in a paper read before the N. Y. State Medical Society, under this title, stated that we have recently learned four principal things relative to appendicitis, and that he was now asking fhe members of the profession to accept a fifth point.

Firstly, we had learned that appendicitis was of such common occurrence that every general practitioner had many cases in his clientele. Secondly, that it was not generally known that multitudinous forms of abdominal inflammation were symptomatic of appendicitis. Thirdly, statistics showed that late operation did not give us much encouragement. Fourthly, that it was known that early operation in the interval between attacks was an operation with trifling mortality, indeed, in his personal experience with none at all, but that there was danger of ventral hernia resulting from the operation if a long incision were made.

The fifth point was this: We do not need to make a long incision in appendicitis cases that are operated upon at the outset of the inflammation, or interval cases as a rule; and there will be no hernias and no permanent scars if the surgeon will accept as standard the author's abdominal incision which is one inch and a half in length, the divided structures of the abdominal wall being united separately with fine cat-gut afterward. The author buries the stump of the appendix with Lembert sutures. His abdominal scar disappears entirely, so that at the end of a few months it cannot be seen. His death-rate has been nothing at all in cases without pus, and physicians upon whom he depended for cases, were now ashamed to have him find pus in the cases to which they had called him. He did not know just where to look for danger in any of the cases operated upon at the time of his choice, but called the attention of members of the Society to one danger in the use of carbonate of sodium for reversing peristalsis of the bowel. A note was at present going the rounds of the press to the effect that carbonate of sodium was successful in reversing peristalsis, but the author in experimenting with rabbits accidentally discovered that carbonate of sodium on touching the ileum, regularly produced intussusception in less than forty-five seconds. The mechanism of the intussusception consisted in spasms of a belt of circular muscular fibres of the ileum, and this portion was then quickly invaginated by the peristaltic action of the longitudinal muscular fibres. The author now uses chloride of sodium for reversing peristalsis in all of his operations.

He stated that there was strong opposition to his plan of removing an infected appendix just as soon as it was discovered, but this opposition must fade away as soon as physicians generally could benefit from his experience, which was to the effect that appendicitis was an infectious exudative inflammation which did not disappear on disappearance of the symptoms. He had removed a large number of appendices from patients who felt perfectly well, but who could not obtain life insurance, or who feared recurrence, having had a previous attack of appendicitis. In all of these cases he found destructive processes in progress. Some times there was slowly progressing necrosis of the lymphoid tissue of the appendix; sometimes he had found tuberculosis or carcinoma insidiously beginning at the seat of the old inflammation, sometimes adventitious bands set snares for the bowel, and he had discovered that proliferating endarteritis which must eventually lead to gangrene of the appendix, was common in very mild chronic cases. He had found proliferating endarteritis producing slow occlusion of the arteries of the appendix in three mild chronic cases in succession.

The author stated that surgeons were laughed

at occasionally because they found normal appendices at operation for supposed appendicitis, but he did not believe that proper examination was made of the specimens. He had removed two or three appendices which were apparently perfectly normal, but the patient's symptoms all stopped after the operation, and when cultures of bacteria and microscopic sections had been made from these specimens, it was found that they had been dangerously infected. The mucosa and adenoid tissue were undergoing destruction by the colon bacillus.

The author stated that when his inch and a-half abdominal incision was employed in removal of infected appendices, patients left the hospital at the end of a week and a-half. If an incision two inches long were made the patient would not be ready to leave until fourteen days after the operation, and if the incision were from two and one-half to four inches long eighteen days would be required for repair. Consequently he had adopted as standard the inch and a-half incision and week and a-half confinement plan, which left no hernia and an evanescent scar.

By operating immediately in acute cases, he did not mean on the following day, but on the *following hour*, which is a point well worthy of the most careful consideration by all physicians.

Physicians who do not accept this plan must lose a few cases that they do not expect to lose, and they must let many patients suffer tediously and unnecessarily, but there will not be much further opposition, because physicians are only too glad to do the very best thing as soon as they have learned what it is.

The insurance companies would not insure a patient who had ever had appendicitis, and whose appendix still remained, if they were to note the character of the adventitious peritoneal bands which form in these cases, and if they observed the persistence of appendicitis and of supplementary diseases in the appendices of the patients who were thought to be quite well.

FOR morphinism, Kochs, *Ther. Monatsh.*, recommends the subcutaneous injection twice daily of atropin, gr. $\frac{1}{100}$, with which in his own practice he conjoined morphin, gr. $\frac{1}{4}$.

ETHER ANÆSTHESIA IN LONDON.

The *Medical Press and Circular* has had a series of reports on the anæsthetic procedures in several hospitals of London.

King's College Hospital and the Royal Free Hospital are not free users of ether; the former relies on chloroform, while the latter is partial to the A. C. E. mixture.

In the case of nine other hospitals, the anæsthetists administer ether in the larger proportion of cases. At the London Hospital a very noticeable change has taken place in this regard; ether is the anæsthetic chiefly used, being administered twice as frequently as chloroform.

The anæsthetist of St. George's Hospital shuns the use of chloroform, "unless there is some good and sufficient reason to give the coroner in case of accident," although he considers the substance safe in the hands of a competent operator.

Ether is by far the most popular anæsthetic at the Charing Cross Hospital, being used in about seventy per cent. of the cases.

Chloroform has the preference in operations upon the mouth, tongue, etc, or where the use of ether is contraindicated by the existence of some pulmonary complication.

Dr. Hewitt, at the London Hospital, prefers chloroform in cases where bronchitis or emphysema exists, and a majority of anæsthetists use it for children, elderly persons, and those who have bronchial trouble.

Dr. Bourns, of the Westminster Hospital, however, does not refrain from the use of ether in elderly people, since he believes the fear of its use in such cases has been without foundation, and that where lung trouble has followed an operation, it has been caused more by exposure of the chest than to inhalation of the vapor of ether.

Nearly all the out-patient departments use nitrous oxide, and so do the anæsthetists of the hospitals when minor operations are to be performed. In some cases chloroform is substituted for ether, if the patient under the influence of the latter evinces a tendency to vomiting or bronchial irritation; after the ether has been withheld for a while it may be administered again.

At St. Mary's Hospital, ether is used first in patients who are badly nourished and run down

from excesses; when the period of excitement has been reached, chloroform is given in place of the ether; afterward, when the patient is quiet and breathing regularly, the use of ether may be resumed.

The A. C. E. mixture mentioned above, although it originated in London, has a better reputation in the United States than at home. The proportions of the mixture are, by measure: alcohol one part, chloroform two parts, and ether three parts, its constituents to be of the very finest quality.

This was used by Dr. Harley for several years in a quiet way, but in 1864 a committee of the Royal Medico-Chirurgical Society gave it prominent mention in their report on anæsthetics.

The majority of London anæsthetists are particular to use the ether in as fresh a condition as possible, and preference is given to the use of an inhaler. The Clover inhaler is largely used, though Ormsby's and Junker's have their adherents.

CLINICAL NOTE ON CODEIA.

Dr. Braithwaite writes the following clinical note in the *Lancet;* and, considering the immense importance of finding a suitable substitute for morphia, we append his remarks *in toto:*

Invaluable as opium and its alkaloid morphia are, they, however, have several disadvantages, some of which can be avoided by the use of codeia, which has peculiarities of its own worthy of remark. Many patients cannot take opium or morphia on account of the sickness which follows the next day. Codeia rarely produces sickness, and after taking, say, two-thirds of a grain in the evening of one day, there is freedom from any effects whatever after a cup of coffee the next morning. This is a very important practical point, provided the codeia answers the same end as the opium. The former drug seems to have a special action upon the nerves of the larynx; hence it relieves tickling cough better than any ordinary form of opium. Two-thirds of a grain may be given half an hour before bedtime.

It was in my own case that I first began to use codeia. For more than twenty years, usually once every winter, I have been seized with a spasmodic cough just before going to sleep, which becomes so severe that I am compelled to get up and sit by the fire. After an hour or two I return to bed and am free from the cough till the next winter. In other respects I enjoy good health. Once, and once only, the affection returned on two or three consecutive nights. There is no expectoration, and the affection is as much a laryngeal spasm as a cough. The cold which originates this is usually trivial. If I take opium in any form I am sick the next day, and if I take chloral I have a headache and feel unfit for work. Many years ago I found that one grain of codeia taken abou two hours before bedtime, absolutely stops the attack and leaves no unpleasant effect the next morning, As I have some warning when an attack is impending, I am now able to defy the cough.

In cases of vomiting from almost any cause, quarter-grain doses of codeia in an effervescing mixture, usually answer exceedingly well, or half a grain may be taken at rather longer intervals. In the milder forms of diarrhœa two-thirds to one grain of the drug usually answer most satisfactorily, and there are no unpleasant after-effects. If, however, there is great pain the analgesic effect of codeia may not be sufficient, and opium itself, or morphia hypodermically, may be required. There is a curious form of diarrhœa met with in elderly women, the etiology of which I do not quite understand. Before the proper time to get up, and perhaps once or twice during dressing there occurs a mild form of diarrhœa. As this continues year after year it gradually impairs health. I find it best treated by half a grain of codeia, or even two-thirds of a grain, about four o'clock in the morning. It should be given in the form of a pill. Sometimes chronic neuroses may be cured by breaking the continuity of the pain, for which purpose I have found this drug peculiarly suited. It is better in such cases to prescribe it in a rather large dose at long intervals, as two-thirds of a grain or a grain every twenty-four hours. This need not prevent other treatment being adopted if necessary. Codeia will not entirely take the place of morphia, for it is not so powerful. It will not relieve an intense pain, but it has distinctly its own sphere of action. It is usually given in the form of pills, as it is so difficult to keep in solution. This answers very well in diabetes, in which disease, as is well known, it is invaluable. In many cases, however, a solution is

decidedly preferable, and if it is dissolved by heat and a little spirit added it keeps very well except in cold weather, when it should be kept in a room with a fire. A small quantity only should be prepared at a time.

HYDRASTININE IN UTERINE HÆMORRHAGE.—Gottschalk, *Brooklyn Med. Journal*, says hydrastinine may be employed :

1. First of all, in those uterine hæmorrhages which are traceable to a pronounced congestion of the uterus. To these belong, above all, the often very profuse menorrhagias of spinsters, in whom there is no pathological change in the condition of the genitals. In some of these cases it is possible to obtain a permanent result, so that even after discontinuing the remedy the menstrual flow remains smaller.

2. Also in hæmorrhages which have their pathological and anatomical cause in endometritis, hydrastinine will lesson the quantity of blood ; but here, according to Gottschalk's experience, the action is only palliative, not being sufficient alone to cure the local cause of the trouble.

3. For prophylactic or intermenstrual use, hydrastinine is useful before or during the first returning profuse menstruation after an abrasion of the uterine mucosa. It is well known that this menstruation, occurring after six weeks, is often very profuse. In the very cases where there was a great loss of blood before the operation, it is of great importance to prevent further profuse hæmorrhage. This is possible if the treatment with hydrastinine is begun several days before the expected menstruation, and, if necessary, continued during the duration of the menstruation.

4. Menorrhagias cased by retroflexio uteri are best treated by correction of the malposition ; but for cases of fixed retroflexion, where the reposition is not yet possible, hydrastinine is a commendable remedy.

5. Secondly, uterine hæmorrhages, *i. e.*, those caused by a change of the adnexa and their surroundings—offer a large field for the successful use of hydrastinine. To these belong the menorrhagia and metrorrhagia with pyosalpinx, oöphoritis, ovarian tumors and exudations. Of course the cause of the trouble is not influenced by the remedy.

6. Climacteric menorrhagias are much diminished by a faithfully carried out hydrastinine treatment.

ETHERIZATION OF INCARCERATED HERNIAS.—Since 1891 Gussenbauer has successfully made use of Finklestein's method of treating incarcerated hernia, *Therap. Monatshefte.* This consists in dropping ether (one to two tablespoonfuls every quarter of an hour) upon the hernial ring and the tumor, the skin over these places having been previously anointed with vaseline to prevent irritation from the ether. This is employed from one to three hours in connection with elevation of the pelvis and gentle taxis. Among 135 cases treated during this period this treatment was indicated in but 31, in the others owing to the long duration of the strangulation and the violent symptoms (marked tympanites, impending or developing gangrene), herniotomy was resorted to. Of these 31 cases 25 were treated by the ether method, the remainder by simple pelvic elevation and application of ice. The application of ether was successful in 20 cases (16 inguinal, 1 parumbilical, and 3 crural hernias), while in five cases it was necessary to subsequently perform herniotomy. In three cases spontaneous reduction occurred without taxis, one patient reduced the hernia himself ; in the other cases reduction was effected with the aid of gentle taxis, usually in two to three hours. Finklestein's method acts best if employed as soon after the occurrence of incarceration as possible, and is especially adapted for the use of the country practitioner.

POTASSIUM PERMANGANATE AS AN ANTIDOTE TO OPIUM AND ITS ALKALOIDS.—It is related that a physician of New York, *Med. News*, recently demonstrated, in the presence of a number of colleagues, in his own person the efficacy of potassium permanganate as an antidote to morphine. He is said to have swallowed three grains of morphine sulphate in solution, and immediately afterward four grains of potassium permanganate dissolved in four ounces of water, without the development of the usual effects of morphine. It is maintained that morphine, or any of the salts of opium, is immediately rendered inert by contact with potassium permanganate, the one drug seeming to have a special affinity for the other, the one being a re-

ducing agent, the other an oxidizing agent. As the antidotal action is chemic rather than physiologic, it is essential that the permanganate be administered soon after the ingestion of the opiate. It was first believed that the permanganate is without influence after the opiate has been absorbed, but experiments upon animals seem to indicate that if the former is introduced into the veins at not too great an interval after the ingestion or injection of the latter an antidotal influence is also exercised.

Modern Pathological Bubbles. — Says *The New Albany Herald*:—there was a coal-tar bubble, a most promising one, brilliant with all the anilin colors; and it swelled and swelled until it filled the whole medical horizon. For thousands of years physicians had cried out in agony: "If we could only find some remedy to still this raging fire of fever that is consuming our patients!" Now, in the fullness of time, the greatest remedy had been discovered—the enthusiasm spread like wildfire—even cool heads became heated—King Cureall had descended in our midst. Meantime, while the whole medical profession was chasing madly this gay bubble, a patient, plodding German was reducing the mortality of typhoid fever from 25 to 2½ per cent. by the use of cold baths, and treating 356 cases in his private practice with but one death. Then skeptics arose who questioned the divinity of King Cureall. One, bolder than the others, said: "What is this fever that you seem so anxious to reduce? What do you expect to accomplish by reducing it?" And slowly the huge bubble gravitated earthward. Even as we write, another bubble, composed of animal extracts, rises above the horizon. *Sunt fuerunt, vel fuere.*

Danger in Nitrous Oxide Gas.—The importance to dentists of being protected by the presence of a medical man, *Med. Times*, when nitrous-oxide gas is being administered, was strikingly shown on Monday last, at the dental surgery of Mr. Creasy, Aldersgate Street, E. C. A young man, about twenty-five years of age, called at Mr. Creasy's surgery to have a tooth extracted. The dentist sent for his neighbour, Dr. Adams, to administer nitrous-oxide gas. Apparently the young man took the gas well, the tooth was extracted, but to the astonishment of the doctor and the dentist, his breathing failed, and in spite of all that could be done the patient died. An inquest was held, and the usual verdict, exonerating the doctor and dentist from blame, was given. Dr. Adams stated to the coroner and jury that he had administered nitrous-oxide gas to some 30,000 or 40,000 patients. But such accidents will happen at times to the most careful and experienced.

Paraldehyd Habit.—In the *Edinburgh Med. Jour.* is reported the case of a man, aged 65, admitted as a voluntary patient to the Royal Asylum, Edinburgh, November 23rd, 1892, who was addicted to inordinate use of paraldehyd. Two years before, he began the use of the drug for the relief of insomnia, from which he had long suffered; and the dose was gradually increased until shortly before he entered the asylum he was taking sixteen ounces per week. He had lost twenty-eight pounds in weight, and was so feeble he required to be fed like a child. The action of the heart was weak and irregular, the appetite abnormally large; and he likewise suffered from hallucinations of sight and hearing, and from delusions of unpleasant character. He proved a most troublesome patient, but was finally discharged in good health, on the 21st of February of the current year.

Chloral Hydrate in Labor.—Garner, *Lancet*, in an article upon the efficacy of chloral hydrate in labor, states that it has a great effect in assisting the dilatation of the os uteri and relaxing the rigidity of the perineum. He described the cases of three primiparæ, in which he had used the drug. No post partum hæmorrhage followed, nor was there any delay or difficulty in the expulsion of the placenta. He thinks that the chloral might take the place of chloroform in many cases, if given in a small repeated dose during the long and tedious labor of the primipara. The writer stated that it did not seem to diminish the expulsive power of the pains, as have often been noticed in chloroform cases. Dr. Garner recommends that the chloral might be further tried in place of chloroform inhalation in primiparæ, in order to relieve the rigid perineum and so to avoid having to use forceps.

A New Way to Execute Criminals.—A bill has been introduced in the Legislature of Ohio,

Med. Rev., opposing hanging and providing that all murderers sentenced to death shall be put out of the way by means of anæsthetics which are to be administered under the supervision of a board of physicians and scientists. The condemned man having been placed in a painless sleep, the scientists are to be permitted to take the top of his skull off and watch the actions of the brain and lay bare his heart and other organs and study life there. The author of the bill is a physician and argues that its passage would give scientists an opportunity to study the currents of life as they have never been studied before, and would undoubtedly result in the most wonderful discoveries to the benefit of humanity.

HIGHER MEDICAL EDUCATION.—In pursuance of the policy recently announced in the resolution to be presented to the American Medical College Association, the trustees and faculty of Rush Medical College have decided to require four years attendance at college, from students who begin the study of medicine this year, with a view to graduation in 1898; however, those who have already studied medicine one year or more with a preceptor, so that the four years of study, already required, will be completed before July, 1897, may graduate after three courses of lectures as heretofore. To encourage proper preliminary study, graduates in Arts and Sciences from high grade colleges, and graduates in Pharmacy and Dentistry, from colleges requiring a proper amount of study, two full courses of lectures will, until further notice, be allowed to graduate after an attendance on only three courses of lectures.

A NEW REACTION FOR BILIARY PIGMENTS IN THE URINE.—Dr. H. Rosin prepares, *Wien. Med. Presse*, his test as follows: a solution, the color of port wine, is made with the official tincture of iodine and alcohol. This color can be obtained accurately by adding 2 drops of iodine tincture to a test tube filled to ¼ its capacity with alcohol. The solution thus prepared is carefully poured over the urine to be examined; immediately, or after a minute, there appears at the point of contact of the two solutions a grass-green coloration which often persists for hours. Should the urine contain no bile pigments, there is at the point of contact a yellowish discoloration. The test just described has been used at the third medical clinic in Berlin, and is pronounced the simplest and most sensitive reagent for bile pigments in the urine.

ANAL FISSURE.—Allingham strongly advocates the local use of the following ointment, *Doctor's Weekly:*

℞—Hydrarg. subchlor., . . . gr. iv.
Pulv. opii,
Ext. belladonnæ, . . . āā gr. ij.
Ung. sambuc., ... ʒ j.—M.
Sig.—To be applied frequently.

He states that he has had many cures with this ointment alone. Another excellent ointment, recommended by the same authority, is:—

℞—Plumb. acetatis,
Zinci oxidi, ... āā gr. x.
Pulv. calaminæ, ... gr. xx.
Adipis benzoinat., . . . ʒ ss.—M.

An ointment of the oxide of mercury, 30 grains to the ounce, has cured many cases.

WHAT IS A BLUSH?—It seems that, unlike an osculatory demonstration, a blush can be scientifically defined, *Med. Age.* A Cincinnati physician attempts it as follows:—"A blush is a temporary erythema and calorific effulgence of the physiognomy, ætiologized by the perceptiveness of the sensorium when in a predicament of unequilibrity from a sense of shame, anger, or other cause, eventuating in a paresis of the vaso-motor nervous filaments of the facial capillaries, whereby, being divested of their elasticity, they are suffused with radiance emanating from an intimidated præcordia."

ELECTRICITY IN AMENORRHŒA.—Dr. D. Labbé reports three cases, *Journal de Médicine de Paris*, treated with the negative pole (cathode) of a constant current. The positive electrode is applied on the lower part of the abdomen in the linea alba. Applications did not exceed 5 minutes at a time. The intensity of the current was never more than 50 milliamperes. Instruments used should be made aseptic and in all cases the operator should convince himself that the uterus is empty.

EPILEPSY.—Paul Flechsig, *Neurol. Centra.*, treats epilepsy first with small doses of opium

gradually increased, for six weeks, and withdraws it, and substitutes a large dose of bromide of potassium. After two months, the latter is reduced by degrees until small doses are given at regular intervals. The opium treatment seems to prepare the way for the bromide, and to intensify its effect. He reports success in many cases, and the phenomenal results in one.

AN EFFECTIVE DEPILATORY.—Butte, *Monatshefte für Practische Dermatologie; Med. Age*, recommends iodine collodium, which for three or four consecutive days is spread rather thickly upon the respective spots. When the collodium skin is removed the hairs will be found adhering to the under side. Especially adapted is said to be iodine collodium of the following composition:

Alcohol	12.0
Iodine	0.75
Collodium	35.0
Oil turpentine	1.5
Castor oil	2.0

CHLOROFORM AS A TÆNICIDE.— Chloroform, which was first employed by the French, *Lancet Clinic*, for the above purpose, was found to be a very effectual remedy when given in the University Policlinic, of Berlin. It was administered as follows:

℞—Chloroform, ... gms. 4.
Ol. tiglii, ... gtt. 1.
Glycerine, ... gms. 30.—M.
S.—To be taken in one dose.

Employed in the treatment of thirty-eight cases, but one failure was recorded. No ill effects were observed.

ANTI-PRURITIC OIL.—Bronson, of New York, has employed the following, *Jour. Am. Med. Assoc.*, both in local and so-called general forms of pruritus. The oil should not be applied too frequently:

℞—Carbolic acid, ... ʒ i-ii.
Liquor potassæ, ... ʒ i.
Ol. lini., ... ʒ i.
Sig.—Shake before using. A drop or two of oil of bergamot may be added to disguise the odor of the linseed oil.

LEUCORRHŒA.—W. F. W., *Times and Reg.*, says in answer to a correspondent, of untractable leucorrhœa: Wash out the vagina daily with Marchand's peroxide of hydrogen, an ounce to a pint of water; then inject half an ounce of fluid petrolatum, with five grains each of europhen and aristol, and apply a cotton tampon to retain the oil. Continue for a week. If not cured, inject the oil into the uterus through a long-nosed syringe. This will almost surely cure these very obstinate cases.

BRONCHIAL ASTHMA, *Clin. Jour.*:

℞—Pot. iodidi, ... gr. xxx.
Pot. chlor., ... ʒ j.
Tr. lobeliæ, ... ♏ xxx
Syrup. codeiæ, ... ʒ j.
Aq. destil., . . . ad. ʒ vj.—M.
Ft. mist. Sig: One teaspoonful to be taken every hour, until relief is obtained.

A NARROW ESCAPE FROM BURIAL ALIVE.—A town councillor of Burton-on-Trent in England, *Boston. Med. and Surg. Jour.*, had a narrow escape from burial alive last week. At the very last moment, during the committal service in the cemetery, a friend detected what he thought was a sign of life. On examination the man was found to be still breathing, and was carried home.

CREASOTE ERUCTATIONS.—To prevent the unpleasant eructations which sometimes follow the use of creasote, it is said that dilute hydrochloric acid in four-drop doses, taken immediately after each portion of the creasote is ingested, is an almost specific.

SALICYLIC ACID is highly recommended as an application to ring-worm, *Hosp. Gaz.* It may be used as an ointment, but is much better as a saturated solution in collodion. One application is often all that is necessary to affect a cure, but it may be repeated if necessary. The pain caused is not usually severe.

EPSOM SALTS FOR THE PAIN OF BURNS.—Dr. N. F. Howard writes to the *Atlanta Med. and Surg. Journal* that he has had phenomenal success in relieving the pain of burns by immersing the injured member in a strong solution of mag. sulph. in water, vi ʒ, one pound, to two quarts of water.

AMERICAN MEDICAL ASSOCIATION. — Elaborate arrangements are being made by the committee, relative to the next meeting of the American

Medical Association which is to be held in San Francisco, June 5th. Hotels and lodging houses are quoting special rates, prices ranging from 50 cents to $5 per day.

EFFECT OF RHUBARB ON THE URINE.—According to Jung if the urine of a healthy person who has been taking rhubarb be tested with bismuth, *Druggists' Circ.*, the same brown coloration will be produced as if sugar were present. Inquiry should be therefore made respecting the use of the first named drug, in cases where it might otherwise lead to a wrong diagnosis. This is of special interest to medical examiners of life insurance.

THE DOCTOR.—

"The paths of pain are thine. Go forth
With patience, trust, and hope;
The sufferings of a sin-sick earth
Shall give thee ample scope.
Beside the unveiled mysteries
Of life and death go stand,
With guarded lip and reverent eyes,
And pure of heart and hand."—*Whittier.*

CONCEPTIONS just previous to the menstrual period result in boys; Dr. George Abbott, *Med. Rec.*, those just after, in girls. Such is the conclusion from many observed, notably among the last.

DR. BOARDMAN REED, says, *N. Y. Med. Times*, that ten to thirty drops of extract of cimicifuga after meals, rarely fail to effect a cure of seminal emissions.

SIGNIFICANCE OF INGUINAL PAIN.—Doctor Montgomery declares, *Med. Age*, that pain in the inguinal region occurring before menstruation is evidence of a diseased condition of the ovaries.

Books and Pamphlets.

VENEREAL MEMORANDA; a Manual for the Student and Practitioner. By P. A. Morrow, A.M., M.D. New York: William Wood & Co. Toronto: Carveth & Co. 1894.

This, the second edition, has been modified by the additions which have been made to our knowledge of venereal diseases under the *rôle* played by micro-organism, in these, as in so many other diseases. A handy little book for reference.

THE OFFICE AND DUTIES OF CORONERS IN ONTARIO and the other Provinces and the Territories of Canada and in Newfoundland. Third edition. By W. F. A. Boys, LL.B., Junior Judge, Co. of Simcoe. Published by the Carswell Co., Toronto. 1893.

As the second edition of this standard work has long been out of print, the appearance of a new and greatly extended one will be welcomed both by the medical and by the legal profession of this country. It will be found to be a reliable guide for those who are charged with the responsible duty of investigating sudden and suspicious deaths, and its study by physicians, who at any time may be called upon to give medical evidence, can be safely advised. The press work and binding are creditable to the publishers, and the work is sold at a reasonable price.

LECTURES ON SURGICAL DISORDERS OF THE URINARY ORGANS. By Reginald Harrison, F.R.C.S. Fourth edition. London: J. & A. Churchill. 1893. Toronto: Carveth & Co.

The author's name is a sufficient guarantee as to the value of this work. As is well-known, the original work was made up of successive courses of lectures, given at the Liverpool Royal Infirmary and at Victoria University.

The present edition has been thoroughly revised and brought up to date. It includes the substance of the Lettsomian lectures of 1888, as well as the Hunterian lectures at the Royal College of Surgeons of 1891. The book is beautifully printed. From a careful perusal of this work, we can safely say that it is a classic on the subjects treated. The style of the author is simple, clear and concise.

TRANSACTIONS OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA. Third series. Vol. XV. 1893.

MANUAL FOR BOARDS OF HEALTH AND HEALTH OFFICERS. By Lewis Balch, M.D., Ph.D. Albany: Banks & Bros.

PUBLIC SCHOOL PHYSIOLOGY AND TEMPERANCE. By William Nattress, M.D., M.R.C.S. Eng. Toronto: William Briggs. 1894.

MECHANICAL AIDS IN THE TREATMENT OF CHRONIC FORMS OF DISEASE. By Geo. H. Taylor, M.D. New York: Geo. W. Rogers. 1893.

REPORTS OF THE BUREAU OF STATISTICS OF LABOR OF THE STATE OF NEW YORK. Parts I. and II. 1891; Part I. 1892. Albany: James B. Lyon, State Printer.