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# THE CANADA MEDICAL RECORD.

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## CONTENTS.

<b>SOCIETY PROCEEDINGS.</b>	
Medico-Chirurgical Society of Montreal .....	169
<b>CORRESPONDENCE.</b>	
<b>PROGRESS OF SCIENCE.</b>	
Rest for Painful Eyes, is this Advice always Good? .....	175

Neurasthenia .....	180
How "Bright's Disease" Comes About .....	183
Diet in the Treatment of Epilepsy .....	185
Treatment of Rheumatism in the Jefferson College Hospital .....	187
Philadelphia Clinical Society .....	187
Therapeutics of Female Sterility .....	188

<b>EDITORIAL.</b>	
College of Physicians and Surgeons, Province of Quebec .....	189
Obituary .....	190
Personal .....	190
Review .....	190
Salut .....	192

### *Society Proceedings.*

#### MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

*Stated Meeting, Feb. 25th, 1887.*

J. C. CAMERON, M.D., PRESIDENT, IN THE CHAIR.

*Heredity.*—Dr. W. G. JOHNSTON read a short paper on "Heredity of Acquired Peculiarities," which appeared in full in the April number of this JOURNAL.

*Discussion.*—Dr. SHEPHERD stated that those anatomical peculiarities which are characteristic of inferior animals are often transmitted for many generations; for instance, he had traced for two generations a well-marked supra-condyloid process. Deformities in the fingers and toes were often transmitted from one generation to another. He cited an instance where he had performed tenotomy for a peculiar formation of the toes in two generations. He knew of a family, each member of which was characterized for three generations by a preternaturally long first toe, possessing prehensile power.

Dr. MILLS said that Darwin did not seem to have been strongly given to speculation, and did not strive after a *final* explanation of his hypothesis. His Pangenesis, as an explanation of the facts of organic evolution, was by many biologists regarded as weak and unworthy of him. Brooks had attempted to show that the male generative element was concerned in *originating* variations, the female in *preserving* the existing form. If this were true, important conclusions followed. Medical men might throw some light on this and

kindred matters. Dr. Hughlings Jackson had applied evolution to the discussion of diseases of the nervous system in his usual masterly manner. Inasmuch as morphological explanations never can be final, it was remarkable that physiological solutions had not been invoked prior to this time. Dr. Mills believed the solution must eventually come through physiology; in fact, quite recently Dr. Romanes had introduced "physiological selection" as supplementary to "natural selection," etc. Certainly at the present time the most thoughtful biologists feel the need of something additional to the Darwinian factors to give a complete explanation of organic evolution, which might now be considered, as Huxley called it, a "demonstration." Dr. Mills thought the time had now come for medical societies to discuss such broad generalizations of science in their bearing on their own science and profession. The question of the heredity or non-heredity of acquired peculiarities was especially within the scope of physicians, and one they could do much towards settling. He hoped to be able to lay before the Society some views of his own on the subject of organic evolution, in some of its aspects, at a future time.

Dr. TRENHOLME, referring to Brooks' theory, stated that he had noticed several cases where the permanence was on the male side. He had in one case traced polydactylism through three generations on the male side, and in another case the male members of a family were for several generations characterized by peculiar teeth.

Dr. HINGSTON referred to the fact that the practice of flatheaded Indians of flattening the frontal bone of their infants for many generations

had not produced any permanent change in the shape of their heads. Infants were born still with perfectly round heads.

"*Some of the Present Aspects of Surgery.*"—Dr. HINGSTON then read the following paper on this subject :

The aspects of a science or of an art are as the aspects of a country ; not being always objective are not always the same—for the subject, seeing, has views of his own, habits of vision as it were, and these, unconsciously to himself, perhaps, change and color the prospective. I am as one, and only one, of those observers, and the field of observation—chiefly *ultra mare*—is the scene of former and more lengthened residence. During my recent visit to Europe, after an interval of nineteen years, I perceived, or fancied I perceived, among individuals in the higher walks of the profession, whether met with in society or at their own homes, a greater seriousness—a greater earnestness than on former occasions. Or was it that those intervening years had changed the mode of vision in the observer? The friction of mind against mind is seemingly incessant. The struggle for position is unremitting—rendered the more necessary by the increased and steadily increasing cost of living, and almost *pari passu*, the steadily increasing number of votaries to the healing art. The large incomes enjoyed—not always enjoyed, but always slaved for—by a limited few, have caused recruits innumerable, each one hoping to achieve distinction, as in the time of Napoleon the humblest soldier was animated with a hope of one day exchanging his musket for the *baton* of the marshal. Although great courtesy characterizes the relationship of members of the profession with one another, there are few who are not keenly alive to the necessity of continued effort for supremacy, as well as for its recognition; and self-assertion, though clothed with becoming modesty, is not always absent from the highest and most conservative ranks of the profession. But plain, honest thought—most markedly in Great Britain—finds plain, honest expression at all the meetings of societies I attended. Vague statements are unheeded; and if imagination is suspected as a possible source of stated fact, a clapping of hands is an indication of *that fact* having been duly noted. The most imaginative could not devise a readier method of expression than the clapping, graduated on a crescendo scale, which marks distrust or disapproval; and tediousness or irrelevancy receives a *quietus* in the same way.

The vast strides in the study of minute and morbid anatomy, and in special and general pathology, have opened up newer and, it is said, more profitable fields of professional labor. The growth and multiplication of specialties are prodigious. The three divisions of physician, surgeon and accoucheur; the subdivision of eye and ear surgery, and afterwards the further separation of the two latter, are no longer adequate to express the numerous subsections of professional work. On former visits I usually spent an hour or two a day with Sichel, Desmarres, or Graefe over the eye; with Wilde or Toynebee in studying the ear; while a Stokes, a Graves, a Trousseau or a Schönlein was, in our then benighted condition, deemed fit to teach the practice of medicine in general; and a Syme, a Velpeau or a Langenbeck was supposed to be quite abreast of general surgery. Now, all is changed, and perched on every barleycorn of vantage ground the specialist works in a narrower, a more restricted sphere, seeing clearer, no doubt, what he *does* see, but with less acquaintance, it is said, with the ailments of other organs with which his own may be intimately connected. Yet the labors of the specialist—each in his own department—have greatly advanced the general stock of knowledge. The all-round man is becoming a *rara avis*; yet when a Jonathan Hutchinson appears, going to and from the meetings of the British Medical Association, he is greeted by physician and surgeon alike as one who, in his day, has touched many things pertaining to both medicine and surgery, yet of whom it may be said, *nec tetiget quod non ornavit*. It is men such as he who show us how the various branches of our art are mutually dependent, and how they correct, reform and reclaim each other. The newer and more inviting fields of special work are, in Great Britain, drawing into their ranks, at a rapid rate, men who will be competitors in those ranks. There must soon be a limit to subdivision. The story told a few years ago of a lady in London who had given her lungs to one physician, her liver to a second, her heart to a third, her womb to a fourth, and so on, would now be strange in the atmosphere of refined life, were she so incautious and so ill-informed as to confide the whole of any organ to a single individual.

Now and then, as you are aware, efforts are made in the direction of synthetizing diseases. Thus Erasmus Wilson, in his old age—and it was a richer legacy than that represented by his Cleo-

patra's needle,—reduced, for therapeutic purposes, diseases of the skin to *four* clearly and easily understood heads. The whole was contained in a few duodecimo pages. Eczema was grouped naturally under one of them, and I much doubt if any of the octavo volumes on that disease alone have contained more matter for the practising physician than the few lines in question. No one is still doing more to harmonize medicine and surgery than Sir James Paget, who draws from pathological anatomy and from clinical pathology, whether for the use of the experimentalist, the chemist, or the microscopist.

Great advances have been made in the diagnosis of diseases of the different cavities of the body; but in the exploration of mucous inlets, as the nose, larynx, trachea, urethra, bladder or vagina, I failed to notice any advantages not within the *portée* of practitioners twenty years ago.

The *principles* of treatment are not now much better understood, although *diagnosis* may have outstripped its former self by many a stride. With the greatly increased facilities for the investigation of disease, with the improvements in the methods of diagnosis, and with the application of direct methods of treatment, initiation is sometimes shrouded in well-intentioned mystery. For instance, in a specular examination of one of the mucous inlets, there was an arrangement of mirrors, which reflected the electric light *four* times before it reached the mucous membrane. The green baized drapery completed the illusion; and the fee was larger, possibly, than if the examination had been gone through with direct light or with light once reflected.

The separation of medicine, as a whole, from surgery, as a whole, seemed destined to be complete and irreparable. But it is not so. Handmaids of each other they must ever remain; again a tendency is noticeable of an *approchement*, and this time by the invasion by the surgeon of the domain of medicine.

The lines which separate specialties are, as I have said, narrow, short, yet well defined. They are steadily becoming narrower, shorter, and still more defined as between specialties, and especially surgical specialties. That the public is a gainer is much doubted. But while the lines which confine specialism within steadily narrowing limits are becoming more defined, the lines which separate medicine, as a whole, from surgery, as a whole,—even in those departments in which, till recently,

the physician tolerated not the aid or intervention of the surgeon,—the latter has dared to enter, and with advantage, the domain of the physician. Not many years ago, for instance, in all affections of the chest or abdomen requiring manual interference, the surgeon was sent for, and the operation was performed at the request and under the guidance and direction of the physician whose diagnosis was followed, and who had called in the surgeon to do that which required a cooler nerve or a more dexterous hand than that possessed by himself. How is it now? The surgeon's knowledge of *internal* derangements within the skull, chest or abdomen requires to be so precise that skill in operating must wait upon, and be preceded by great accuracy in diagnosis. The surgeon who trephines the skull, cuts through its membranes, and removes a tumor from the brain; or who sends a bistoury through its substance to an abscess, does that which requires no extraordinary manual skill or dexterity—a butcher or a butcher's boy could do it as well. But the exact, the precise localizing of disease within the brain, by the correct interpretation of disturbance of function *at a distance*, is one of the greatest triumphs of modern surgery, and is a step towards its recognition as a science as well as an art. The domain of the surgeon is, therefore, steadily extending, and fractures, dislocations and excisions of tumors no longer limit the field of his labors.

It would be inconsistent with the time at my disposal to traverse the field of practical surgery, to point out what might be considered encroachments upon the territory of the physician. I shall only allude to those instances where, till recently, medicine, and medicine alone, was relied upon for relief.

In chest affections requiring surgical interference, diagnosis must be clear and precise. In empyema, for instance, not alone must the quantity and situation, but even the quality of the fluid be made out before proceeding to operation. In bronchiectasis of the lung, where the difficulty of diagnosis is admittedly great, it must be precise before resorting to any operative procedure. Here, again, the surgeon, although he may receive aid in determining the exact site and nature of the disease, must rely upon his own diagnosis chiefly, if not entirely.

In local peritonitis, what could be more daring, more surprising, and yet more satisfactory, than Mr. Lawson Tait's thrusting a bistoury into the

groin of a woman laboring under all the symptoms of puerperal fever, where he suspected pus by the symptoms alone, but where, as he told me, there were no outward signs of its presence, no swelling, and no local tenderness. From a condition almost of collapse, recovery took place. The operation was not, 'tis true, a difficult one. Anyone could have performed it; but the diagnosis was prophetic.

The case of Dr. Leslie Phillips, operated upon by John W. Taylor, F.R.C.S., is of like character; and now that attention has been directed to the subject, and that surgery has taught a means of escape, deaths from supposed puerperal fever will, it is hoped, be less frequent than formerly. Here, as you will see, surgery comes to the relief of the obstetric physician in cases which are peculiarly within the province of the latter.

In diseases of the abdominal organs, how much has lately been done by surgery. Hepatitis, with all its train of sufferings, was claimed by medicine as its own; but surgery of the liver has suddenly leaped into importance lately. A painful, inflamed and enlarged liver is now relieved by Harley and others, and the patient cured by the insertion into it, at its upper and convex part, of a long trocar, and by the drawing directly therefrom as large a quantity of blood as was considered prudent to be taken from the arm in the days of venesection. Operation for draining hepatic abscesses or removing hepatic cysts; cholecystotomy for crushing or taking calculi from the gall-bladder; laparotomy for purulent or persistent peritonitis; abdominal sections for internal hemorrhage, etc., are all of recent date, and open a field, not of brilliant operative procedures, but of more brilliant diagnosis, and what is of greater moment, of far more beneficial results.

The considerable degree of immunity from danger which has attended abdominal sections has led to the spaying of females—married and unmarried—for sometimes real—sometimes, it is believed, unreal sufferings. This operation has been performed for objective disturbances, and for disturbances purely subjective. Prolapsus of the ovary, a common affection; atrophy of the ovary, not easily diagnosed; œdematous ovary; a pultaceous condition of the ovary; cirrhotic ovary; hydrosalpinx; in pyosalpinx *pur et simple*, often guessed at by raised temperature alone; in pyosalpinx resulting from gonorrhœa; in that condition of neurosis whose shapes are

endless and whose outward hysterical manifestations are innumerable; in localized peritonitis where the intestines, omentum, etc., are glued together, etc.; in inflammatory conditions after confinement, especially in the acute and subacute stage; in deformity, where the birth of a living child might be *reasonably* expected to prove fatal to the mother; in uterine myomata, where the size of the growth is inconvenient; in bleeding myomata; in (who would believe it?) all cases of uterine myomata in patients under 40 years of age; in retroflexed and anteflexed uterus; in epilepsy; in hystero-epilepsy; in every case of insanity in the female!!

Here, as you will perceive, I have said nothing of those considerable tumors of the ovary or tubes—cystic, fibrocystic or malignant—which all agree may demand removal. Is it to be wondered at that this operation should be resorted to with a frequency which is alarming? Oöphorectomy is to-day epidemic in many places on the other and on this side of the Atlantic. Occasionally an authority, such as Thomas More Madden, in Europe, writes that the operation of laparotomy is performed "too frequently" and in unsuitable cases; and Emmet, on this side, stems the tide somewhat by saying that for a year he had seen but one case of disease of the tubes where the operation might be justifiable, that the patient refused to be operated upon, and got well in a few months. Yet every one knows Emmet's unsurpassed field of clinical observation. In one hospital in Liverpool, says Dr. Carter, no less than 111 women had been deprived of one or both ovaries during the year 1885, said to be about one-third of all the patients admitted. This frequency continued in 1886, and led to a commission of enquiry. Canada has many oöphorectomists and salpingotomists. The *Canada Lancet* has denounced the epidemic, and at our own Medico-Chirurgical Society, ovaries are sometimes fished up from the depths of the pocket—sometimes the vest pocket,—and, sometimes it has happened that so able a pathologist as Prof. Osler has, after close inspection, declared he found nothing abnormal in them. The fashion, doubtless, will soon change; diagnosis of affections of the appendages will, in the meantime, have been much advanced; and the question of operation will have been settled in accordance with those general principles which should guide all prudent and honorable men in its performance or rejection. This question has a moral and a

social as well as a medical aspect; but I do not arrogate to myself any preparedness not possessed by others. I may say, however, I have more than once prevented the operation, and I have been afterwards thanked for it, and another then unborn generation has been advantaged by it. I admit there are cases where a diseased condition of the ovaries or tubes demands surgical interference; but those are not cases where every objective sign is absent, and where the symptoms detailed by a hysterical woman are the only guide.

*Discussion.*—Dr. TRENHOLME did not believe that gynaecology, as a branch of surgery, would ever lose its importance; its utility was undoubted. With regard to spaying, the speaker expressed his belief that it would be better if every insane person could be prevented from propagating his species, and the same could be said of criminals. He gave an account of a case where one noted criminal marrying another had given rise to a race of no fewer than 176 noted criminals, male and female. With regard to the utility of abdominal sections, he could only say that in his experience more than 90 per cent. were cured of undoubted and often intense suffering. He did not think that patients suffering from pyosalpinx or hydrosalpinx when over 40 years of age required operative measures, but believed in operating on in all cases where patient was 28 to 30 years old.

Dr. GARDNER agreed with Dr. Hingston that there should be objective signs to justify operation, except in a few cases—*e.g.*, cirrhotic ovaries. Dr. Bantock gives many cases of diminution of ovaries which produced intense suffering, but which were cured by operation. With regard to the removal of ovaries for myomata, it is known that many myomata may exist for life without producing the smallest danger or even discomfort. On the other hand, these tumors may produce dangerous hemorrhages or intense pain, and ovariectomy, as a rule, gives relief. With regard to neuroses, we have still much to learn about the effect of the ovaries on the nervous system. Pelvic pain is often undoubtedly of central origin, yet in many cases it is due to the ovaries. In selecting proper cases for operation in neuroses, we require experience. This, however, will come in time.

Dr. SHEPHERD remarked that nervous affections were now treated by operations on the eyes instead of ovariectomies. Cutting the eye muscles is a recent mode of treatment for epilepsy and insanity. Many cures are claimed for this method of treatment.

Dr. HINGSTON, in reply, stated that he did not wish to depreciate gynaecology, but he did wish to denounce this wholesale operation for subjective symptoms. Such recognized authorities as Spencer Wells, Keith and Emmet speak in much stronger terms than he. The *London Lancet* has for some time refused to publish the papers of these wholesale ovariectomists. He believed that if men like Lawson Tait and Savage, who operate for subjective symptoms, are to be imitated by men with less judgment, it would lead to unlimited operating. Every hysterical girl with pelvic pain would be a fit subject for ovariectomy. With regard to ovarian fibroma, he could cite very many cases in his own practice of women who have had uterine fibromata all their lives without causing them any discomfort. Otis claims to have cured neurosis by circumcision, and contends that many forms of epilepsy can be thus cured. Ovariectomy is the modern fashion in surgery, just as the now almost discarded Syme's external urethrotomy was the fashion a few years ago.

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## *Correspondence.*

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PARIS, 8th MAY, 1887.

DEAR RECORD,—In my last letter I told you that I would in my next endeavor to give your readers some idea of Apostoli's method of employing electricity in Gynaecology. I was the more anxious to acquaint myself with his process, because I have always held the view that most of the diseases of the female generative organs depended on disordered innervation, circulation, and nutrition, and that the only sure cure for these diseases would be found in a system of therapeutics, which would directly re-establish these functions. This then was the main object of my visit, and in Dr. Apostoli I found my wish fully gratified. After a pleasant lunch at the magnificent club, which has a membership of eighteen hundred scientific and literary men, and where I made the acquaintance of Paquelin, and several others whose names are known to fame, Dr. Apostoli took me with him to his private clinic at the *Halles*, and introduced me at once to his instruments, which, I must confess, had hitherto been somewhat strangers to me. They were as follows:

1st. A battery of sixty Leclanché cells, connected in what is called series of tension, that is

the positive pole of No. 1 is connected with the negative of No. 2, and the positive of No. 2 with the negative of No. 3, and so on. The wires of all these couples are received by a very important but somewhat complicated machine called

2nd. A collector, by means of which you can gradually bring the strength of the whole battery to bear, one cell at a time. The collector has a double index, by means of which the first or any worn out cells can be thrown out of the circuit, as they would only hinder the others from doing their work.

3rd. The galvanometer, the most important of all, by means of which the dose is measured out in thousandths of ampères. For example, strychnine and atropine are very useful medicines, but they would be likely to do more harm than good if we had no scales with which to measure them; the galvanometer is to electricity just what a fine pair of scales is to strychnine. It is only since electricians have invented accurate galvanometers that electricity can be used effectively and safely.

I may mention for the information of some of your readers that the ampère is the measure of quantity, the volt is the measure of intensity, and the ohm the measure of resistance. To explain further these terms, quantity, intensity and resistance, I must compare electricity to water. Now, if you have a large quantity of water running over from a large flat basin, you would have quantity without pressure or resistance. On the other hand, a much smaller quantity of water confined in a very fine but very high tube would give great pressure without quantity; that corresponds with intensity in electricity. But if we have a current of water flowing through a very long and very thin pipe, we will have friction, which corresponds with resistance in electricity.

4th. A Gaiffe faradic machine, with long, fine wire coil, and short, thick wire coil and commutator. This is worked by two Leclanche couples.

5th. A platinum electrode, which can be converted into a Simpson's sound or a trocar, at will.

6th. A set of uterine and vaginal excitors or double electrodes.

7th. A large abdominal electrode, made of very moist potter's clay, on the upper surface of which is stuck a large, flat piece of zinc, and on the under surface a piece of coarse tarlatan to hold it together, and through the meshes of which the moist clay transudes.

This is the outfit; but I must explain that the positive and negative poles of such a battery have very different qualities; the positive pole, about which oxygen and acids accumulate, is like an acid caustic, coagulating and astringent; while the negative pole, about which the bases soda, ammonia and potash accumulate, is fluidifying and produces an action like the caustic alkalies.

Well, then, a patient mounts the table, she complains of losing blood continuously for several months, pain and weight in the back and belly; the sound enters  $4\frac{1}{2}$  inches and a digital examination reveals a large fibroid in the posterior wall of the uterus.

Dr. Apostoli decides to employ a positive chemical galvano cautery to the uterine cavity. He first irrigates the vagina with 1 in a 1000 sublimate solution, as I may say he does before and after every examination and operation, no matter how trivial, and then introduces the platinum sound right up to the fundus, the vaginal portion of it being covered with celluloid tubing, which is one of the best and cleanest of non conductors. In a few minutes, after gradually increasing the current until the compass needle marks 150 or 200, and even sometimes 250 milliamperes, the platinum sound becomes bathed in acid, which coagulates the blood in the uterus into so firm a clot, that it can with some little traction be withdrawn, and the hemorrhage ceases. Without the clay electrode on the abdomen, the skin there would have been burned with so strong a current, and until Dr. Apostoli thought of it, no one could administer more than 40 or 50 milliamperes. It being covered with a towel, and the patient herself pressing it down with both hands, the current enters her system by more than a thousand doors.

Apostoli used to never go beyond 50 milliamperes, but he made the seance last 10 or 15 minutes; but now that he can go as high as 250 milliamperes, he only makes the sitting last 5 minutes.

As soon as the hemorrhage stops, which it generally does after two or three applications or less, he goes for the fibroid, if it is in an accessible position, that is behind, or anywhere within reach through the vaginal cul-de-sac, but not if it is in front and high up, owing to danger of injuring the bladder. The way in which he goes for it is as follows:

An assistant presses the uterus backwards from the abdomen, while he feels for the fibroid with one finger pushed up into Douglas' sac, and with the right hand he plunges the trocar end of the sound

into the fibroid, a distance of half or three-quarters of an inch. The dose is very gradually increased to 100 or 150 milliampère and the trocar is left in for 5 minutes, when it is withdrawn, and the wound dressed with iodoform gauze. A large, soft slough comes away in a few days, the negative pole having been used. The result is two-fold: the fibroma is diminished in bulk at each sitting to the extent of the scar, and the current contracts all the vessels of the uterus, and causes absorption of the hyperplastic deposit. The operation is in nowise dangerous, and though a little painful is often performed without any anæsthetic. Of course it is antiseptic as that amount of electricity kills all germs.

He only continues the operation until the tumor is so much diminished in size and in nature, that the woman no longer complains of any symptoms, or, as he calls it, until she is symptomatically cured.

He applies the same treatment to cases of chronic pelvic cellulitis, and I must say with remarkable results, but it must be chronic. In a few sittings the diseased tissue either comes away in slough or is re-absorbed. But still more remarkable because almost instantaneous were the results of the application of the faradic current in cases of ovarian pain and hysteria. Over and over again patients came there for the first time with such tender ovaries, that they could not bear the weight of the hand on the abdomen, and who after ten or fifteen minutes of the intra-uterine application of the faradic current with the long, fine coil, could bear any amount of pressure.

In cases of relaxation of the vaginal and uterine muscles he employs, on the contrary, the current from the coil of thick, short wire, which has a more powerful effect in contracting muscular tissue, while the long, thin wire acts more as a nervous tonic.

In my opinion, we have here precisely the means we have been waiting for for years to strengthen the uterine supports. For example, when we are called upon to treat a case of lateral curvature of the spine, which we know to be due to weakness of the erector spinæ muscle of one side, it is not by ordering stays that we can cure the case, for they will only make the muscles weaker and more lazy. While good air, good food, frictions, and gymnastics, either voluntary or artificial, by the aid of the faradic current, will soon train the defaulting muscles up to the point of doing their duty.

So, for the same reason, instead of introducing pessaries into the pelvis of a woman, whose uterine

muscles are not doing their work, we would do much better, I think, to put these defaulting muscles through a course of electrical gymnastics, until they have learned to do their duty. Apostoli has charged me with the task of translating his last work, and until it appears, I cannot more than briefly hint at the manifold methods in which electricity, in its various forms and strengths, can be applied. In tedious labour, and in ante- or post-partum hemorrhage, it is more certain than ergot, much quicker to act, and under perfect control. In subinvolution of the uterus, after miscarriage or abnormal labor, it is an easy and sure means of getting perfect contraction, alike of the blood-vessels and the muscular tissue. In extra uterine fetation it is the only means of killing the fœtus. In hysteria, hystero-epilepsy, neuralgia and gastralgia one must see its effects properly applied, in order to realize what it can do. I feel sure that when electricity becomes better understood, spaying, now so fashionable, will become a lost art, and the death rate in gynecological practice will become nil, while the treatment will be more effective. Even dyspepsia, the bane of medical existence, Apostoli believes can be fought and triumphed over at the point of the electrodes (on the pneumogastric nerves in the neck,) as he believes that the disease depends on defective innervation of the digestive organs.

Making all due allowance for the natural enthusiasm of an inventor, I think that we will all before long admit that the advantages of Apostoli's method are real, and that the method itself has come to stay.

I spent several hours under the magic eye of Professor Charcot; but I fear my letter is already too long, so I will speak of him in my next, when I also intend to say something of Berlin. Till then,

I remain, your truly,

LAPHORN SMITH.

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## *Progress of Science.*

---

REST FOR PAINFUL EYES, IS THIS  
ADVICE ALWAYS GOOD?

By JULIAN J. CHISOLM, M.D.,  
Professor of Eye and Ear Diseases in the University of  
Maryland, Surgeon in Charge of the Presbyterian  
Eye and Ear Charity Hospital of Baltimore  
City, etc., etc.

When the eyes tire under much and long continued use, relief naturally comes with rest, and we voluntarily desist from work so that the

eyes may regain their normal condition of comfort ; and this they readily do. This eye-weariness, which comes on simultaneously with a tired feeling in the whole body, is not a painful condition. That it is a general discomfort which rest relieves is familiar to us all as individuals, and hence we are ever ready to acquiesce in the proposal to rest our painful eyes, when such advice comes from the physician to whom we have appealed for treatment. But is this advice always good ?

To answer correctly this very important question, eye troubles must be classified into two great divisions :

1. We have diseased states of the eyes, inflammatory in their nature, accompanied by pain with other evidences of congestion, and often associated with blurred vision.

2. This great division comprises faults in eye construction, defects in the focusing power, errors in refraction, unaccompanied by visible congestions, except on abusive use of the organ.

In one or the other of these two great classes most eye troubles can be placed.

When we see an eye that is red, watering, painful, and in many instances accompanied with blurred vision, whether this trouble be in one or in both eyes, we naturally and properly advise rest from eye work, while the inflammatory symptoms are being relieved by judicious medication. We even shut out the normal retinal stimulus, light, by smoked glasses or darkened rooms, and thereby add to the comfort of the patient.

All eyes, painful under use, are not necessarily inflamed ones. On the contrary, a very large number of the most annoying eye troubles are not dependent upon diseased conditions. The discomfort induced by the use of such eyes is occasioned by faults in the focusing power, necessitating over-use of the eye muscles, and subsequent pain in the eyes and head. Any disturbance of the system, which causes temporarily general muscular debility, will diminish the force of the eye muscles, and increase the tendency to head and eye pains. As these eye faults are most frequently congenital, starting with our very being, they often begin to show their injurious effects when young, growing, and not necessarily over-strong eyes, are taxed in the acquisition of knowledge, and when the advice to rest these painful eyes for months at a time is a serious interference with school life and with education. In this classification is brought a very large number of young persons, whose eyes are badly shaped, and hence pain in them on use.

A well shaped eye should be nearly a sphere. In such a round eye the inner or retinal coat will receive the focused image, sharply defined, of distant objects, without aid from muscles of accommodation. These important muscles, within such an eye-ball, are called into use when the eye is viewing near objects. Writing, reading and sewing, are properly called eye work, because they require the need of the accommodating eye mus-

cles. All other uses to which the eyes are put, except the viewing of near objects, means rest. This, of course, is not rest from retinal work, which is going on actively as long as our eyes are opened ; for, as a rule, the retina does not seem to tire. It means rest from intra-ocular muscular work. Such a round eye is called emmetropic, and is the type of a good one. This is the kind of eye that nature should always supply to the human race.

Unfortunately, from this standard deviations, detrimental to the comfortable use of the organs, are found in numbers. Many children are born with eyes flattened from before backwards, so that the retina is brought too near the lens, and therefore in front of its normal focus plane. This flat eye is called over-sighted or hyperopic. Such a flat eye, when at rest, does not see even a distant object sharply. It needs muscular work for all purposes, to enable it to focus light from far, as well as from near, objects. Such an eye is never at rest during waking hours. As nature abhors a vacuum, so badly shaped eyes may be said to abhor badly defined pictures on the retina. An effort is made involuntarily by the flat eye to sharpen outlines and perfect the focus. This is always a muscular effort. When required for distant vision, as is always the case with flat eyes, some of the muscular force of the eye is used up, leaving less for the accommodating power in viewing small near objects. If the eye be very flat, and the demand upon the muscular apparatus necessarily very great for even distant objects, then the moderate use of the eyes for reading soon exhausts the remaining muscular power. After reading for a short time, the natural relaxation of the over-worked and tired muscles changes the focus of the lens, blurs the image upon the retina, and causes the letters of a page to run together. A little rest enables the muscles to resume work, and the printed page to be again clearly seen, but a very few more minutes' use of the tired muscles again blurs the page. If the effort to read be persisted in, pain in the eyes and in the head ensues. If the muscular force be weakened by any acute disease, then the eyes give out the sooner. We experience this in children after measles, diphtheria, etc. Children who could study with comfort before the attack, find themselves unable to read for any length of time afterwards. Often months are required before the eye muscles again become strong.

An eye may be so very short in its antero-posterior diameter that all the intra-ocular muscular power is required for viewing distant objects, leaving none for near work. Children with such badly shaped eyes cannot study, because from deficiency in the focusing power of the crystalline lens they cannot distinguish the shape of the small letters. The nervous apparatus of such an eye is good. The retina and optic nerve are perfect, but the picture thrown upon this retinal screen is blurred, solely for want of accurate focusing power. Add to the lens power, and perfect vision for small

objects is at once obtained. The accidental use of their grand-mother's glasses to aid the crystalline lens to focus a sharply defined image is a marvellous revelation to such an eye, and shows just what it requires to make it a strong, useful organ, viz., a pair of properly adjusted magnifying spectacles. With such scientific aid the child is in condition to undertake hard study, and seeing clearly becomes easy. Because over-exertion of the eye-muscles is no longer required, when the child wears properly selected glasses, no more pain in eyes and head is experienced during study hours.

Although rest from near work will always bring about relief from the pain consequent to over muscular exertion, the advice so often given to parents by the family physician, to take hyperopic children from school, and let them rest their eyes from study, for months at a time, is bad, because it is founded on ignorance of the cause producing the trouble. At the end of six or twelve months, the eye is just as mis-shaped as it was before the rest was taken, and application for near work will surely bring the former painful discomfort. This is a matter of every day observation. Adjust proper glasses, correct the error of refraction, give the eye muscles less work to do by allowing the eye to do its work with spectacles on, and consequently without effort, is surely the rational course to be pursued. With the aid of magnifying glasses for all uses a flat eye will need no rest. To rest such eyes with the expectation that they will become strong is delusive, and is, therefore, bad advice.

Again, an eye may be mis-shaped from the round standard by being longer than it ought to be. An eye long in its antero-posterior diameter is more oval than round, and is called near-sighted, or myopic, because it only sees near objects clearly. The retina is so far from the lens in long eyes that a focus of light from distant objects is made before the retinal screen is reached. When the picture is finally thrown upon the nerve layer, it is ill-defined and consequently blurred. Distant objects for such eyes are always befogged, unless the strength of the crystalline lens is weakened, and its focus lengthened by the use of concave or near-sighted glasses. As flat eyes were always congenital, so long eyes may be found at birth. As a rule, however, eyes acquire this condition, and become mis-shaped by too much study in early school life. When an eye, previously good for seeing distant objects, changes shape and becomes nearsighted, the change indicates a yielding of the sclerotic or outer tough coat, which is the sustaining wall of the eye-ball. This is a weakening and diseased condition of the organ, which will eventually be a serious injury if it becomes excessive.

When progressive near-sightedness is found in school children, in order to check the rapid deterioration in this very valuable organ, rest from eye-work becomes a very important factor in the treatment. When the eye-ball is elongated, the

cornea retaining its regular outlines, concave spherical glasses correct the defect in the focusing power of the lens and make vision better; but this aid for distant vision does not make such young and still growing eyes strong or capable of standing abusive work.

There is still a very important class of mis-shaped eyes, also starting usually with the beginning of life. It is to call attention to the headaches and eye pains caused by many such eyes that this paper is written. In this large class of painful eyes the cause of trouble lies in irregularities of curvature of the surface of the cornea. The curvatures of the various meridians differ, as if the eye-ball had been flattened from its sides. In such eyes the mis-shaped cornea may be represented by the crystal of a watch, which has lost its true spherical form, from irregular pressure upon its edges when the substance of the glass was still soft. The curvatures of the short diameter, corresponding to the direction of pressure, must be greater than those of the longer ones, and this must necessarily vary the focus of light passing through these different convex surfaces. In some meridians light may pass through and focus correctly upon the retina; in other directions the focus of transmitted light will be made too rapidly or too tardily, in either case blurring the retinal image, and causing defective vision. Whether the cornea border be compressed vertically, horizontally, or obliquely it so changes the surfaces of the cornea for that direction, that however perfectly the other surfaces of the cornea may focus, the faulty curvature acts as if it were a distinct lens of different focal power, and it will cast shadows over the sharply defined picture made by the correct portions of the cornea. This error of refraction is called astigmatism, and may be found in long, short, or round eyes; hence we find simple or mixed, hyperopic or myopic astigmatism. Such irregular corneas are frequently met with.

In all such eyes an effort is made automatically to correct this fault by changing the shape of the crystalline lens to correspond with the irregularities in the cornea. Fortunately the lens in young persons is so soft and jelly-like, that very little action on the part of the eye muscles corrects the faulty lines of refraction, and a perfect focus is secured. For a time this succeeds well, and comfortable, clear vision is enjoyed, provided the application of the eyes for near work is not too long continued. But unfortunately the lens is hardening steadily with advancing age, and the muscular effort has to be continually increased till it becomes irksome and finally painful. The discomfort produced does not restrict itself to the eyes alone, but diffuses itself over the brow, forehead, and temples, causing headache more or less persistent. In some cases the pain invades the whole head, back of neck, and even spine. Those headaches can always be brought on by eye-use. To some very sensitive astigmatic patients eye-use refers to their whole waking life. They arise in the morning

with comfortable heads, but before they are dressed the headache has been started by the necessary toilet preparations, and it increases in severity with the advancing day. Sunrise and all-day headaches they are, with some of these very susceptible persons, whose eyes see differently for the different curvatures of their cornea.

Every object in nature will radiate light from every exposed surface, and the eye catches some of these rays. Where the cornea is regularly curved light from any and all directions is accurately focused on the retina, and while we see everything perfectly, we are not aware that we have eyes, so painlessly do they function. To the abnormally sensitive astigmatic eye, this varied direction of light beams transmitted through, and irregularly refracted by the varied curvatures of the cornea, necessitates nearly a choreic action of the ciliary muscles. From this perpetual changing of focus, now for one part of the cornea and then for another, fatigue of the muscles and pain in the eyes must soon be induced, even to the extent of making sunlight annoying.

This irregular shape of the cornea can be detected if the eye views a drawing similar to a clock dial, traversed by groups of black radiating lines of equal size and distinctness. By a well-formed eye these groups of lines are seen with equal sharpness of outline and of the same degree of blackness. By an astigmatic eye some of these groups of lines are brought out much more boldly than others. While some remain black others of these black lines may appear gray, and at times even red or blue; and instead of standing out boldly in the group they run together as if they were one solid line. The faulty lines are always at right angles to those most clearly seen. With the clock dial card, if the lines running from 12 to 6 o'clock are brightest those from 3 to 9 o'clock will be most blurred. If those from 10 to 4 are the most clearly defined, the blurred lines will be in the direction of 1 to 7 o'clock, and so on for any other series of lines. If a cylinder lens be selected, which will make the dull lines as bright as the clear ones, this peculiar eye-glass, when carefully set at the proper angle, will equalize vision, and will remove the discomfort which the use of the eyes had formerly produced.

The ordinary spectacles, worn by the masses, are called spherical lenses, being sections of a sphere or ball. Such are the glasses worn by near-sighted and by old persons. The peculiar glasses which correct irregularities of corneal refraction are called cylinder lenses, because they represent a slice of glass taken from the length of a round bar or cylinder. The spherical and cylinder glasses bear the same relation to each other as would an open umbrella to a wagon top. The cylinder lens has, as it were, a ridge pole over which the curvatures of the lens are made, while the spherical lens curves in all directions from a central point. In the use of cylinder glasses the ridge pole or plane surface is always set in the

direction corresponding to the clearest lines of the clock dial, and the curved surfaces of the lens are put necessarily in the direction of the blurred or discolored lines of the dial. Such cylinder glasses alone can give rest to the weary muscles in astigmatic eyes, for without them these irregularly curved eyes can not secure rest except during sleep.

A very useful law can be laid down for the guidance of physicians in the treatment of their eye complaining patients, viz., that headaches which come on with the use of the eyes, and which disappear during the rest which a night's sleep brings to the weary eyes, do not usually depend upon gastric, hepatic, cerebral, or uterine troubles, as is so commonly believed.

When school girls from 12 to 18 years of age complain of eyes and head aching, after hours of close application, and are not annoyed in this way during vacations or times of eye rest, inquiry is yet made by the family physician concerning the menstrual functions. Any tardiness in the appearance of this discharge, or any deviation in its amount of frequency from what the physician has established in his own mind as the normal, is deemed too often a sufficient and satisfactory explanation for all the head and eye discomforts. According to their theory when the monthly discharge becomes regular, the head and eye troubles will disappear; but permanent relief does not come as was expected. When young men complain of these identical symptoms of eye pains and headache after hours of study, I sometimes wonder why, from professional habit, their menstrual functions should not be also inquired about, for the same explanation might as truthfully be accepted for them.

In this connection I will also say that these eye-headaches, disappearing after sleep, have their origin neither in malaria nor in a bilious derangement, notwithstanding the fact that these terms are used every day in connection with them by patients and physicians. Neither quinine, calomel, morphine nor pessaries will prevent this kind of eye headache, although building up the system in feeble persons will help the eye muscles and relieve them. The careful adjustment of proper glasses, by correcting the painful muscular effort, alone will cure them. Rest is a very frequent prescription with physicians for such painful eyes. It will quiet temporarily the pain, but what permanent good can it possibly secure? When upon the use of the eyes the head aches, and when painless heads are made painful by reading, with very few exceptions, it is the abnormal curvature of the cornea which causes the eye and head pains. How can rest bring about a correction in these faulty curvatures? Might as well expect rest from walking to make a shortened leg grow to the length of the other, as to expect a shorter curve in one direction of the cornea to grow out in the dimensions of the other longer meridians by resting the eyes from reading or sewing. We can readily see

the absurdity in the leg suggestion, and yet many physicians do not see that the expectations from the eye rest is equally preposterous.

How many thousands in this country to-day are impatiently and uselessly resting eyes that pain when put to near work, when a pair of properly adjusted spectacles will correct the evil?

Nearly every day I restore some restless patient to his work, who had sought in vain relief from eye pains in rest; or I assist some ambitious person, who having acquired an enviable start in life, feels that his painful eyes have become barriers to further study and prospective promotion. Daily by the use of properly selected glasses I cure headaches of years' duration, and which have resisted every species of medication. In so doing I have often been able to satisfy anxious patients that their brains, stomachs, livers, kidneys, or uteri have been accused wrongfully of producing the headaches, and that these have ever been innocent and healthy organs. The following remarks I have frequently heard from patients to whom I had recently prescribed astigmatic glasses. "For one week, ever since I put on the spectacles, I have been free from headache, and it is a freedom that I have not had before for years.

Although most a stigmatic eyes cause headache and eye pains, if the eyes are much used in fine work, especially by artificial light, I find cases of faulty refraction from astigmatism in which headache is not and has never been an annoying symptom.

In some astigmatic persons a strong muscular development enables them to conceal the corneal irregularity. Should any disturbance of the system temporarily weaken this muscular power, the eye muscles, along with the other muscles of the body, are weakened and unable to keep up their work, then are pains induced. If it be a bilious or gastric disturbance, its temporary influence over the muscles is mistaken for the actual cause of the headache, when it is only the indirect cause, permitting the latent trouble to become manifest. If the astigmatism did not exist in a concealed form, there would be no headache on use of the eyes during these general disturbances.

Again in nervous persons, especially in females, I have found great suffering about the head and eyes, clearly traceable to a small degree of irregular refraction, and promptly corrected by the constant use of carefully adjusted cylinder lenses.

The report of a case with which I will close this paper is one of unusual severity in effects, although a high degree of astigmatism did not exist. Such extreme discomfort as this lady suffered is fortunately not often found. The case is also peculiar from the length of time that she suffered before her eyes were suspected of being the source of the trouble. In this age of diffusion of medical knowledge, by means of many medical journals, physicians are on the alert to distinguish eye headaches from the headaches caused by other organic disturbances, and usually at an

early day invoke the aid of the specialist in eye diseases to remedy the evil. In her own case, several years elapsed in testing newspaper remedies for headache, having lost faith in physicians from her earlier medical experiences. The case, however, will illustrate the efficacy of proper glasses in relieving even years of suffering.

Mrs. F., aged 38, the mother of several children, has been a martyr to headaches since childhood and during the past 13 years, since her married life, has been often nearly crazy from them. Any close eye work, continued for even a short time, would send her to bed with a raging headache. On an average, she has spent one day out of every week in a dark room, and that has been kept up for months at a time. If she felt bright and applied herself to complete any piece of needle work, so necessary with a growing family, she never failed to pay the penalty in severe head and eye suffering. When she came first to my office, she frankly told me that she had come because she had been advised, not that she expected any benefit, for she had no faith in any curative agent whatever, having years since exhausted them all without finding any relief. She gave me this very clear history of her case. "Dr. A. has always been my family physician, and in him I have every confidence. Having in my early married life exhausted his skill in vain attempts at relieving me of my suffering, he gave up treating me for these headaches many years ago. Under his advice I had consulted Prof. B, you know him to be one of our leading practitioners. He acknowledged that I had a good family doctor, but thought that something might have been overlooked, and that he hoped to find me a remedy. He varied his medicines, as one after another failed to procure me relief, and finally he advised a visit to the seashore. I spent six weeks at Cape May, and while there rested my eyes from all work, eschewing both reading and sewing. I returned home with body invigorated by the salt baths, and was free from pain. As soon as I commenced using my eyes in sewing, all the old distressing symptoms returned. My family physician and friend, seeing me in some of these terrible attacks, advised me to consult another physician, Prof. C, who you know has the reputation of being a very skilful physician. He had me under his professional care all winter and spring. Summer found me no better. Any use of the eyes in sewing or reading sent me to bed with twenty-four hours of suffering before me. He finally advised a course of mineral waters, and sent me to the White Sulphur Springs of Virginia. There I spent two months, which improved me much in health. In the fall I returned to Baltimore looking and feeling well. A very few days of housekeeping showed me that the long rest at the springs and the drinking of sulphur waters had brought me to no permanent good. My head at times ached as badly as ever.

"I now despaired of ever getting relief, because

I had sought the best medical advice at my command, and all to no purpose. Some of my friends, in their anxiety to see me cured of the daily suffering, advised me to try homeopathy. I accepted the suggestion and sent for Dr. D. He examined carefully into my case, and said that he could cure me. With these assurances from the new physician, my feeling barometer at once went up and my future prospects brightened. I entered actively into the course of medication mapped out by him. I took his mixtures hour by hour, for days and weeks, my faith growing unfortunately less and less with the monotony of the dosing. Finally as my headaches were not mitigated even by the long continued treatment, I gave up all hope, and dismissed the homeopathic physician.

"I felt that my case was now beyond medical cure, and I became despondent and rash. In my anxiety to secure relief I have tried anything that anyone would suggest. I believe that during the last six years I have taken every quack remedy warranted to cure headaches that I could hear of, as published in the newspapers, and my many friends have kept me well supplied with this kind of information. Recently I have heard how Miss E—— has been cured of constant headaches by wearing eye glasses, and my friends have suggested that I have my eye examined. On the principle that in my desire to escape this bodily torment, I have been willing to try every treatment that has been brought to my notice, I have come to have you examine my painful eyes, but I must tell you candidly that I expect no benefit, and have given up all hope of obtaining relief."

Upon examination I found that she could read the finest print, but only for a few lines. Her distant vision was also acute. Fixing the eyes upon the clock dial trial card for a short time caused pain in the head and eyes, and also induced a feeling of nausea. I found that she could clearly see the vertical lines of the test card, but only dimly those which were horizontally placed. I selected from the trial case a magnifying lens which would make these blurred lines perfectly clear, for each eye, and finding the corresponding cylinders adjusted them at the proper angle in a trial frame. These I placed before her eyes. To her surprise not only did all the lines come out with equal boldness of color and of definition, but she found herself able to stare at them without inconvenience. After she had worn the glasses for some minutes, feeling great comfort from them, I removed the frames, when immediately the nausea previously experienced came on. The restoration of the glasses brought back strength of vision and comfort. I prescribed for her the proper cylinder lenses set at an angle of  $180^{\circ}$ , in spectacle frames to be constantly worn. So anxious was she to test these spectacles that on her way home from my office she called at the optician's, and remained in the store while the glasses were being fitted to the frames which she had selected. When they were ready, she put them on at once, and sallied

forth. Before getting home she found herself walking with a degree of comfort which she had not known for months.

The rapid improvement commenced from that hour. Her headache disappeared within three weeks, by the rest which her eyes enjoyed from the constant wearing of the spectacles. Now she makes her eyes do just what she pleases. Her constant headaches are by-gones, and are only remembered from the years of torture through which she had passed. Her face had become bright and free from care, as her head is free from pains. Her relief by such apparently simple means, and without medicines, is called a miracle by herself and a marvel to her friends. No amount of rest without these cylinder glasses could have effected this cure from suffering. It had been thoroughly tested, and had been found as useless as the many prescriptions with which during many years her body had been drugged. Cylinder glasses alone could and they have cured her.

## NEURASTHENIA.\*

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The term "neurasthenia" was first introduced by the late Dr. G. Beard, of New York, to denote a peculiar functional disease of the nervous system. One of the principal reasons he assigns for the neglect of this nervous disorder by previous observers is the great difficulty of analysis and classification of its symptoms. Neurasthenia, he maintains, is exceedingly common in the United States, owing to the widespread influences that favor its development. Perhaps the frequency of its occurrence in this country is only apparent, for, as he remarks, Americans seek medical aid for the relief of ailments which, as a general rule, cause less anxiety to European people. Dr. Beard's first publications on this subject encountered much adverse criticism at home. Nervousness, or rather nervous weakness, it was said, had always been recognized as a morbid condition, giving rise to a host of symptoms, clinically distinguished by designations in accordance with their supposed dependence on special disturbing causes. Every one is familiar with the phrases such as cerebral anæmia, spinal irritation, the neuropathic diathesis, irritable weakness, oxaluria, etc., etc. Bouchut's nervousism not only included all the said designations, but embraced every possible functional disease of the nervous system. The Griffith brothers had before him indulged in analogous exaggeration of the pathological importance of the

\*Read before the Baltimore Academy of Medicine, January 18, 1887.

so-called spinal irritation. Dr. Beard has fallen into a similar error in claiming for neurasthenia a multiplicity and variety of symptoms, which would hardly justify the attempt to set up any other species of functional nervous disease. But the merit can not be denied to him that he opened a new line of investigation fertile of practical results. Every busy practitioner will admit that he frequently meets with obscure and anomalous symptoms, which he finds difficult to refer to any individual disease with which he is conversant. If the patient be a female, and the morbid phenomena point to disturbance of sensory or motor functions, independent of any tangible affection, he is very likely to suspect hysteria. Supposing the patient is of the male sex, he will probably be tempted to seek for the cause in some disorder of the nervous system. It is curious to notice in this connection the colloquial change the word nervous has undergone. Originally it implied a vigorous quality, and we still speak of the nervous style of a writer. We now signalize a person as nervous when he is easily agitated or morbidly impressible. Experience did not fail to teach what physiology leads to expect, that numerous and diversified disorders of the nervous system are traceable to the debilitation influences of physical over-exertion and mental strain. The word nervousness is at any rate an unscientific expression. Dr. Beard deserves, therefore, much credit for having drawn attention to the great prevalence of nervous exhaustion and the many disguises it may assume.

Neurasthenia belongs to a group of neurotic diseases, having in common with all of them transmissibility and a tendency to appear under different forms, not only in different individuals, but in the members of the same family.

A recent German writer\* indulges in some curious speculation concerning the important role which neurasthenia has played in shaping the destinies of races and nations. He says, "when historians speak of the degeneracy and effeminacy of celebrated people of the past, they only express in other terms the physical and mental deterioration of those people. That the nervous system received the chief brunt of the injurious influences which brought about such a change, may be inferred from its physiology. Thus the decadence of the Roman power dated from the introduction of luxurious habits and profligate manners. These causes undoubtedly tend to undermine the vigor of physical and mental health. Dr. Beard in the same strain warns his countrymen to take care of the nervous system. But be this as it may, when we come nearer our own time, we see many influences at work bearing heavily on the integrity of the nervous apparatus. There is the mental strain which the hot race for wealth and distinction imposes; the unremitting toil to secure a competency; the anxiety and worry of those engaged in public life; the painful efforts to keep up appearances; the

vicissitudes of fortune; the heart-burnings, the disappointments, and the numerous penalties we pay for our high-pressure civilization.

If neurasthenia, as Dr. Beard will have it, has picked out our country for its special visitations, it can only be that the etiological factors of this malady are more intensified among us than anywhere else. He refers to Russia, where in contrast with the United States, France, England and Germany the occurrence of neurasthenia is generally believed to be almost unknown. The Russian novelist Turgeyew does not share in this opinion. Many of his life-pictures of the different strata of Russian society give evidences of physical deterioration and premature mental decay.

As neurasthenia sometimes rapidly develops, it must be assumed that such an occurrence depends on an exciting cause that suddenly overwhelms the nervous system. In general, however, the disorder comes on slowly, and is probably the final result of a combination of causes, that act as a drain upon the nerve force. This characterization of the pathology of neurasthenia serves to explain the absence of a destructive lesion, the multiplicity and purely subjective nature of its symptoms. Taking for granted that nervous exhaustion is the essential condition underlying the clinical manifestations of neurasthenia, it must necessarily happen that the energy of all the bodily functions subject to nervous influence will be lowered. Such a state of the general system labors under the disadvantage of losing its various powers, and in consequence that morbid excitability becomes established, which goes by the name of irritable weakness.

An enfeebled, nervous apparatus is also incapable of offering adequate resistance to morbid causes that would otherwise exert but little influence, hence, the numerous ill-defined ailments of which neurasthenic patients constantly complain. Moreover, as the neurasthenic diathesis occurs in every conceivable grade of intensity, it is easy to understand why many of its symptoms are not considered outside the limits of health. Finally, it must not be forgotten, that the insufficient control exercised by the higher nerve centres leads to perversions and aberrations what constitute the most singular phenomena of neurasthenia.

It is usual to make the division of cerebral and spinal neurasthenia. As observed in actual practice, the symptoms of both forms of the disorder are frequently blended.

Among the cerebral symptoms of neurasthenia, none is more conspicuous and constant than headache. Many instances of so-called sick-headache are of a neurasthenic origin. Of greater significance is a peculiar distressing sensation of the head, which patients compare to the feeling experienced when some heavy body is pressed on the vertex. A young artist consulted me some time ago for the relief of just such a symptom which he described to resemble the sensation as if his head were held in a vice. He had abandoned his profession on account of this complaint,

\* Die Neurasthenia, by Prof. Rudolph Arndt.

which although it did not amount to actual pain was nevertheless of an unbearable nature.\* The scalp in neurasthenia is exceedingly sensitive to the touch so that the use of the comb and brush causes pain. Disorders of the special senses are very common, consisting of flickering before the eyes, *muscæ volutantes*, asthenopia, noises in the ears, a perverted smell, and a sour pasty taste in the mouth. Sleep is much disturbed by terrifying dreams. Many patients declare they pass vigilant nights for weeks.

The psychical symptoms of neurasthenia usually partake of a depressing character. Sometimes they amount to utter despondency or melancholia. More frequently the mental irritability shows itself in curt answers, in exhibitions of a morose and peevish temper, and not seldom in a disagreeable selfishness. Probably the desire of subduing or chasing away the moods and vapors, of which the patients themselves are conscious, is one of the causes that frequently leads them to resort to alcoholic stimulants and narcotics. When such patients fall into the habit of reflecting much on their unpleasant feelings they are sure to become confirmed hypochondriacs.

Morbid fears constitute another set of symptoms, which occasionally plague the neurasthenic. Agoraphobia, or the fear of open places is most frequently observed; claustrophobia or the fear of narrow places; anthropophobia, or the fear of meeting crowds of people; mysophobia, or the fear of contamination, come less frequently under notice. A variety of these morbid fears I have observed in one of my patients, which I have not yet seen mentioned. A middle aged gentleman, who had been unfortunate in stock speculations, and had suffered for many years from bleeding piles, kept himself in a constant state of misery from self reproach because he blamed the death of one of his friends to catching cold, which might have been prevented if he had not kept his friend standing for a considerable time in a cold draught of air during an interview. When my neurasthenic patient takes a walk, he constantly looks out for some substances on the pavement that may possibly cause people to slip, and fall. Should he find the end of a nail sticking out in the buildings he passes, he immediately sets about to knock it in. He stops to adjust a loose brick in the sidewalk, and he has been known to give notice to owners of lumber yards to remove a piece of timber that happens to project from the pile. A very strange neurasthenic symptom among patients of education and culture is the brooding over the insolvable problems of the universe, or some puzzling metaphysical question. Such unbidden thoughts incessantly harrass them, however much they may

try to banish them from their minds. But the saddest of all the psychical manifestations of the disorder is the tendency to drift into some debasing vice. The low appetites and propensities appear to gain the mastery over the diminished resistance of the moral power.

An enormous array of symptoms is attributed to the spinal form of anaesthesia. This is due to the extent and variety of functional disturbances resulting from an unstable and irritable condition of the spinal nerve centres. There are few neurasthenic patients who do not suffer from excentric neuralgic pains and muscular weakness of the lower extremities. Real paralysis does not occur, but there is a constant feeling of fatigue and a desire for rest. Patients feel weary and exhausted after ordinary exertions. Lumbar or sacral pain seems to be never absent. The general sensibility is heightened. Slight pressure of superficial nerves causes tingling; the contact of gold substances produces pain. There is a sensation of burning in the palms of the hands and soles of the feet. Neurasthenic females complain that their shoes press too tightly, and their dresses make them feel uncomfortable, all of which is provoking to trades-people, who despair to please such customers. The reflex excitability is augmented. Micturition and defecation may in consequence be attended with much discomfort. Muscular hyperaesthesia causes twitching of muscles, and painful movement of the joints. Paræsthetic symptoms are felt everywhere, consisting of numbness and the sensations of pricking and formication. Vasomotor disturbances bring on fitful flushings of the face and partial sweatings. I remember the case of a young shop-girl, who had broken down in health, and became the victim of a large number of neurasthenic symptoms. She had frequent attacks of palpitation of the heart, and constricting pain about the chest. These attacks were ushered in by extreme reddening of the right ear and neighboring part of the cheek. The same side of the face broke out afterwards in a profuse perspiration. The respiratory symptoms are sometimes of an alarming character, consisting of embarrassed breathing and a choking sensation, attended by a tumultuous action of the heart. The gastric disturbance witnessed in neurasthenia constitutes the so-called "nervous dyspepsia," which is common in overworked clerks and seamstresses, and no less also among people in different walks of life, that impose varied hardships and the deprivation of the required rest and sleep. Such a dyspepsia baffles the usual remedies, unless a change of habits and pursuits be adopted.

It is hardly necessary to mention that the diagnosis of neurasthenia should not be lightly made. Chronic and progressive diseases, in their early stages, often give no other intimation of their existence than the evidence of a declining state of the general health. The nervous depression, which is then sure to ensue, is liable to lend a neurotic feature to the ill-defined symptoms, depending on

\* Dr. F. Runge published in the *Archiv. fur Psychiatrie*, (vi B.) a series of cases under the caption of *Kopfdruck* (head pressure) which presents in many particulars the clinical features of neurasthenia. In nearly half of the cases the etiology embraced conditions and circumstances which are known to induce nervous exhaustion.

the undeveloped disease, and the more so, if the patient is constitutionally predisposed to nervous affections. On the other side there is a risk to mistake neurasthenic symptoms for serious organic trouble. The experienced physician will find no great difficulty to distinguish neurasthenia from allied nervous disorders, though it must be confessed that the pictures presented by this class of maladies are so frequently confusing by their variegated coloring, or so frequently change into dissolving views, that their distinction often turns upon the choice of a phrase.

There is a great scope for the display of tact and judgment in the treatment of neurasthenia. The number and complexity of its symptoms, their fluctuation and proneness to relapses after encouraging improvements, heavily tax the therapeutical resources of the attending physician. He would do well to take the patient into his confidence, should there exist the least reason to believe that preventable etiological factors are at work, which on being abandoned or removed will materially assist the treatment. The patient may either require absolute rest and quiet, or to be benefitted by exercise that does not fatigue. The recuperative influence of mountain air or a visit to the sea shore may, under circumstances, be indispensable. Dr. Beard says he has seldom found general anæmia associated with neurasthenia. My experience induces me to differ from him. A judicious course of tonic remedies is often of great value in long standing cases. For the restoration of the muscular vigor, as Dr. Beard has indicated nothing can surpass the refreshing effects of general faradization. After a number of trials with various remedies, which stand in repute for the relief of nervous headache, I give now the preference in the neurasthenic variety to a combination of ether and the tincture of cannabis indica, in doses of twenty drops of the former and ten of the latter. Sometimes these remedies act better after a good night's rest has been obtained from a full dose of chloral hydrate. Great caution is necessary in the administration of opium, or any of its alkaloids, for fear of inducing a disastrous habit, to which neurasthenic patients are particularly inclined. The practice of giving now large and repeated doses of the bromides is open to much less objection. In regard to arsenic, phosphorus and the salts of copper and zinc, which are empirically ordered in neurotic affections, I cannot say anything of a positive character concerning their employment in the treatment of neurasthenia.—*Maryland Medical Journal.*

#### HOW "BRIGHT'S DISEASE" COMES ABOUT.

By J. MILNER FOTHERGILL, M. D., LONDON.

Physician to the City of London Hospital for Diseases of the Chest (Victoria Park); Hon. M.D., Rush, Ill.; Foreign Associate Fellow of the College of Physicians of Philadelphia.

When the late Dr. Richard Bright, F. R. S.,

stood with a tablespoonful of urine in the flame of a candle, watching the albuminous cloud forming, he little surmised what a new pathological continent was thus being brought to our knowledge. He observed dropsy, and found the urine albuminous, and diagnosed disease of the kidneys. It was a shrewd inference.

His original cases are of high interest, and his colored plates could not but attract attention. On studying them, they give one the impression that the cases were instances of the subjects of chronic Bright's disease, who had got acute renal trouble, superimposed upon old standing mischief. In such cases the albuminuria would be pronounced. Further researches taught Dr. Bright something of the relations of the kidney trouble to the enlarged heart found in the subjects of vaso-renal change.

Since then, the matter has progressed in two totally opposite directions. It has undergone a process of evolution and a certain involution. The facility which the test-tube offers for testing the urine has been a temptation which many minds have been unable to resist. Taught at the hospital to watch the reaction of the urine under heat and nitric acid (or any other re-agent the teacher chose to employ) in cases of actual renal disease, and with the importance of such testing thoroughly drilled into him, in order to make a good appearance before his examiners, many a student has entered practice with the firm conviction that albuminuria was pathognomonic of renal disease. The consequences were that many a person was made unnecessarily miserable, including medical men themselves, when, by some accident, they discovered albumen in their urine. Too exclusive reliance upon one phenomenon in complex cases is apt every now and again to be an *ignus fatuus*.

No man who is worthy of his profession would make the discovery that a certain patient's urine contained albumen, without at once giving the case his best consideration. But to leap at once bound to the conclusion that the condition was necessarily due to disease in the kidney, is a feat in saltation of a rash and dangerous character. Albeit it is often accomplished, thoughtlessly, recklessly, wantonly, from a combination of haste and ignorance; and possibly at times from a constitutional timidity, tending only to see the dark side of everything.

This may seem putting it strongly. But is it stronger than the facts warrant? Richard Bright observed the dropsy first, and then tested the urine. He did not test the urine, and then forget the dropsical factor, as has been done since his day over and over again. Such, then, is the involution, which has gone on in the matter of the diagnosis of Bright's disease.

On the other hand, great progress has been made by an innumerable band of workers in the new land opened up to us by Bright. He stood on the threshold, and from thence a host has advanced,

which has ever gathered force. Sir Robert Christison, M. Solon, Traube, were observers who led the van. The associations of a large left ventricle and a loud aortic second sound with chronic kidney disease, were generally recognized. Then came a notable discussion between Prof. George Johnson on the one part, and Sir William Gull and Dr. Gawen Sutton on the other part; and, as nothing has such an attraction for the Anglo-Saxon mind as a fight, the attention of the profession was attracted towards the condition of, and the changes in, the arterioles. The consequences of this again led to the utilization of the sphygmograph, and to the establishment of the fact that the arterial blood pressure is raised in the condition known as chronic Bright's disease. From such sphygmographic evidence the late Dr. Mahomed proceeded to make the diagnosis of the chronic vaso-renal change in the absence of albuminuria. He considered it possible to establish a valid diagnosis in cases where there was no albumen in the urine. His position was a widely different one from that which makes albuminuria and interstitial nephritis equivalent and convertible terms.

We now possess a comparatively wide grasp of the widespread change in heart, artery, and kidney, which so commonly ends in dropsy, but which has a large variety of final endings. We know that cases differ widely. In one, the condition of the kidneys may be the most prominent matter; while in others, the kidneys lie latent, and the interest centres round the heart. In another case, articular gout may mask all else to the superficial observer. Yet each may be a true case of vaso-renal change, presenting, however, different aspects of that change.

What starts the widespread change which is really an abbreviation of the changes which occur as advanced life passes into old age? It was due, so Prof. Hayles Walshe declared in 1849, to the condition of the blood circulating through the kidneys. Prof. George Johnson held: "Renal degeneration is a consequence of the long-continued elimination of products of faulty digestion through the kidneys;" and emphasized the view by employing italics. Then Dr. Garrod, the authority on gout, held gout to be due to "a loss of power (temporary or permanent) in the uric acid excreting function of the kidneys;" and "that gouty inflammation is often set up in the interior structure of the kidney, accompanied with deposits, not merely within the tubuli uriniferi, but in the fibrous structure itself."

It is useless, or rather needless, to make further quotations from authorities. The view now held is that the presence of uric acid and urates in excess in the blood circulating through the kidneys acts as an irritant, and (faster or slower, sooner or later) excites in them a growth of connective tissue, which destroys the other and higher structures, ultimately crippling the organs till they become inadequate to carry on their function

as depurators of the blood. (Possibly other products of albumen metamorphosis may play a part.) Kidneys constructed to cast out a fluid urine containing the highly soluble urica are irritated and injured by the output of the comparatively insoluble uric acid. Interstitial nephritis is, then, one outcome of the reversion of the liver to the early uric acid formation of the bird and reptile. We have got another link further back in the chain of morbid sequences.

The next consideration is, what causes the liver of the bimana to so revert to the earlier formation?

We are all familiar with the results of high living in the production of gout. We all know that the poison of gout is uric acid. The reversion of the liver to the uric acid formation with the morbid outcomes thereof is well known to the most of us as "rich man's gout." That the cirrhotic or granular or gouty kidney is common with gout is evinced by the term "gouty" being applied to the contracted kidney.

But how do we account for the phenomenon known as "poor man's gout," the undoubted gout connected with the articulations, which is found in persons of spare habit and most moderate gastronomic performances, especially as regards animal food? Up to recently this malady has been a recognized crux; but the view of lithiasis being a reversion to the primitive uric acid formation brought "poor man's gout" into the daylight. Dr. Budd talked of an "insufficient" liver as regards a liver crippled by disease in it. A view indorsed by Dr. Murchison, the well-known authority on the liver, who goes on: "In others the liver seems only just capable of performing its functions under the most favorable conditions, and it at once breaks down under adverse circumstances of diet, habits, or climate. This innate weakness of the liver is often inherited." The congenital or inherited insufficient liver reveals its "innate weakness" upon slight provocation. But whether it is a primarily competent liver breaking down under the burden imposed upon it by the palate, or the congenitally insufficient liver, which is unequal to its functions, the result is the same, viz., reversion to the primitive uric acid formation. Rich man's gout and poor man's gout alike, then, depend upon the existence of an excess of uric acid in the blood, no matter how brought about. It is there.

The reversion of the liver has two distinct sets of casual relations. The first, or "rich man's gout," is too well known to need further reference to it.

But to the other, the reversion of the liver from injury done to it, or "innate weakness," is a matter worthy of our most attentive thought. The influence of the mind upon the liver was recognized by the ancients as regards jaundice, and in Germany, at the present day, this causal relation of jaundice is generally recognized. The effect of the mind upon secreting glands is seen in tears; and in the salivary glands by the Hindoo

practice of detecting a thief in a household by placing some rice in the mouth of all. The thief's mouth alone is dry, while the mouths of all the rest are moist. It is not in jaundice merely that mental causes of hepatic disturbance are seen. Plenty of people know that mental excitement and still more perturbation upset their livers. They cannot afford to be angry. Worry and grief produce emaciation, even if food be taken. *Icterus ex motu animi* is readily seen from the altered hue of the skin. The other hepatic disturbances are not so obvious to the eye. Still the wan, worn, wasted expression of those who have undergone long and severe mental worry or distress is readily recognized by even ordinary observers. The late Dr. W. B. Carpenter pointed out how melancholy and jealousy had a malign influence upon the liver. Dr. Clifford Albut has told of "the mental causes of Bright's disease." While Dr. Charles Creighton, in speaking of the relation of the mind to the glands, says: "The lachrymal and salivary glands afford, perhaps, the most striking examples. But the wave of emotional disturbance spreads widely over the viscera, and certainly does not exempt the liver, although the action of the feelings upon the liver is, perhaps, less familiar to us than the reaction of the liver upon the feelings and temper." As to the writer, he recently contributed a series of articles to "health," entitled "Mind and Liver," which have since been published in collected form by Lea Brothers of Philadelphia. And the same opinions are held by a great many who have not, however, published them.

The hard, keen brain-toiler is liable to derange his viscera, and his liver reverts to the uric acid formation as years roll on. Not only that, but he begets children with congenitally insufficient livers, the *innate weakness of Murchison*. In some cases urates are seen in childhood, and vesical calculus is not infrequent in babies. More commonly, however, it begins to show itself after puberty. A lady of this type will present the following characteristics and symptoms: She is a bright, sensitive, high-spirited and usually high-scooled, unselfish creature; light in the bone, commonly petite, muscles not large, but firm, and when she shakes hands her grip is that of decision, as are the tones of her voice; her features are regular and mobile, often small; her susceptibilities are keen, and so are her special senses. She is capable of great devotion, and in her earnestness is usually self-forgetful; she is emotional, but not demonstrative, and is a distinct neurotic. As to her complaint, she has indigestion accompanied by acidity and flatulence, often alternating; commonly some constipation; she is liable to attacks of hemicrania, or migraine, or "face-ache," as she calls it, usually unilateral and on the right side, accompanied by sparks or "dazzles," often ending in vomiting; and these migrainous attacks are accompanied by great vesical irritability, and constant call to make water; she has fits of palpitation, and at other times failure of the heart's action, differing from syncope in that

there is no loss of consciousness, and she feels unutterable sensations, of which the expression of the eye mutely tells. She constantly has sediments in her water, though a small eater, and especially avoiding animal food. She has an insufficient liver which Dame Nature protects by a small fastidious appetite, and a dainty palate, despite which it reverts to the uric acid formation. She is a typical instance of the adage, "The sword will wear out the scabbard." She has no mercy upon her body, and her complaint is that it is very hard that she cannot do as others do. If she goes to the theatre or concert, she so thoroughly enjoys it all that probably she is in bed next day with migraine. Her old nurse speaks of her as "all up and down." Either volatile and gay, or irritable and depressed. Somatically these neurotics of the Arab type are the grey-hounds of the human race. Light, active, and nimble; but psychically greatly superior to these canine representatives.

She is to be found everywhere, but most markedly in towns. She is a charming patient; but rarely yields flattering results of treatment. She is acute and capable of taking care of any one but herself. She is in my experience commonly an American lady; and in most instances tells of the energetic, long-sustained, and usually successful efforts of her father. "The fathers have eaten sour grapes, and the children's teeth are set on edge." Her father carried on severe mental toil at the expense of his viscera; his daughter comes into the world framed on his pattern. In both we find reversion to the uric acid formation, and, of course, with that the whole consequences thereof.

And one of the direct outcomes of uric acid in excess in the blood is interstitial nephritis, commonly termed "Chronic Bright's Disease."—*Phil. Medical Register*.

## DIET IN THE TREATMENT OF EPILEPSY.

BY A. E. BRIDGES, LONDON, B. A. AND B. SC. OF PARIS, M. D., EDIN.

Epilepsy, like hydrophobia, a disorder of the nervous system without pathognomonic microscopic lesion, has for many years possessed a fascination for the scientific pathologist, who, according to his individual experience, and irrespective of that of his brethren, has sought to classify the disease, bestowing on each class a formidable scientific name.

Ignoring such classifications, I shall, for the purposes of chemical observation, and more especially for that of treatment, divide epilepsy into the following four great classes:

- 1st. Simple epilepsy—rare in women.
- 2d. Mixed epilepsy (hystero-epilepsy)—rare in men.
- 3d. Epileptiform seizures—result, of course from brain lesion, injury to head, tumor of cerebrum, etc.

4th. Reflex epilepsy—common in children, less frequent in women, rare in men.

My observations, as regards the effect of diet in epilepsy, will refer almost exclusively to class 1, the most hopeless, and, therefore, from a medical standpoint, the most interesting form of the disease. They will, however, apply in a sense, restricted according to the peculiarities of each case, to the other classes which I have enumerated.

The frequent occurrence of the convulsive seizures which occur in the course of epilepsy is due, there is every reason to suppose, to an explosion of what we are compelled to call, for want of a better term, nerve force.

Now, we know that of the four main elements of which the human body is composed, carbon, hydrogen, oxygen and phosphorus, nitrogen is the one which has the fewest and weakest chemical affinities, and we also know that exactly, by reason of this chemical peculiarity, nitrogen is a necessary element in all the most powerful explosives. We have, therefore, just reason to conclude that it plays a very important part in those nerve explosions of which we have spoken. It is then quite as reasonable to limit in epilepsy the amount of nitrogen supplied by the medium of our food stuffs as it is to limit the supply of articles containing sugar and starch in diabetes mellitus. Not only, however, may we limit the actual amount of nitrogen taken, but we may give it in that form in which it is apparently digested and broken up in the easiest manner. It is a fairly well-attested scientific fact, and one that accords with personal experience, that the nitrogenous compounds which we use as foods, and which are supplied from the vegetable kingdom, are more easily broken up and assimilated by the economy than those derived from the animal kingdom. The reason of this difference is one not very easily explained. The best explanation, perhaps, that can be offered is that in regard to the digestibility of foods in general, it may be said that the more concentrated a food is the more difficult is it of assimilation. Eggs and cheese, two substances exceptionally rich in nitrogen, are familiar proofs of this. The same, to a lesser extent, may be said of meat. I am well aware that peas and beans contain a larger percentage of nitrogen than meat; but, on the other hand, those substances are mixed with a far larger proportion of carbon, and, furthermore, as compared with meat, do not enter nearly so largely into ordinary vegetarian diet as does the latter in the *ménu* of a mixed feeder—furthermore, more water is used in their cooking, and is absorbed by them and eaten with them than is the case with meat, and they are, therefore, contrary to what we might expect at first sight, really more dilute foods than are the various fleshy articles of diet. The same applies, but with greater force, to the cereals.

My argument may, however, seem to tell against myself, for it might be said: well, since animal albuminoids are less digestible than vegetable ones, it follows that less of the first will be taken

up, with the result of a decreased supply of nitrogen to the body at large. This conclusion, however, is incorrect. The result of the deficient digestion of any albuminoid is, partly at least, that imperfectly prepared peptones are liable to be absorbed into the system, and it is mainly with the further conversion of these that the liver has trouble.

I appeal from theory to practice. Take a case of feeble digestion, due to general atony, and not to any special digestive derangement, and give to that individual a meal of meat and bread, and he will very shortly afterwards develop the well known symptoms of atonic dyspepsia. Give to the same man a dish of Revalenta, of crushed-wheat meal, or of oatmeal porridge with bread, and let such meal contain exactly the same amount of nitrogen as in the one composed mainly of meat, and he will, as a rule, suffer little, if at all. This is the real secret of the enormous sale in this country of Revalenta Arabica. I have at present many dyspeptics under my care, who take that form of diet without the least inconvenience, and to whom the painless digestion of meat is apparently impossible.

Amongst substances, however, that are derived from animals, and which contain nitrogen, milk is the only one that is an exception to the above rule, and this simply because the nitrogen it contains is in a very dilute form.

We, therefore, come to this conclusion: In epilepsy we have a disease in which it is very necessary to regulate exactly the amount of nitrogen. It is also desirable that all the organs of the body, and, therefore, the stomach and liver, should be kept in as healthy a state as is possible. Vegetable nitrogenous compounds and milk and its preparations (buttermilk, skim-milk, koumiss, etc.) enable us to obtain both ends, and we, therefore, in our treatment of epilepsy, should entirely, or almost so, discard the use of flesh foods.

Even meat soups are objectionable. Though apparently very dilute they really are highly concentrated foods, the water with which the meat juice is mixed being absorbed with great rapidity by the stomach. The result is that in a few minutes after swallowing, a thickish meat jelly only is left.

Basing my deductions on the foregoing premises, I have for some time past been in the habit of treating all cases of epilepsy by the vegetarian system, though I hasten to explain that I am no vegetarian myself, nor do I recommend, as is generally done by gentlemen of that persuasion, that particular style of feeding as a sovereign preventative and sure remedy for all the ills of life.

It will scarcely be necessary to give any exact dietary which, of course, varies with the means of my patient and with his surroundings. Epileptics are of all people most anxious to be rid of their complaint, and will better follow out, at least that is *my* experience, more than any other class of patients, the rules laid down for their guidance.

All I can say is, that the greatest possible benefit is often to be derived, especially in those still retaining fair stamina, from keeping the supply of nitrogen down below that laid down as necessary for maintenance of health in the ordinary physiological hand-books. This is especially true of those who take little exercise.

With regard to the use of drugs. In the majority of cases I use none, unless, in spite of dietetic treatment and hygienic surroundings, the disease progresses rapidly. I avoid the bromides. The apparent benefit derived from them is more than overbalanced by their disastrous permanent effect on the nervous system.

Iodide of potassium, 10 to 20 grains, at bedtime, is my favorite prescription, even in cases where I do not suspect syphilis.

Belladonna and digitalis I also find in certain cases to be very useful, and free from most of the drawbacks which attach to the bromides.

Stomachics—bismuth, with rhubarb and soda—are often, especially at the onset of the disease, of great service.

Of twenty-three cases belonging to class 1, which I treated on what I may call a vegetarian and milk system, nineteen were markedly benefited. Seven of the nineteen were apparently cured, and eight were able to resume occupations which they had, by reason of the frequency of the fits, been compelled to abandon. The other four of those who derived benefit had a considerable diminution in the number of fits.

Of 118 cases belonging to classes 2, 3 and 4, about half received decided benefit; but, unless I give my full statistics, which, I fear, would be too great a call on your space, I cannot in cases where the causation of the epilepsy varies so widely as it does in such a group, draw any convincing deductions worthy the attention of your readers.—*Journal of Reconstructives.*

#### TREATMENT OF RHEUMATISM IN THE JEFFERSON COLLEGE HOSPITAL.

Dr. DaCosta treats his cases of acute rheumatic fever, as a rule, with salicylic acid, about a drachm in twenty-four hours; he does this especially in the cases of active, frank character, in which the joint affection is decided. Where marked cardiac complication exists, he greatly prefers the alkaline plan of treatment; indeed, has little faith in the use of salicylic acid either to prevent cardiac complications or to remove them. Nor does he, in any case, continue salicylic acid or the salicylates if no impression is made on the rheumatic malady in three or four days. When the remedy does good at all, his experience is that it does good quickly.

In cases of acute or subacute muscular rheumatism, or in subacute articular rheumatism with much pain and only moderate swelling of the joints, he often employs bromide of ammonium, or, if this fail nitrate of potassium. He uses opium sparingly, and generally confines it to a moderate dose or two of Dover's powder, given at night.

He strongly insists, no matter what plan of treatment be adopted, on the addition of quinine, from twelve to sixteen grains daily, as soon as the more active symptoms have subsided, believing that thereby the patient's strength is sustained and relapse prevented.

Formstincture of chloride of iron he has seen no good, except in pyæmic rheumatism or in kindred forms of rheumatism.

Locally, he uses little, enveloping the swollen joints, if very painful, in a thin layer of cotton-wool; where the joints are very much swollen he envelops them in cloth wrung out in a strong solution of nitrate of potassium, with morphia added.

The diet is always blank and unstimulating, chiefly milk, farinaceous substances, and very moderate amounts of broths, eggs, and fish. Alcohol is not given, except in the so-called "typhoid cases," in which also high temperature is generally found.

—*Med. News.*

#### PHILADELPHIA CLINICAL SOCIETY.

STATED MEETING, FEBRUARY 25, 1887.

The President, Dr. JAMES B. WALKER, in the chair.

The President introduced the subject of  
ARTIFICIAL FEEDING OF INFANTS.

The importance of the subject all will admit, and depends upon (1) the inability of the mother to afford nourishment; (2) the demands of the child for the materials for growth, repair, and heat-production; and for *protection* from indigestion and the numerous disorders of malnutrition. The prominent indications of the non-agreement of any food are excessive colic, vomiting, diarrhoea. The results are seen in losses of flesh, strength, vivacity, and color, non-development of general body or of parts, as of teeth, retardation of infantile accomplishments, psychical or physical, or even loss of those which have existed. One or many of these conditions may exist and call for attention on the part of the physician to the imperative needs of the little patient.

In choosing a diet there is no established *law*, save that the food shall be easily digested, non-irritating, and suitable for nourishment and heat-production. If the infant have been nursing its mother, the *quantity* may be alone at fault. In all such cases artificial food should be made to *supplement* and *not* to *substitute* the natural supply. The amount of artificial food must vary with each case from every alternate feeding to two or three feedings daily. Should the *quality* of the mother's milk be at fault, or should she be unable to nurse her child from other causes, a complete *substitute* must be furnished.

Here, unquestionably, the best, because furnishing the most rational substitute, is the wet-nurse. But, rational though it be, it has objections which sometimes are insurmountable. Among these are the expense incurred, the difficulty of getting one whose milk is altogether satisfactory, or, this

agreeing, the unsatisfactoriness of the individual herself, who, reins in hand, may, if inclined, drive the family to distraction. Apart from this, many mothers object to having their little ones nurse at other breasts than their own, even when the substitute is cleanly in person, character, and habits, and much more so if doubt exist, as it often must upon these scores. While not decrying wet-nurses,—indeed, while claiming that for some infants they are our only means of salvation,—the lecturer claimed that in most instances they are not indispensable.

In choosing a substitute for human milk for healthy children, the lecturer does not approve of the so-called infant-foods manufactured on a large scale, and kept on the druggist's shelves. These substances, many of which have much virtue, find a sphere in the management of the sick, but as a rule may be eschewed in arranging a food for the well.

For most babies condensed milk answers best, for the first three to six months of life. Here again a choice may be made. There are several varieties of this food, most of which are supplied in quantities to grocers and druggists, and lie an indefinite time on the shelf or counter, during which time they are liable to deterioration. This is not a matter of theory, but has been proved in more than one instance by an attack of severe indigestion and diarrhoea on opening a new can. The brand most satisfactory in the lecturer's experience is Canfield's, which is manufactured in Philadelphia, and is for sale only at the manufacturer's office, where its freshness and purity are guaranteed. Or, if the sweetness of the condensed milk be an objection in an individual case, the "Evaporated Cream," a partially condensed milk, prepared by the same firm, may be used, having it served fresh every day or every alternate day. Unquestionably, condensed milk is preferable for the young infant to the fresh (?) milk furnished by the milkman in our large cities.

If a child taking condensed milk is constipated, a small quantity of Mellin's, Horlick's, or Nestle's food may be used in each bottle, and will usually be all-sufficient.

At least until a food has proved satisfactory, the infant should be weighed at the end of each week, and should gain from three or four ounces to a pound weekly. If severe colic, vomiting, or diarrhoea occur without cause, such as teething, exposure, etc., some change is indicated. This will usually be the case, where condensed milk is the diet, somewhere from the third to the eighth month. The addition of oatmeal to the food may be all that is needed. It should be thoroughly cooked for three hours, then strained through a cloth, producing a white, semi-translucent substance, about the consistency of starch, as used by the laundress. Of this from one to three tablespoonfuls may be added to each bottle, according to the age of the child and its power of digestion. Lime-water is an important addition to the artificial food, and should be used continuously for

the first ten or twelve months.

In most instances fresh cow's milk will have to be substituted for the condensed milk when the latter disagrees, or this, if obtainable pure, may be used from the first. This should be diluted to suit the age, and have added sugar, lime-water, and from a teaspoonful to two tablespoonfuls of cream to each bottle, varying the amount to suit the condition of the bowels. After the third month, or even before, some of the oatmeal-gruel, prepared as already directed, may be added. In cities, all the water used in preparing the food should have been previously boiled. Sometimes an irritable state of the bowels, induced by one of many causes, may be benefited by the substitution for a few hours of barley-water, arrowroot water, or gum-arabic water, and on resuming the milk food one of the above waters may be used as the diluent, instead of plain boiled water. Sometimes the use of peptonized milk diluted with barley-water, or the addition to the milk-food of the "Peptogenic Milk-Powder of Fairchild, Brother & Foster, may be required for a shorter or longer period.

In the artificial feeding of infants, the plain nursing-bottle with pure rubber nipple is better than spoon-feeding, giving exercise to the masticatory apparatus, and stimulating to more rapid functional development the salivary function.

The subject was discussed by the different members, and the experience of each one proved that cow's milk in some form was the best food for a child who must be artificially fed.

Dr. Anna McAllister spoke of some interesting experiments, which had been tried at the New York Infant Asylum, under the supervision of Dr. J. Lewis Smith: where, in several autopsies on artificially-fed infants, it was found that in those fed on *starchy* food the pancreas was very small, seemingly arrested in its development; while in those fed upon *condensed milk* the organ was normal in size.—*Phil. Med. Times*.

#### THERAPEUTICS OF FEMALE STERILITY.

The rational treatment of female sterility is based upon a knowledge of its causation. In anæmia, chlorosis, or scrofulosis, reconstructive medication is required. Amenorrhœa, if the generative organs are normal, may yield to local stimulating applications, such as scarification of the cervix, introduction of the sound or of stem-pessaries, vaginal douches, hot foot or sitz-baths, galvanism or faradic electricity; aided by aloes, apiol, or permanganate of potassium used internally. In the amenorrhœa of corpulent women, Kisch, Martin and Rohrig extol the sulphate-of-soda waters, among which those of Marienbad have a high reputation. In this country the waters of Crab Orchard Springs in Kentucky, Bedford Springs in Pennsylvania, or Ballston Spa in New York, would probably be equally efficacious.

In endometritis, applications of tincture of iodine or of iodinated collodion to the internal

surface of the uterus are often effective. When villous endometritis is present, or the uterus still contains remnants of a previous misconception, the dull curette is indicated. In peri—or parametric exudations, hot-water vaginal douches and iodoformed tampons are useful.

Catarrhal diseases of the vagina must be treated with astringents. Kisch reports a case in which there were profuse hyperacid secretions. He directed injections of a fifteen per cent. solution of sugar to which one-tenth per cent. of caustic potassa had been added. In this solution the spermatozoa remain active for a long period. The woman became pregnant after using this injection for some time. Charrier found in two similar cases that the daily injection of a solution containing one part of albumen, with fifty-nine of phosphate of soda, in ten thousand of water, removed the acidity of the secretion, and the women conceived in the course of six weeks, although during four years of married life they had been sterile.

Gonorrhoea should be treated with germicide irrigations. The most effective are nitrate of silver (one to three thousand—one to two thousand), salicylate of sodium (one to twenty), corrosive sublimate (one to twenty thousand).

In atrophy of the uterus the galvanic and faradic currents may be used with some hope of benefit.

Vaginismus demands a careful consideration of each case. Recently cocaine in four per cent. solution painted on the vulva and vagina has been found effective. If this fail, operative measures (dilatation under anæsthesia and subsequent wearing of a plug) may be resorted to.

In cervical stenosis dilatation with tents or incision may be employed. The former method is warmly advocated by Schultz. If rigid instruments are used, the solid round dilators of Peaslee or Hegar should be chosen. The dilating instruments which act by a separation of two or more blades are by Kisch considered inappropriate. In hypertrophy of the cervix, amputation is proper; in laceration, Emmet's operation.

Atresia of the vagina does not demand treatment in the absence or defective development of the other internal generative organs.

Displacements should be appropriately treated by manual reposition and pessaries or tampons.

The accepted opinion among physiologists is that the most favorable time for conception is two or three days before the beginning, or five or eight days after the cessation, of the menstrual flow.

Kisch does not advise attempts at the artificial impregnation of the human female, as practiced by Sims and some of his followers. He closes his very interesting monograph with the caution to the physician not to be too ready to give either a favorable or an unfavorable prognosis. In the former case he may be mistaken and disappointment follow; in the latter he may be likewise err, and his judgment will then be discredited in other things.—*Phil. Medical Times.*

## THE CANADA MEDICAL RECORD.

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MONTREAL, MAY, 1887.

We publish with this number of the RECORD the Title Page and Index for Volume XIII. This should have appeared in the October, 1885, number, but through an oversight was left out. We trust our Readers will pardon the delay on the principle of "better late than never." The Title Page and Index for Volume XIV will be published with the next (June) number of the RECORD.

### COLLEGE OF PHYSICIANS AND SURGEONS, PROVINCE OF QUEBEC.

*Officers for 1886-89.*—Wm. H. Hingston, M.D., President; Dr. J. L. Leprohon and the Hon. Dr. Ross, Vice-Presidents; Dr. Leonidas La Rue, (Quebec) Registrar; Dr. E. P. Lachapelle, Montreal, Treasurer; Drs. F. W. Campbell, Montreal, and A. G. Belleau, Quebec, Secretaries.

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*District of St. Francis.*—Drs. Austin, Paré, Thos. LaRue.

## OBITUARY.

## DR. JOHN FULTON, TORONTO.

On Sunday, May 15th, Dr. John Fulton of Toronto, Editor and Proprietor of the *Canada Lancet*, after a somewhat brief illness of Typhoid Pneumonia, passed to his eternal rest. Our deceased friend was a prominent man among the Medical Profession of Canada. Possessed of excellent abilities, and an indomitable energy, he worked and toiled till, we might say, almost the hour of his death. It is as a journalist that Dr. Fulton was best known, though in Victoria and Trinity College Medical Schools he filled most ably several chairs. In 1870 he started the *Canada Lancet*, having purchased the good will of the *Dominion Medical Journal*. From that time till his last illness, his energy and his abilities have been devoted to its success. The position which the *Lancet* occupies to-day is a tribute to his business capacity and his intellectual worth. Dr. Fulton was born in Western Ontario early in 1837, and was brought up on a farm, then became a school teacher, and finally entered Medicine, graduating at Victoria College, or as it was best known at that time, "Dr. Rolph's School." He subsequently passed some time in England and elsewhere, returning to Canada with the L.R.C.P. Lond., and the M.R.C.S. England. His death, at a comparatively early age, is a great public loss. To those who will feel his loss most keenly, his orphan children, we bestow our deep sympathy. Let their consolation be: "No man could have more completely done his duty, to his profession—to his country—to his God."

## PERSONAL.

Dr. A. L. Smith, Professor of Medical Jurisprudence, University of Bishop's College, who has for the past two months been furthering his Clinical knowledge in the Hospitals of London, Paris, and Berlin, purposes returning to Montreal by the Beaver Line S.S., Lake Ontario, due here about June 21st.

Dr. A. P. Scott (Bishop's 1887) has left for London, Eng., where he purposes residing for some time to walk the hospitals, and also to take out some of the British qualifications.

Dr. W. E. Fairfield (Bishop's '87.) has started practice at Wequiock, Michigan, U.S.

Dr. A. E. Phelan, (Bishop's '87) has put out his sign at Watersmeet, Mich., U.S.A.

## REVIEW.

*On Fevers: Their History, Etiology, Diagnosis, Prognosis and Treatment.* By ALEXANDER COLLE, M.D., With colored plates. Philadelphia, P. Blakiston, Son & Co., 1012 Walnut street, 1887. Price \$2.50.

In the preface, the fact is mentioned by the author, that the observations are for the most part founded upon over 21,000 cases, which had been personally treated by him. The work is well written, and throughout the book numerous quotations are mentioned from known writers, for the purpose of bearing out the views of the author. It contains plates, four in number, which are well executed, a dietary scale, and also formulæ from the Pharmacopœia of the London Fever Hospital. The book is well printed in large, clear type and on good paper, the whole being bound in a cloth cover, with neat gold lettering, and altogether makes a very presentable appearance.

*Anæmia* by FREDERICK P. HENRY, Prof. of Clinical Medicine in the Philadelphia Polyclinic, etc., etc., Philadelphia, P. Blakiston, Son & Co., 1012 Walnut street. Price 75 cents.

This is the first time that the above named subject has been systematically treated in book form, it being a reprint of a series of articles published during the last year in the Polyclinic. This little work is the result of several years' study of the blood, and the disorders consequent upon its imperfect elaboration. The facts therein stated are mostly based on the personal observations of the author. This book will, no doubt, supply a long felt want in the treatment of a very common affection.

*Dose and price labels of all the drugs and preparations of the United States Pharmacopœia of 1880.* By C. L. LOCHMAN, Second Edition, Philadelphia, Dunlop & Clarke, Printers, 819 and 821 Filbert street, 1887. Price in flexible muslin, \$1.50.

This is the second edition of this very useful little book. It has been entirely rewritten, corrected, improved and enlarged, and contains double the number of pages of the former edition. Each label contains a lot of useful information, e.g., solubility of the chemical in water, alcohol, etc., the doses in apothecaries' weight and measure, with their equivalents in the metric system, the medical properties and many useful hints, in this way condensing in a ready form an amount of information, which could not be gained in the ordinary way without a vast amount of research. This

book should especially recommend itself to Drug-gists. There is also at the end of the work a description of many new remedies, which adds very much to the value of the book.

*A Reference Hand-Book of the Medical Science:* Being a complete and convenient work of reference for information upon topics belonging to the entire range of scientific and practical medicine, and consisting of a series of concise essays and brief paragraphs arranged in the alphabetical order of the topics of which they treat, prepared by writers who are experts in their respective department. Illustrated by chromolithographs and fine wood engravings. Edited by ALBERT H. BUCK, M.D., New York City. Vols. II. III. and IV. Wm. Wood & Co. New York, 1887.

As we mentioned in our review of volume I. of this work, it is gotten up in the style of an Encyclopedia. The task of getting up such a work must entail an immense amount of time and labor; but the author appears to be competent for the task, for he seems to have succeeded in keeping up the superior quality and style of the work, of which we take volume I. as the example. The various articles seem to be carefully prepared, are very concise, the most salient points being brought prominently to view, and the most important subjects have been treated very minutely, as suiting the style and character of the work. The chromolithographs are very handsome, the engravings clear and distinct, and the type, paper, and printing are all of the best workmanship, so that the volumes will make a very handsome addition to the physician's library.

*The Physician's Dose and Symptom Book.* By JOS. H. WYTHE, M.D., Professor of Histology and Microscopy, Cooper Medical College, San Francisco.

Seventeenth edition, completely rewritten and enlarged.

Philadelphia: P. Blakiston, Son & Co., 1012 Walnut Street.

This little work being now in its seventeenth edition proves that it must be invaluable, being especially adapted to the wants of students when grinding for examinations. It will also be of great service to the busy practitioner as a means of handy reference at such times when more elaborate works are not at hand.

*A Companion to the U. S. Pharmacopœia.* Being a Practical Commentary and Key to the latest edition of the Pharmacopœia. Second edition. By OSCAR OLDBERG, Pharm. D., and OTTO A. WALL, M.D., Ph. G. Octavo, 1226 pages, 650 illustrations. Muslin, \$5.00; NEW YORK: WM. WOOD & COMPANY, 1887.

As this is the second edition of this well known work, it does not of a necessity require any very elaborate review, especially as most of our readers are already familiar with the scope and purpose of the book. One fact which surprises us is the absence of any comment on some of the latest remedies in general use, such as antipyrin and antifebrin, especially as the volume does not appear to be limited in size, and as other medicines, by no means in such general use, have been fully taken note of by the authors. However, the work will prove a worthy second to its elder brother, the U. S. Pharmacopœia.

*Manual of Operative Surgery.* By JOSEPH D. BRYANT, M.D., Professor of Anatomy and Clinical Surgery, and Associate Professor of Orthopedic Surgery in Bellevue Hospital Medical College, etc., 500 pages; 800 illustrations. New York, D. Appleton & Co., 1887.

On turning over the pages of this work, one is at once struck by the great number of the illustrations. This fact alone would recommend the book to students, for whom in truth the work was especially prepared. Another, and very important point, is the large size of the type, which renders reading for any length of time a comparatively easy matter. The wood-cuts are reprinted from some of the best standard works on Surgery, such as Ashhurst, Agnew, Gross, Erichsen, etc., and the references are clear and easily found. Altogether the work is of the best, and we predict for it a large sale.

*Practical Human Anatomy, a working guide for students of medicine, and a ready reference for Surgeons and Physicians.* By FANEUIL D. WEISSE, M.D., Professor of Practical and Surgical Anatomy, Medical Department of the University of the city of New York. Illustrated by 222 lettered plates, containing 331 figures. New York, William Wood & Co., 56 and 58 Lafayette Place, 1886.

This work is the very *beau-ideal* book for the student of Surgery to carry with him into the dissecting room, the plates being large and the lettering very distinct, and, in fact, the cuts are so accurate that they might really be mistaken for photographs. The author says that the work was

commenced with a desire—after an experience of nearly twenty years in study, actual dissections, and the teaching of anatomy—to produce a practical working-guide for the student at the cadaver, and a ready reference book, which would take the place of the cadaver for practitioners of surgery and medicine. In this endeavor the author has assuredly succeeded, and to the student and busy practitioner alike we heartily recommend the book as ranking first on the list among works of a surgical character.

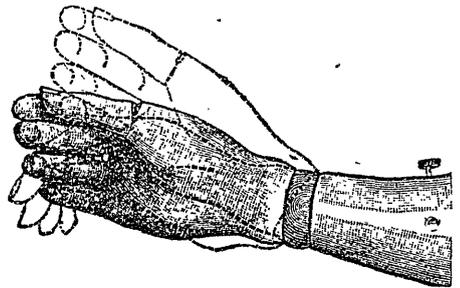
*Drug Eruptions. A Clinical Study of the Irritant Effects of Drugs upon the skin.* By PRINCE A. MORROW, A.M., M.D., Clinical Professor of Venereal Diseases, Bellevue Hospital Medical College, New York. W. Wood & Co. 1887. Price \$1.75.

There is an axiom which says that the physician should be familiar with the effects of every drug which he may employ in the treatment of various diseases. This fact may be true, but we doubt if many physicians have given particular attention to such abnormal manifestations as the eruption produced by the various remedies prescribed in the treatment of disease. We doubt if most physicians have spare moments to devote to the culture of such a theme. This subject is of importance in one point, viz., that drug eruptions might very closely simulate some of the exanthematous fevers and also certain skin diseases; in such an instance a clear knowledge of their differences would be well worth bearing in mind. This work is the result of the author's personal observations and investigations, and will doubtless prove of considerable value to those desirous of obtaining the latest information on this subject.

*The Vest Pocket Anatomist (founded upon Gray).* By C. HENRI LEONARD, A.M., M.D., Professor of the Medical and Surgical Diseases of Women in the Detroit College of Medicine. 13th Revised Edition, Enlarged by Sections on Anatomical Triangles and Spaces, Herniæ, Gynæcological Anatomy and Dissection hints. Detroit; The Illustrated Medical Journal Co., 1887. cloth, 86 illustrations, 154 pages, post-paid, 75 cents.

This little volume in its former editions is so well known, that it is only necessary to confine our notice to this, the *thirteenth* edition, which contains very clear and accurate typographical plates of the Venous, Arterial and Nervous systems, photo-engraved from the English cuts in Gray's

Anatomy. This makes the work especially of value to accompany the surgical case of any practitioner that is doing much work in this line, who may wish at his hand a "regional reminder" of the placement of arteries and veins that he may wish to avoid in making his incisions. For this special purpose this little book, since it has the addition of these 86 engravings, is of a good deal of value to the country practitioner, who sometimes does not have the time to return to his office to consult his more pretentious volumes. The "Dissection Hints" show the incisions to be made in post-mortems to advantage.



The above cut represents an Artificial arm with Ball and Socket Wrist Joint, recently invented and manufactured by Geo. R. Fuller, successor to the late Dr. Bly, of Rochester, N. Y.

The improvement admits of placing the artificial hand in any position that can be attained with the natural hand, and is an important advance in the progress of prosthesis.

#### SALOL.

This new remedy for rheumatic affections is a crystalline powder, having a marked but not unpleasant odor resembling wintergreen. It was first introduced by Prof. Neucke, of Berne, and has been used extensively on the continent. Dr. Siefert, of Wurtzburg, has prescribed it frequently as a mouth-wash with happy results in such cases as ulceration of the tongue—wounded during an epileptic seizure—or ulceration following the use of the cautery, or when due to stomatitis, and also as an application in ozæna and tubercular ulceration of the larynx. As an anti-rheumatic remedy it is greatly vaunted by Bielschowsky, of Breslau, and Rosenberg, of Berlin. In the majority of cases where the latter used this drug the effect was prompt in causing a lowering of temperature, and greatly lessening the pain of the joints in from twenty-four to forty-eight hours. The dose administered whilst pain and fever were present was fifteen grains every hour or two. The quantity was reduced as the symptoms disappeared. Relapses, however, were of frequent occurrence, and in every case he detected the carbolic odor in the urine. *Canadian Practitioner.*