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## Original Communications.

### THE DISTRIBUTION OF LESIONS IN CHRONIC PHTHISIS.\*

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The advance in the knowledge of tuberculosis in the last few years has been far beyond that which the most enthusiastic observers could have anticipated. From the first demonstration of Bayle in 1810, of the extensive distribution of peculiar nodules in the various organs and their relation to pulmonary phthisis, from the doctrine of Lænnec in 1825, that in all cases of phthisis the affection of the lungs is tubercular, to the teaching of Villemin in 1865, who first discovered that tuberculosis could be reproduced by inoculation, to the announcement of Koch in 1882, form the great epochs in the history of this disease. I may safely say that no disease in our times has more engaged the attention of the physician, the surgeon, and particularly the pathologist. Energy, observation and investigation have done much in this the age of pathological research. The lungs, the favorite haunt of tubercle, have been subject to this disease as far back as the history of medicine will take us. The bright eye, the flushed cheek, the wasted frame, the lanky hair, signs of its advanced stage, were not unknown to the ancients. But it was not till this century, and particularly towards the latter portion of it, that the mystery has been unravelled, and our thoughts on the subject have become consolidated.

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\* Read before the Medico-Chirurgical Society of Montreal.

In the past few years pathology has made rapid strides, bacteriology, a new science, has been rapidly developed, and not many years ago Koch startled the whole civilized world by his announcement that he had discovered the germ of tuberculosis, of phthisis. He had unearthed and brought to light the deadly bacillus which for hundreds of years had been doing its pernicious work wrapped up in the blackest obscurity, and fully exposed it to the scrutiny of the medical profession.

The importance of this germ, the importance of the disease which it produces, can be inferred from a quotation which I have taken from Dr. Ransome in his Milroy Lectures, an abstract of which appeared in the *Lancet* of the 8th, 15th and 22nd of last March. "Tubercle," he says, "at the present day carries off annually nearly 70,000 persons in the form of phthisis at ages between fifteen and forty-five, the most useful stages of human existence. It kills more than one-third of the people who die, and nearly one-half between fifteen and thirty-five." A disease so formidable, so generally distributed, and so frequently fatal, has justly demanded our serious consideration.

I would call the lungs the hot-bed of tuberculosis, that part of the animal organism for which the bacillus seems to have a peculiar predilection, invading its substance in a definite "line of march," and leaving in its wake disintegration and death.

Regarding the localization of the lesion in chronic phthisis and its mode of advance, the majority of writers in medical literature seem to be of the one opinion. Walshe, Roberts, Powell, Fagge and others teach that the process generally begins at the apex and extends towards the base. I quote the following from Fagge, as it embodies best the general opinion: "It has long been known," he says, "both to physicians and to pathologists, that the upper part of the lungs are almost invariably affected with phthisis, in whatever form, before the lower parts; and that in all but the most exceptional instances, the disease spreads downwards from apex to base with almost perfect regularity." Something more definite has since been discovered. It has been demonstrated that the lesion does not spread uniformly, or with perfect regularity from apex to base. But "the disease in its

onward progress through the lungs, in the majority of cases, follows a distinct route from which it is only turned aside by the introduction of some disturbing element." The credit of this discovery is due to Dr. J. Kingston Fowler, of London, England, assistant physician to the Brompton Hospital, and late pathologist to the Middlesex Hospital. The doctrine is based upon numerous post-mortems (some six hundred) and an extensive clinical experience. It is from this very able physician, whose skill in the examination of the chest has been the admiration of all those who have come in contact with him in his clinical work, that I have derived the knowledge of the subject which I bring before you. I have satisfied myself of this teaching after many months attendance at one of the largest hospitals for diseases of the chest, the Brompton Hospital, where I have personally examined several hundred cases of phthisis.

It is my intention, in this paper, to lay stress upon those points of Fowler's doctrine which have impressed me the most forcibly in my clinical experience; and, further, I shall attempt to advance the theory which, after considering the subject, I have thought would best explain why in chronic phthisis the disease follows a distinct route. Sincerely believing that, should this doctrine which I uphold be true, you will admit with me that after a careful examination of the chest the condition of the lungs in chronic phthisis will be as clear to us as though they were exposed to our view: believing the subject interesting, I will proceed, in the hope that I am not trespassing upon your valuable time. Before continuing further, I would like to draw your attention to a few brief anatomical details which are necessary for the further consideration of the subject.

As you are aware, the apex of each lung rises about one inch and a half above the clavicle. In front, nearly the whole of the left side is taken up with the upper lobe, only the lower extremity of the lower lobes appearing anteriorly. On the right side the upper lobe extends to about the fourth interspace; below this comes the middle lobe, and, as on the left side, only the extremity of the lower lobe is visible. At the back, nearly the whole of the space is occupied by the lower lobes, beginning

about the third dorsal spine; the upper lobes corresponding roughly to the supra-spinous region. I wish to draw your attention particularly to the relation of the septa of the lungs, so as to be able to map out more clearly the relation of the lobes to the chest wall. The importance of this will be apparent later on. Quoting from Fowler: "The septum between the left upper and lower lobes begins about the third dorsal spine and extends obliquely downwards and forwards, crossing the fourth and fifth interspaces, passing behind the scapula and sixth rib in the axilla, to the upper border of that rib in the mammary line. On the right side the line of the septum terminates at the eighth rib, just outside the nipple line. A second septum, starting behind the scapula, just external to the posterior fold of the axilla, runs transversely forwards along the fourth interspace to the middle line, thus forming the middle lobe." We have thus before us the relation of the lobes to the chest.

I will again call your attention to the apices of the lower lobes, whose important part in phthisis has been so little thought of. They begin, as I have shown, at the third dorsal spine and are in relation to the chest posteriorly. It is a long established fact that the apex of the upper lobe—that is, the apex of the lung—is the usual site of tubercular deposit; that it is generally the part to be first affected. But the particular portion of this apex that is usually the site of the primary lesion is not mentioned in the medical literature that I have referred to; nor is the route that the disease follows. It is here that the importance of Fowler's doctrine begins. He has defined two points as the sites of the primary lesion. The one most frequently found is situated from one to one and a half inches from the summit of the lung and nearer the posterior than the anterior surface. On the chest, this corresponds to a point above the clavicle, or immediately below the centre of that bone; posteriorly it is in relation with the supra-spinous fossa. The lesion from this focus, in the first instance, spreads backwards. This truth is of considerable importance clinically. I have myself met with cases where an examination of the chest anteriorly revealed nothing of importance, or possibly doubtful signs, when an examination

of the supra-spinous region has placed the diagnosis beyond doubt. For the practitioner adopting this doctrine, it is evident that an examination solely of the apex anteriorly, at an early stage, may prove unsatisfactory, if not misleading. If I am content with making an examination of the front and upper part of the chest, believing that if there be phthisis the part examined will reveal it, cases will go undiagnosed at a time when diagnosis is most essential. The disease next tends to spread downwards at about three-fourths of an inch from the surface of the lung anteriorly, as demonstrated by Fowler in the post-mortem room; and is mapped out on the chest-wall by a line corresponding to one and a half inches from the inner ends of the first, second and third interspaces. The disease here is made up of new foci, occurring in nodules, with normal lung tissue intervening. Certainly, as the disease progresses, a time will come when, by the softening and extension of these nodules, there will be physical signs of extensive disease anteriorly. But this does not take away from the fact that the disease, in the first instance, occurs nearer the posterior surface and tends to spread backwards. Cases have been met where cavities had formed at the posterior part of the apex when anteriorly nothing but scattered nodules were found.

The other and less frequent site of the primary lesion is in relation with the first and second interspaces, below the outer third of the clavicle. It spreads downwards, and an oval portion of lung is involved. When this is the site of the primary lesion, Fowler has found that the progress of the disease is more rapid. I have not as yet been able to get enough evidence to satisfy myself on this point.

The middle lobe does not take as important a part in the disease as the other lobes. It is rarely primarily affected, and usually after the disease in the upper lobe is far advanced, and often escapes altogether.

The next point at which the disease shows itself, till announced by Fowler, has been totally disregarded in medical literature. It is situated in the apex of the lower lobe of the side primarily affected. The disease occurs here early, long before there is

extensive disease at the apex of the lung. It seems to me plausible that the influences which favor the growth of the bacillus at the apex of the lung also favor its growth in the apex of the lower lobe. The vulnerability of this portion of the lung is based upon abundant evidence both clinically and in post-mortem examinations. Consequently, if we are unanimous in saying that signs of disease at the apex of the lung are of great diagnostic importance, the discovery of the vulnerability of this part of the lower lobe must materially strengthen our diagnosis. As first localized by Fowler, this secondary lesion is situated about one and a half inches below the upper and posterior extremity of the lower lobe, and about the same distance from its posterior border; which he found to correspond on the chest-wall to a point situated midway between the fifth dorsal spine and the border of the scapula; from this focus the disease spreads along the interlobar septum. A rough surface marking of this line of invasion is obtained by making the patient place his hand upon the opposite shoulder, when the vertebral border of the scapula in its new position will indicate approximately the line of the disease. The importance in the physical examination of the chest of the early appearance, in phthisis, of this secondary lesion in this portion of the lung cannot be over-rated. It has proved of much satisfaction to me as an aid to diagnosis in some of the cases I have examined. Having examined the apex of the lung, and not being convinced of the physical signs there, we should next examine the apex of the lower lobe at the point indicated, and if signs are manifest, it should at once satisfy us as to the diagnosis. The disease in the lower lobe next progresses towards the base in a manner somewhat similar to that at the upper lobe. We have the appearance of new foci with healthy lung between, the disease advancing in a more or less racimose manner. The extreme base of the lung escapes altogether.

We have so far traced out the localization of the primary lesion in the apex, then the early appearance and localization of the secondary lesion in the apex of the lower lobe, and the progress of the disease from these centres. True to the same law

tubercles next appear at the apex of the lung heretofore free. The disease here has the same localization as in that part of the lung previously affected; and the lesion grows and advances in the same manner along the same lines. It shows itself usually before there is extensive disease at the apices of the lung first affected. The apex of the lower lobe of that side next becomes involved, usually in a similar way to its fellow on the opposite side. It presents no other peculiarities; the patient usually dying before the lower margin of the lung is reached. This is the usual distribution of lesions in chronic phthisis, and it is only in chronic phthisis that this route can be anticipated. Cases in which the signs are distributed more or less generally over the chest, not following "the line of march," are usually more acute cases which are running a quicker course, or some chronic case, in the beginning, which for some reason or other has taken on an acute action.

Cases are met with, however, in chronic phthisis in which the disease does not follow this usual course, but it is only the exception which proves the rule. A different site from the usual one of the lesion in the apex of the lung secondarily affected has been in some cases found by Fowler; it is close to the intercostal septum and corresponds on the chest wall to the superior axillary region. We sometimes find what he calls a crossed lesion. The disease beginning, say, at the right apex, instead of appearing next in the apex of the lower lobe of that side, it appears in the apex of the left lower lobe. Fowler also mentions a case found post-mortem, with evident signs of two separate attacks of phthisis. The old lesions of arrested phthisis occupying the usual site in the upper and in the lower lobe, and below these are recent lesions of a second attack of phthisis, totally separate in point of time from the first.

We come now to what I think is the most important exception to Fowler's doctrine, and that is—basal phthisis. All are unanimous in saying that in chronic phthisis the disease usually begins at the apex; and all agreed as to the rarity of the primary lesion beginning at the base, the frequency of its occurrence being put down by some statistics as low as one in a little less than five

hundred cases. I lean to the opinion, though possibly difficult to prove in every case, that primary basic phthisis, *per se*, does not exist, but is the outcome of some affection non-tubercular which has materially weakened this part of the lung and left therein a suitable nidus for the bacillus. Among some of these diseases affecting the base of the lungs are the following: pleurisy with collapse of the lower lobes and sinking in of chest wall; pleurisy followed by cirrhosis and bronchiectasis; foetid and gangrenous processes; chronic pneumonia, etc. A careful history of the case and a thorough examination of the chest must necessarily be of great assistance in the diagnosis of this lesion; and particularly the finding of the disease in any of the usual foci heretofore mentioned. Da Costa, in his work on Medical Diagnosis, says "that many of the reported cases of tubercle affecting primarily the lower lobe of the lung are in reality cases of tubercle following chronic pneumonic consolidation." Furthermore, he says "that in these cases, as the disease advances, a deposit takes place in the apex of the lung previously sound; so long as this is not involved there is reason to conclude against the tuberculous character of the deposit." When it is found, it is my belief, which I have previously mentioned, that the cause of this inversion in the course of chronic phthisis is due to some other affection which has materially interfered with this portion of the lung. I conclude the first part of my paper, repeating Fowler's doctrine "that chronic phthisis in its onward progress through the lungs, in the majority of cases, follows a distinct route, from which it is only turned aside by the introduction of some disturbing element."

I have frequently asked myself, Why it was that the disease followed this regular march? Certainly this usual course that it takes cannot be put down as purely accidental. What are, then, the influences? Admitting that some constitutional change is required before the bacillus finds in the lungs a suitable habitat, it is my belief that the bacillus in chronic phthisis will seek those parts of the lungs, and grow, where it will be the least disturbed by the respiratory movements. No theory to me seems better calculated to explain the course of the disease in

the lungs, which I have set forth in this paper; and no theory would better explain the exceptions that occur. The tidal air becomes the vehicle of the virus; and as the forces exercised upon the ebb and flow of this air vary in different parts of the chest, so will these forces vary in different parts of the lungs.

The two great forces of respiration are the mobility of the thoracic cavity and the elasticity of the lungs. The thorax, as we know, is so constructed as to become a potent factor in respiration; the length, obliquity and mobility of the ribs increasing from the first to the seventh; the more or less fixity of the first and second ribs, both by their anatomical formation and the action of the scaleni muscles; the articulation of the ribs to the vertebræ and indirect attachment to the sternum by means of elastic bands, the costal cartilages; together with the contraction of the diaphragm drawing with it the rapidly distending bases, tend to show in inspiration the increasing movement of the thoracic wall from above downwards, and consequently the proportionately greater force with which the inspired air enters the bases as compared to the apices. In expiration we have the elastic recoil of the lungs, strongest in those parts which have been the most expanded; the recoil of the elastic cartilages and sternum returning to their original position, with the driving upwards of the thoracic floor by the retraction of the abdominal walls, previously distended; these in turn tend to show the greater force with which the air is expelled from the bases as compared to the apices. If we go a step further we can apply the same rule to a subdivision of the apex or of the base, whereby we are able to conclude that some part or parts of the apex, or of the base, are more or less influenced by the respiratory forces according to position; so that we are able to assume that the lessened movement of the apex is not uniform through the whole apex.

I think it probable that the bacillus, which is of slow growth, finds its way into that portion of the apex which is the least disturbed by the air currents; there, if the soil be favorable, in one or more bronchioles develops the primary lesion. I believe this focus to be within one inch to one inch and a half from the

summit of the apex, and nearer the posterior surface; which would correspond to the usual site of the primary lesion in the lungs. Why, it might be asked, does not the disease begin at the extreme apex? For the same reason that it does not generally begin at the surface of the apex anteriorly, laterally or posteriorly; because the immediate effects of inspiration and expiration are more marked at the surface of the apex than centrally. So that this upper stratum, if I may so call it, is less pervious to the bacillus.

The secondary lesion, as I mentioned in the first part of this paper, appeared at a point about "one and a half inches below the upper and posterior extremity of the lower lobe, and about the same distance from its posterior border." This focus is on a lower plane than that at the apex of the upper lobe, but it is still high up in the thoracic cavity, and is therefore subject somewhat to the same influences which I mentioned above. Why the disease does not affect the apex of the other lung before this lower lobe seems to me sufficiently clear, from the fact that this lower apex is more exposed from the disease already existing in the upper lobe of that side. For the same reasons the same foci in the apices of the lobes of the lung previously free become involved by means of the air current. The nodules which appear, with healthy lung tissue intervening, are no doubt produced by the virus being carried from the original focus into other bronchioles and setting up the disease anew.

The respiratory theory is also in conformity with the development of tubercle in unusual positions. In basic phthisis the normal action of that portion of the lung has been interfered with, whereby it responds feebly to the respiratory effort and so becomes the point the most vulnerable. Nor is the plausibility of this theory weakened by the fact that in women the upper part of the chest is subject somewhat to greater movement in respiration than in men, and that they are not apparently less prone to the disease. The foci of least resistance remain the same. Among the many influences which are at work to bring about the constitutional change favorable to the growth of the bacillus, notwithstanding the apparent advantage in women of

slightly increased action at the apices, these influences must be considerably favored by their indoor life and want of suitable exercise.

In concluding these remarks, I sincerely hope that the efforts of the profession will succeed in raising up a barrier against the inroads of this disease, and that a therapeutic agent will be found to stem the advance of a virus which has proved the bane of the human race.

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## A CASE OF LABOR COMPLICATED WITH UTERINE FIBRO-MYOMA.\*

By J. CHALMERS CAMERON, M.D.,  
Professor of Obstetrics, McGill University.

Uterine myomata are common enough in the non-pregnant, and the attention of gynæcologists has been prominently directed to the symptoms, diagnosis and treatment of these tumors by the Apostoli-Tait controversy. Obstetricians do not so frequently meet with such tumors, and it is quite rare for labor to be seriously impeded or obstructed by a uterine myoma.

In pregnancy the injurious influence of a myoma depends mainly upon its size and situation. If subperitoneal, small, and located near the fundus, it does not usually affect the course of gestation and labor to any appreciable extent. It grows as the uterus grows, and involutes as it involutes. If it is interstitial and located in the fundus or body, it is apt to cause abortion or predispose to hemorrhage and rupture of the uterine wall. If it is cervical, there is usually more danger. In about half of the cases cervical myomata are pedunculated, and may be either removed or pushed out of the way during labor; but when they are interstitial and of large size, they not only offer a mechanical impediment to the advance of the child, but are themselves so much injured and compressed that they are apt to slough or break down after labor, thereby subjecting the mother to the risks of septic absorption.

The case I submit to you this evening is one of interstitial fibro myoma of the cervix, seriously delaying and impeding

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\* Read before the Montreal Medico-Chirurgical Society.

labor, destroying the life of the child and eventually that of the mother. There are several interesting points in the matter of diagnosis and treatment to which I would like to invite your attention.

Mrs. C., æt. 28, I-para, was admitted to the Montreal Maternity 19th April, 1890, in active labor, on the recommendation of Dr. Molson, under whose care she had been. Family and personal history good. Menstruation established at the age of 13, regular, painless, and not too free. Last menstrual period concluded on 20th August, 1889. With the exception of slight morning sickness she enjoyed good health till the latter part of January, when she began to feel generally out of sorts, but had no local symptoms. In February she went to Ottawa by rail, and complained a good deal of the jolting of the cars. Some general abdominal pain was felt, which continued after her return to Montreal. She began to be restless and uneasy at night, and often used to get up and walk about the house in order to obtain relief. One morning after a particularly restless night she felt severe pain in the right iliac region, and noticed there, for the first time, a small swelling which was tender to touch. Pain, tenderness and swelling continued in that region thenceforward till the onset of labor. About the end of March she began to suffer from occasional attacks of vomiting and from a short hacking cough, which was very annoying and disturbed her sleep. She felt the child's movements distinctly. About 15th April the abdominal pain became so severe and persistent that she could not sleep. On the 18th, about 6 P.M., the pains became agonizing and almost continuous. On the 19th, about 6 A.M., a quantity of liquor amnii came away, the pain meanwhile growing steadily worse. At 11 A.M. she entered the Maternity. For four nights she had scarcely closed her eyes, and for at least seventeen hours the uterus had been in a state of constant contraction; she was very weak and exhausted. Upon examination the abdominal tumor was found to be prominent and somewhat irregular in outline, in a state of tonic contraction, and very sensitive to touch. Under such circumstances palpation was inexpedient and useless. Foetal heart sounds could not be heard.

By vaginal examination no presenting part could be made out; the undilated os was high up, almost out of reach; there was no pelvic contraction. The bladder and rectum having been emptied a draught of Liq. Op. Sed.  $\mathfrak{m}$  xxv was given. During the afternoon she dozed frequently and retained a moderate quantity of milk and beef-tea. By the evening the os could be reached somewhat more easily and admitted the tip of one finger, but it was still too high for any presenting part to be made out. A draught of Liq. Op. Sed.  $\mathfrak{m}$  xv was given every four hours during the night; she rested fairly well and retained a good deal of nourishment. On the 20th, at 10 A.M., the os was a little more dilated, but still high up; a presenting part could be felt but not diagnosed. The uterus was less rigidly contracted, and by external palpation the foetal outline could be indistinctly made out high up on the left side. On the right side, below the level of the umbilicus, indistinct fluctuation was found. A slight sulcus or depression seemed to run obliquely across the anterior surface of the uterus from the right border about the level of the umbilicus to the middle of the symphysis. To the right of this shallow sulcus fluctuation could be felt; but to the left, none. The uterine muscle was still in a state of tonic contraction, making palpation difficult and unsatisfactory. The opium was continued throughout the day and nourishment administered as freely as possible. At 4 P.M. the condition of things was practically unchanged. At 8.15 P.M. the pains suddenly became much more severe, the os quickly dilated, the head, very much flattened and compressed, came rapidly down, and a dead child was born spontaneously at 8.50 P.M., 251 days from the cessation of menstruation, 50 hours from the beginning of violent labor pains. The child was well nourished and weighed six pounds. The cranial bones were very movable and overlapped considerably; a long wedge-shaped caput occupied the vertex in the middle line between the anterior and posterior fontanelles. Notwithstanding the birth of the child, the abdominal tumor did not seem to decrease very much; but the oblique sulcus on the right became more marked and fluctuation more evident. On internal examination the cervix was found to be still very high up; and

on passing two fingers into the cervix, a fluctuating mass was felt extending almost as low as the external os and bulging from the right side. The left side of the cervix seemed normal. Distinct fluctuation could be made out between the fingers inside the cervix and the external band at the level of the umbilicus on the right. By careful palpation the tumor was found to occupy the whole of the right iliac fossa and more than half the brim of the pelvis. It extended as high as the umbilicus and as far as the middle line to the left, pushing the uterus upwards and to the left. The placenta, which was attached to the fundus, was expelled by the Credé method without difficulty. A hot intra-uterine douche was given and then the well-contracted fundus could be felt on the left a little above the upper border of the tumor, from which it was separated by a deep sulcus. There was no hemorrhage and the patient passed a comfortable night, taking nourishment freely at intervals. On the 21st, at 8 A.M. (temp. 100°, pulse 120), she complained a good deal of flatus and short hacking cough. A turpentine enema gave some relief; but during the day the flatus increased, the cough became more distressing, and epigastric pain and vomiting set in. At 1 P.M., temperature 101°, pulse 160. At 4 P.M., Dr. Gardner saw her with me in consultation. With rising pulse and temperature, increasing flatus and tympanites, vomiting, hacking cough and profuse perspiration, she was apparently sinking from septic trouble, and we decided that her only chance lay in immediate abdominal section. Accordingly, at 7.15 P.M., Dr. Gardner operated, with the assistance of Dr. Alloway and myself. The operation was tedious and difficult, and when concluded, at 8.45 P.M., the patient was very weak. She rallied, however, for a time, but at 1 A.M. suddenly sank and died. Unfortunately a post-mortem examination could not be obtained.

There are several points of interest from an obstetrical point of view to which I would like to draw your attention.

1. *The rapid growth of the tumor.* The patient's health was good till the end of January; then she began to feel generally out of sorts, and towards the end of February, after a railway journey which distressed her very much, she first noticed a

swelling in the right iliac region, painful and tender to the touch. In seven weeks it had grown so as to block the right side of the pelvis, fill up the right iliac fossa, and extend on the right side of the abdomen as high as the umbilicus.

2. *Rapid degeneration.* The tumor, which was no doubt originally solid, must have undergone rapid degeneration; a considerable quantity of fluid formed and bulged into the cervix, so that fluctuation could be distinctly made out by combined as well as by external palpation. The pathologist reports that there was no evidence of necrosis or inflammatory action in the substance of the tumor. It is therefore a very interesting question whether the general malaise, hacking cough, vomiting and sleeplessness of the last week or two were in any way attributable to systemic poisoning by the absorption of some of these products of degeneration. Just before the operation the patient presented clinically the symptoms of rapid prostration from septicæmia; yet from the pathological report we find that there were no signs of septic change in either uterus or tumor. If the group of symptoms so strongly presumptive of septic infection before and after labor was really due to sepsis, whence came the sepsis? Can a degenerating myoma showing no signs of necrotic or inflammatory action produce septicæmia?

3. *Influence of the tumor on pregnancy and labor.* The development of the foetus was not affected; it was large and well nourished. The presence of a rapidly-growing tumor probably excited uterine action and arrested the progress of gestation by inducing premature labor. It also made the pains more violent and the tetanic uterine contraction soon asphyxiated the foetus. As long as the os remained undilated, the myoma (involving the right half of the cervix) lay over the right half of the brim and afforded a mechanical impediment to the descent of the child. It also pushed the uterus upwards and to the left, and kept the os high up out of reach. When the opium somewhat relaxed tonic uterine contraction, the lower uterine segment and cervix were slowly taken up into the uterine cavity, till finally the os opened out and the cervix was pulled up over the presenting part. The tumor was dragged up along with the cervix

and thereby displaced sufficiently from the brim to allow the flattened wedge-shaped head to slip past it into the pelvis ; labor then terminated in a few minutes. There was no hemorrhage either before, during, or after labor, which points to the cervical origin of the tumor ; in fact the presence of the tumor stimulated the uterus to continuous vigorous contraction after the expulsion of the placenta.

4. *Diagnosis.* A positive diagnosis was impossible. When the patient entered the Maternity the liquor amnii had been away for some hours, the uterus was in a state of tonic contraction, moulded about the contour of the child, sensitive to touch, and excited to still stronger contraction by any attempts at external palpation. Very little information was available, therefore, externally. The patient was a primipara, the vagina narrow and dry, the os undilated and almost out of reach, so that very little information could be got by vaginal examination. As the violent uterine action yielded to opium, fluctuation could be made out on the right side, quite separate from the main portion of the uterus, in which the outline of the foetus could be indistinctly felt. This suggested the possibility of twin pregnancy with two distinct amniotic sacs, the left and upper sac ruptured and empty, the lower unruptured, filling up the brim and preventing the descent of the first foetus. Foetal heart sounds could not be heard, and no help obtained from that source. Pregnancy in the horn of a uterus bicornis or a double uterus would not explain the absence of any presenting part at the brim. The tumor was too low for an ovarian tumor, too immovable for a pedunculated myoma, too soft and fluctuating for a solid fibro-myoma.

5. *Treatment.* When the patient entered the Maternity weak from want of food, exhausted from loss of sleep and continuous violent uterine action for seventeen hours, with liquor amnii away, the os undilated and out of reach, and the uterus in a state of tonic contraction, the case seemed very grave. As might have been expected, the foetal heart sounds were not to be heard ; such violent uninterrupted uterine action would soon asphyxiate the foetus. The foetus being in all probability dead, the mother's interests only had to be considered in deciding upon

a line of treatment. Any attempt to deliver artificially by forceps or version, or to reduce the child's bulk by embryotomy, was clearly out of the question, the os being undilated and out of reach. The choice lay between Cæsarian section, and an expectant treatment with full doses of opium and liberal feeding. The mortality of section in cases of myoma is very great, and, moreover, in the present instance, the child was probably dead and the mother was very much exhausted. It seemed wiser, therefore, to try opium, rest and feeding, at any rate until the patient's condition was somewhat better. And it is worthy of notice how admirably the opium acted. The patient soon became fairly comfortable, the tonic uterine action moderated, cough and vomiting ceased, sleep was obtained, and a large quantity of nourishment taken and retained. Labor progressed slowly, and finally terminated spontaneously and safely. No operative measures would have produced such satisfactory results. Though subsequent events proved that the child was already dead and that the mother's life could not have been saved, yet, nevertheless, it is a satisfaction to know that the expectant plan was the right one, that it succeeded as far as was possible, and that the mother's chances were not impaired by any undue or untimely operative interference. Had the case been under observation in hospital before labor began, Cæsarian section would have probably saved the child and perhaps even the mother; but as it was, the time for operating had long since passed before she entered the Maternity. In view of a case such as this, where at least one life (perhaps two) might have been saved, let me again emphasize the advisability—nay, rather the necessity—of making a careful external examination of all cases about the seventh or eighth month of pregnancy. Thereby much valuable information may be gained, and if operative measures, such as Cæsarian section, seem likely to be indicated, sufficient time is given to arrange for such place, time and conditions as will afford the operation the greatest chance of success.

*Dr. Johnston's pathological report.*—The amputated fundus of the uterus, together with the uterine appendages and a large fragment of the tumor, received about twenty hours after the

operation. They were in good condition, and were bathed in the thin fluid which was found within the tumor. The uterus, as far as can be judged from the upper six inches sent, presents the usual appearances of the organ shortly after delivery. The wall is about one and a half inches thick; its vessels contain but little blood. The endometrium is loosely attached and yellow; under the microscope it shows marked fatty change. No endometritis of any description. The placental site (posterior) looks normal. The external surface of the uterus shows traces of old adhesions which have been torn through. No signs of recent inflammation, the peritonæum being smooth, glistening and pale. Some traces of old adhesions about the appendages, but the tubes are not obstructed and are free from any suppurative condition. The part of the tumor which was sent is an uneven, irregular mass as big as both fists. It consists of a firm elastic tissue, arranged in nodular masses, bound together by trabeculæ and riddled with spaces or cavities of varying sizes and shapes. These cavities communicate freely with one another and with the surface of the specimen. A few are still closed, and when incised are seen to be filled with a thin, pale, opaque fluid, which has a slippery feel like synovia, and is not at all sticky. The fluid was not examined microscopically, but gave the impression of being chiefly serous in nature, and its opacity seemed due to detritus and fatty matter in suspension, not sinking to the bottom like cellular elements do. The walls of these spaces are smooth, glistening and slippery. They do not show any traces of present breaking down or necrosis, nor do they show traces of productive inflammation, but appear merely to be formed by a slow process of degeneration of the solid parts of the tumor with dilatation of the lymph spaces. Microscopic examination confirms this view, as the lining membrane is seen to consist of a thin zone of flattened cells, no granulations being seen. Microscopically the tumor is a myoma.

## SOME RARE FORMS OF TUMORS OF THE BREAST.

By FRANCIS J. SHEPHERD, M.D.,  
Surgeon to the Montreal General Hospital.

The following interesting examples of some rather rare forms of tumors of the breast which I have operated on during the past year appear to me to be of sufficient interest to place on record:—

CASE I—*Galactocoele of the Left Breast.*

Mrs. S., of Nipissing, Ont., aged 24, consulted me on March 3rd, 1890, for a small tumor of the left breast. Has been married some five years, and has had two children. With her first child she had no trouble with her breasts, but after her second confinement, some fourteen months ago, both breasts were severely inflamed ("caked"). The swelling in the right breast soon disappeared, but the left breast never resumed its usual condition; there remained behind a distinct tumor above and external to the nipple. She first noticed the tumor twelve months ago (two months after her confinement), and since then it has not increased much in size. On examining the left breast a tumor the size of a small orange was felt above and to the left of the nipple; this was freely movable under the skin, and had a soft, doughy feel. No discoloration of the skin. An aspirating needle gave a negative result. Removal was advised, and on March 6th, 1890, the skin over the tumor was incised and the cyst wall soon came into view; this was easily dissected away from the surrounding glandular tissue. The wound healed completely in a week. On opening the cyst, which was surrounded by a very thick wall, it was found to contain a putty-like substance such as one often sees in dermoid cysts.

This form of breast tumor is somewhat rare, and is always developed during the active state of the organ. It is due to the rupture or dilatation of a milk duct. At first I looked upon this case as one of dermoid cyst, but on submitting the specimen to Dr. Wyatt Johnston, he pronounced it a galactocoele, the contents being made up solely of fatty materials. In these cases

the serous portions of the milk are absorbed slowly and the fatty matter left. The contents of a galactocoele are usually more fluid than in the case above recorded.

CASE II—*Multiple Cystoma of Both Breasts.*

Mrs. H., of Quebec, aged 40, a thin, spare woman, mother of one child aged 12, consulted me on June 7th, 1886, for a small tumor of the right breast. She had much trouble with this breast when nursing, but had not noticed this growth until a few days before. On examination, found above and close to the nipple a distinct tumor of the right breast, about the size of a walnut, freely movable, hard, and non-fluctuating. There was no retraction of the nipple and no discoloration of the skin. I regarded it as a fibroma and recommended removal. The operation was performed on June 8th, 1886. On cutting over the tumor and attempting to dissect it out I accidentally cut into it, when it immediately collapsed, emptying itself of a straw-colored fluid. On examining the breast further I found that numerous other small cysts existed, so it was decided to remove the breast, which was accordingly done. On cutting into the breast after removal it was seen to be studded with cysts from the size of a split pea to that of a bean, and containing a clear semi-gelatinous fluid. She made a good recovery, and I did not see her again until February of the present year, when she consulted me about a similar tumor of the left breast, immediately inside the nipple. As this had the same characteristics as the previous one, I diagnosed a cyst and advised removal. The breast was removed, and, as I had supposed, the tumor was cystic. This breast also was studded with innumerable small cysts. The patient recovered rapidly with two dressings and without any elevation of temperature.

In this case the tension of the cyst was so great that no fluctuation could be made out (although the case was carefully examined), and the hardness and mobility of the tumor gave it the exact feel of a fibroid. These cysts, as a rule, appear quite suddenly and grow rapidly. I have at present a similar case under observation in a young woman, where there are two cysts

in the left breast which have grown to the size of walnuts in three weeks. The diagnosis in these cases is often cleared up by the fact that the contents of the cyst can be squeezed out through the nipple.

### CASE III—*Intra-Canalicular Fibro-Cystoma.*

Annie K., married, aged 50, was admitted into my wards in the General Hospital, May 29th, 1890, with a large, painful tumor of the left breast. Thirteen years ago she received a severe blow on the breast, which left it painful and discolored for more than a year. Soon after this, a small nodule the size of a hazel nut appeared below the left nipple and gradually increased to the size of a hen's egg. It remained this size for some ten years without causing any inconvenience or pain. Suddenly, last March, it began to grow rapidly towards the axilla; a month later it was intensely painful, and the surface became discolored and prominent at one point. When seen towards the end of May her breast appeared of large size, and to the outer side of the nipple, which was somewhat depressed, appeared a prominence the size of a small egg, which was colored purple and surrounded by an inflammatory areola. This distinctly fluctuated on palpation, and radiating from it were some large distended veins. Over the whole breast coursed large tortuous veins. The tumor itself consisted of a large, hard, irregular mass in the lower and outer zone of the breast, about the size of a croquet ball. It was tender on pressure and freely movable. There was no enlargement of the axillary glands. The patient had, up to a couple of years ago, enjoyed robust health, had of late been losing flesh, and was troubled with severe cough and expectoration; on examining the lungs, physical signs of softening were found in both apices.

On June 5th the tumor was removed; the prominence over it proved to be a blood cyst due to rupture of some of the enlarged veins. The tumor itself turned out quite easily and resembled a cerebellum more than anything else; the leaves unfolded as it was taken out, presenting a very characteristic appearance. Dr. Wyatt Johnston examined the growth and pro-

nounced it to be an intra-canalicular fibroma. The curious folded appearance of this tumor is due to pressure from the growth taking place within the breast ducts. The patient was discharged from hospital in twelve days with the wound perfectly healed in two dressings.

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## Hospital Reports.

### MONTREAL GENERAL HOSPITAL.

#### CONDENSED REPORTS OF CASES IN DR. MACDONNELL'S WARDS.

(Prepared by R. E. McKECHNIE, M.D., House Physician.)

*History of Gout; Hypertrophy of the Heart and Valvular Disease; Anasarca; Albuminuria; Weir Mitchell pulse sign; Uræmic Coma; Cirrhotic Kidney.*

S. D., aged 65, was admitted to the wards on June 21st, 1890, under Dr. Geo. Ross, and was subsequently transferred to Dr. MacDonnell's care. He had been suffering for three weeks from swollen joints of the hands, feet and knees; but the pain had not been severe enough to cause him to desist from his occupation as an apple-pedlar. Three days before admission he was seized with severe precordial pain, a sense of oppression in the chest, and shortness of breath, and soon after the legs, scrotum, and penis became greatly swollen. At the age of seventeen he suffered from an acute joint affection, which was sudden, occurred in the early morning, and was very severe. Pain was felt in the proximal joint of the right great toe. The small joints of both hands and feet were afterwards involved, and the patient did not fully recover for nearly five weeks. There had been a recurrence of these attacks every five or six years until he was about fifty; and they have occurred much more frequently since. The joints of the fingers did not become permanently swollen until middle life. The elbows and shoulders have been occasionally involved. The patient has been engaged as a distiller till recently; has always been a hearty eater, and has probably been intemperate. His father died of gout at 57; his eldest brother had his first attack of gout at 30; and his father's

family were gouty for generations. About fifteen years ago he had an attack of severe pain in the precordium, with a sense of oppression in the chest, which lasted but a few hours, and was never experienced again till three days ago, when severe precordial pain, sense of oppression, and shortness of breath were experienced.

On admission, there was profound anæmia; the breathing short and rapid (30); pulse 98, with the Weir Mitchell pulse sign; œdema of the legs, scrotum and penis, and of the posterior aspect of the trunk; the abdomen is full and contains fluid; no evidences of fluid in the pleura, but a few small, moist râles are heard at the bases of the lungs; diarrhœa; liver and spleen not enlarged; superficial cardiac dulness begins vertically at the 4th left costal cartilage, while transversely, at the nipple level, dulness extends from the right edge of the sternum to the nipple; no visible cardiac pulsation; apex beats in 4th interspace, half an inch outside the nipple. A systolic thrill can be felt over the heart; the first sound inaudible at the aortic and pulmonary cartilages, while over the base, at the apex, and propagated into the axilla, was heard a loud blowing systolic murmur. The hands showed an enlargement of the second joint of each finger, said to be of about twenty years' duration, semi-solid to the touch. No chalk stones or scarring anywhere. The urine contained a large quantity of albumen, and under the microscope presented a few red blood cells, with an occasional hyaline or granular cast; micturition frequent and quantity diminishing day by day. Ten minims of the tincture of digitalis were given every six hours.

Two days afterwards the left elbow became hot, swollen, and very painful, and on the next day the distal joint of the right thumb was similarly affected, the pain leaving the elbow. On the back of the thumb joint a chalk-stone began to form. On the sixth day after admission patient was evidently worse. The œdema in the legs had but slightly subsided and the patient was gradually becoming comatose, with contracted pupil. Nocturnal delirium; incontinence of urine. A hot air bath was given, but without affording relief. Died comatose. The temperature had been ranging about normal, but before death it rose from 99°F. at night to 104° at 8 A.M.

The heart was found to be greatly enlarged, the walls of the left ventricle hypertrophied, and the cavity dilated. Both the aortic and mitral valves were thickened and incompetent. The kidneys were small and markedly cirrhotic. The liver was of normal size and fatty. Spleen normal. The lungs were very oedematous, with patches of collapse. There was a small quantity of serous fluid in the abdomen.

*Remarks.*—The sequence of events is in no way uncommon. The case presents the typical course of the gouty kidney. The high tension of the pulse was shown by its presenting what has been called the Weir Mitchell sign—that is, the pulse at the wrist cannot be obliterated by the pressure of the fingers. This is taken as evidence of high tension, and it is undoubtedly present in cases of chronic Bright's diseases; in fact it is said to disappear under treatment. I have noticed it in many other conditions.\* Thus of fifteen cases in my male medical ward, the pulse could not be completely obliterated in ten cases, the diseases from which these patients were suffering being as follows: cerebro-spinal syphilis, pleurisy, diabetes, gonorrhoeal rheumatism, malignant disease of the liver, hemiplegia, typhoid fever (three cases). The cases in which the pulse was easily obliterable were: ague, cardiac dilatation, aortic and mitral disease, tricuspid and mitral disease, and purpura.—R.L.M.D.

*Oxalic Acid Poisoning; Recovery; Epileptiform Convulsions.*

R. B. W., aged 45, took with suicidal intent about an ounce of oxalic acid on June 16th, 1890. About half an hour after he was admitted into ward 11, under Dr. Ross. Vomiting had set in promptly. There was great distress, constant vomiting, and burning pain in the throat and epigastrium; great difficulty in swallowing, owing to pain and the swollen state of the parts, which, added to a determination not to take any antidote, rendered the giving of a mixture of chalk and milk a matter of some trouble. A little was swallowed at intervals for an hour, and at

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\* See Weir Mitchell's article in the Philadelphia Medical News, Jan. 1890, also the last number of the Johns Hopkins Bulletin, where some observations by Dr. Scott, one of the house physicians, are given.

each time excessive efforts at vomiting were provoked. The vomited matters were scanty, stained brown in streaks, but after the chalk was swallowed their characters were lost. Shortly after admission there was semi-unconsciousness, from which he could be aroused by the voice or by shaking. He then behaved in a startled, excited manner, becoming delirious, calling on his children by name to bring him water to quench his excessive thirst. His pulse at this time was very shabby, and an enema of brandy was given with good results. This was repeated every twenty minutes for an hour, by which time his pulse had recovered. An hour after admission he suddenly complained of severe burning pain in the hands, and wished them bathed in cold water. Shortly after this his eyes felt as if burning hot; then his forehead and feet felt hot. These symptoms subsided in about an hour. After the third enema of brandy he had a loose stool, but there was no repetition of it. In addition to these nervous symptoms he had four distinct epileptiform convulsions inside of the first hour, each of about two minutes' duration. At 4 P.M. the vomiting had lessened considerably in frequency; the burning sensations had ceased; there was no recurrence of convulsions; but the patient was restless and excitable. There was great thirst and much pain in the throat and abdomen. A hypodermic injection of fifteen minims of Battley's solution of opium was given and afforded much relief. At 6 P.M. he was still vomiting a little, there was no diarrhoea, and he could swallow, but with great difficulty, a little soda-water. The pulse was again getting weak, and another enema of one ounce of brandy was given. The patient passed a restless and sleepless night, with occasional vomiting. He complained this morning (June 17th) of great pain in the throat, behind the sternum, and in the epigastrium. He can swallow much better, and is now taking milk and soda-water. A powder of bismuth and soda with half a grain of opium lessened the epigastric pain shortly after the first dose. He is still vomiting occasionally, but there is no delirium or diarrhoea; he talks rationally, but is hoarse; and his pulse is keeping strong without the aid of stimulants.

From this time on the case progressed favorably; the vomit-

ing ceased, the pain and swelling in the throat lessened, swallowing became easy, and patient was discharged on the twelfth day after having been on solid food for three days. But he still had some tenderness on pressure in the epigastrium. During his first six days in hospital he had six short epileptiform attacks, including the three he had the first day. The patient naturally is of an irritable disposition, a rather heavy drinker, and is said to be subject to epileptic fits, but rarely has more than one in a year.

*Cerebral Rheumatism ; Hyperpyrexia ; Death.*

T. W., aged 45, admitted June 24th, 1890. He had had an attack of articular rheumatism lasting about four weeks, and which had involved the ankles, knees, shoulders, elbows and wrists. At no time was there any cardiac complication. During convalescence from this attack the temperature suddenly rose to  $106^{\circ}$ , and delirium set in. At this stage he was removed to hospital.

On admission the temperature was  $105^{\circ}$ ; pulse 120, regular, full and strong; heart sounds normal; respirations 30 to 40, short and remarkably jerky; physical signs of lungs negative. None of the joints were swollen or tender. The skin was hot and covered by an eruption of the type of miliaria. Tongue and lips hard and dry; speech almost unintelligible; pupils contracted. No retraction of abdomen or any paralyses. The movements of the head and arms jerky and choreic. Extremely restless and incoherent. Absence of patellar, cremasteric and abdominal reflexes; no ankle clonus. Retention of urine, which contains a small percentage of albumen. Milk diet, salicylate of sodium twenty grains every three hours, an ice cap to the head, and sponging with spirits and cold water every four hours were prescribed. The temperature slowly fell during the day, till at 6 P.M. it stood at  $104^{\circ}$ .

*June 25th.*—A very restless night, but was quieter all this day. At 10 P.M., however, the temperature was  $104.2^{\circ}$ . Extremely violent. At midnight the temperature was  $105^{\circ}$ , the patient still violent and screaming. The cold sponging was in-

creased to every two hours, and the temperature gradually declined till, at 8 A.M. on the 26th, it was  $103.3^{\circ}$ . The screaming ceased at 2 A.M., but patient was restless. Yesterday vomiting set in, so that neither food nor medicine could be retained, and resort was had to enemata. At 4 P.M. the temperature was  $106^{\circ}$ . Patient was now rubbed with ice hourly. At 6 P.M. the temperature had declined to  $105^{\circ}$ , slowly declining afterwards till at 8 on the morning of the 27th it stood at  $101.1^{\circ}$ . Cold sponging was again resorted to, with orders to return to the hourly rubbing with ice if the temperature reached  $104^{\circ}$ . The patient was now passing urine involuntarily. He was still delirious. Vomiting had ceased, and small quantities of milk could now be taken by the mouth. His temperature kept down all night and during the morning of the 28th, but by noon it was rapidly rising in spite of sponging and, later, of hourly rubbing with ice. At noon the temperature was  $104.2^{\circ}$ , at midnight  $107.4^{\circ}$ , and at 2 A.M. on the 29th, shortly before death, it was  $109^{\circ}$ . Patient was delirious and violent to the last. No autopsy could be obtained.

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#### SURGICAL CASES UNDER THE CARE OF DR. SHEPHERD.

*Post-Pharyngeal Abscess in an Infant.* (Reported by DR. G. G. CAMPBELL, *House Surgeon.*)

B. L., female, aged ten months, was admitted May 4th, 1889, with difficulty in breathing and a large tumor on the left side of the neck.

*History.*—One month ago a large mass formed at a corresponding point on the right side of the neck; this, after being poulticed for some time, was punctured, and discharged a considerable quantity of pus. Fifteen days ago the mother noticed the left side enlarging and also slight difficulty in breathing. This has grown steadily worse since until at present respiration is labored, and on examination a prominent tense tumor can be felt in the naso-pharynx, very much diminishing the size of the cavity. Externally the tumor has reached half the size of a small egg, and projects prominently an inch below the ear. The

child's mother was in hospital four years ago, and had several scrofulous glands in the submaxillary and post-cervical regions excised by Dr. Shepherd.

*Operation*—Chloroform having been given, an incision was made into the most prominent part of the tumor, just behind the sternomastoid muscle, until pus was reached. The opening having been enlarged with Péan forceps, and the collection of pus set free, it was found that the swelling in the naso-pharynx was little, if at all reduced in size. Closed Péan forceps were then introduced and pushed towards the centre line, just anterior to the vertebral column, and after considerable manipulation they pierced the wall of another abscess cavity and evacuated about three drachms of pus. The tumor in the pharynx was then found to have disappeared, and the dyspnoea was relieved. A drainage-tube of rubber was inserted and dry dressings applied.

On May 6th, two days after the operation, the tumor again appeared in the post-pharynx, and it was found that the drainage-tube did not communicate with the inner cavity, the opening in which had closed up and allowed the pus to accumulate again. A director was passed in through the external wound, opening up and relieving the post-pharyngeal tumor as before. A small pair of artery forceps were then introduced along the groove of the director, and their blades separated to enlarge the inner opening. A small rubber drain was then passed into the inner cavity and the wound dressed.

On May 22nd the external wound was completely healed, the patient having made an uninterrupted recovery. The wound was dressed every two days, the drainage-tube being shortened at each dressing.

(Reported by Dr. W. D. SMITH, House Surgeon.)

#### *Amputation of Thigh for Tuberculous Disease of Knee-joint.*

E. M. Y., carpenter, aged 29, a slightly built, active man, of good intelligence, was admitted to the hospital June 20th, 1890, suffering from disease of the right knee-joint. Always been healthy up to 1884, when he noticed that his right knee-joint was easily tired, and felt stiff in the mornings or when kept quiet

for any length of time in one position. Three or four weeks later it became swollen and painful, and he had to remain in bed for seven weeks. For three years after this he was fairly well, going about his work, the joint being somewhat stiff. The knee now again became very painful and swollen, and a large abscess formed in the popliteal space. This was lanced several times; the last time a large quantity of pus and broken down tissue escaped. From this time the knee remained quite stiff and semi-flexed. In 1888 he entered the hospital and had his leg put up in plaster-of-Paris, which gave him ease for several months; but another collection formed in the popliteal space, which has left a sinus communicating with the joint. He has had constant pain in the knee, more severe at times, especially at night. His father, mother, two brothers and two sisters are living and well. Eight brothers and sisters died in childhood. There is no history of tuberculosis in the family. He has been losing weight for the last year, and is somewhat emaciated.

*Present condition.*—There is diminished expansion in the left apex, where the breathing is harsh and of a blowing character. The right knee is flexed at an angle of about  $140^{\circ}$  and ankylosed. The depressions on each side of the patella are obliterated, and the patella is fixed and displaced outwards. The right knee measures two inches more in circumference than its fellow; the right leg and thigh are very much smaller than the left, measuring two and two and a half inches less respectively. In the popliteal space are two sinuses and another on the outer side of the joint, through which a probe can be introduced upwards to the distance of four inches. The patient requested that his leg be amputated. He positively declined excision, stating that a stiff leg would be useless and in his way when working.

*June 24th.*—Patient was etherized, an Esmarch bandage applied, and the thigh amputated immediately above the knee, by a long anterior skin flap reaching below the knee and a short posterior one, including the muscles (Carden's amputation). Two rubber drainage-tubes were used, and the wound was closed with silkworm gut sutures and dressed with washed gauze and a jute pad.

As is Dr. Shepherd's custom, the dressings were changed at the end of twenty-four hours, the tubes removed, and the dressings reapplied. At the end of a week the man was allowed up in a chair, and at the end of two weeks the wound was dressed for the second and last time and the silkworm gut sutures removed. The wound was found to be completely healed. After this the patient was allowed up on crutches, and was discharged from the hospital on the eighteenth day (July 12th).

The knee-joint contained a large quantity of inflammatory tissue, and the outer condyle, with the corresponding part of the head of the tibia especially, were extensively necrosed and diseased.

#### *Partial Excision of the Lower Jaw for Recurrent Epithelioma.*

S. S., of Plantagenet, Ont., a hotel-keeper, aged 46 years, was admitted to the hospital on May 30th, 1890, with a large, firm tumor on the right side of the lower jaw.

*History.*—In 1886 a small fissure appeared on the right side of the lower lip. This would heal up and appear again, and continued in this way for about fifteen months, when the edges became indurated. He then had it burnt with caustic, and was advised by a doctor to have it excised. He objected to this, and was treated by a cancer quack with plasters, which removed a piece of his lip. The sore healed and he was apparently well for five or six months, or until the autumn of 1888, when a small, firm nodule about the size of a pea appeared just beneath the right side of the chin. This kept on growing gradually until last January; since then it has been growing rapidly, and on admission it was found extending from about one inch to the right of the symphysis almost to the angle of the lower jaw. It was firmly attached to the jaw, and the skin over it was freely movable and looked quite normal. It had been painful during the last four months, at times feeling as though the jaw was being burned with a hot wire. There was no glandular enlargement. The patient did not smoke, and there was no history of injury. He is a fairly well-nourished man, of average intelligence, but of intemperate habits. He suffered from a short, dry cough.

No physical signs of disease in the lungs. The other functions are all properly performed. There is no family history of cancer.

*Operation.*—On May 31st, after being shaved, he was etherized and the parts thoroughly washed. An incision was made down the median line of the chin and carried about an inch beyond; this was joined by another running along the lower border of the jaw to the angle, and the flap dissected over the growth. The jaw was sawn through a little to the right of the symphysis and again near the angle of the jaw, and removed, some of the teeth having first been extracted. The wound was painted with iodoform paint, and the cut edges of the mucous membrane brought together with a continuous suture of fine catgut. The edges of the skin-wound were sutured with silkworm gut. A couple of rubber drains were used. It was then painted with iodoform paint and dressed with washed gauze.

For the first three days after the operation he complained of some pain and soreness about the wound, and suffered very much from a cough and expectoration of viscid mucus. During this time he was fed with enemata of beef-tea and brandy, and for several days after, through a soft tube introduced into the œsophagus. On the second day the dressings and silkworm gut sutures were removed. The patient frequently washed out his mouth with a weak solution of Condy's fluid, and the wound was irrigated with a solution of boracic acid daily. The drainage tubes were removed on the seventh day. The temperature after the fourth day never went above normal; before that the evening temperatures were 100°. The patient left hospital on the 14th of June with the wound perfectly healed and able to take nourishment freely in the usual way. Dr. Wyatt Johnston examined the growth and pronounced it to be an epithelioma.

*Remarks.*—In this case, as the bone was not extensively diseased, the ramus of the jaw was left. In removing half the lower jaw, it is very important to saw through the jaw a little to one side of the symphysis, in order to preserve the attachment of the genio-hyoglossus muscles. Suturing the cut mucous membrane has the great advantage of separating the cavity of the mouth from the wound, and so lessening the chance of septic infection.

*Excision of the Knee-joint for Tuberculous Disease.*

C. McD., of Alexandria, Ont., aged 20, a well-nourished but anæmic girl, was admitted to the hospital on April 3rd, 1890, with a stiff and painful knee-joint. She had always enjoyed good health, and all the family were healthy excepting one sister, who was tuberculous.

*History.*—The present disease began two years ago as the result of a fall which injured the left knee, but it did not prevent her from going about. In April, 1889, she again fell on the same knee, after which it became very much swollen, painful, and has remained stiff and slightly flexed since. She came to the hospital, under Dr. Shepherd, in July, 1889, and had her leg put up in plaster-of-Paris in an extended position. She then went home, and returned on Sept. 30th and had the plaster removed, when the knee was found in much the same condition, and it was again put up in plaster. Excision was recommended, but declined. She consulted various doctors and was submitted to many treatments without benefit, so returned to the hospital, willing to agree to any treatment recommended.

*Condition on admission.*—The leg was semi-flexed on the thigh; the depressions on each side of the patella, which was fixed, were obliterated, but there was no fluctuation, and movements of the joint were limited. The leg could be slightly flexed, but could not be extended. Patient could not bear any weight on that leg, and at times the knee was extremely painful. There was partial dislocation of the tibia backwards. The knee-joint over the patella measured one and a half inches more in circumference than its fellow, and the leg and thigh were wasted, measuring one and two and a half inches less respectively. The temperature was normal. Her appearance was that of fairly good health.

*Operation.*—On April 19th she was etherized, the knee and the parts about thoroughly scrubbed with soap and water, and an Esmarch bandage applied above the knee. An incision two inches long was made on the outer side of the joint, with the intention of doing an arthrectomy, but on cutting into the joint

Dr. Shepherd found the disease so far advanced that he decided to excise it. The incision was continued around the knee, curving downwards as far as the tubercle of the tibia, and the flap reflected up. The patella was then dissected away, and the synovial membrane was found very much thickened. The cartilages had almost entirely disappeared from the outer condyle of the femur, and on the upper surface of the inner tuberosity of the tibia was a large piece of necrosed bone. A small quantity of pus was present in the joint. All the diseased tissue was dissected away and a thin portion of the articular surfaces of the tibia and femur sawn off, leaving a concave surface on the former and a convex on the latter, after the method practised by Dr. Fenwick of Montreal. The Esmarch was then removed, the vessels secured, and the bones brought together and secured with a couple of Macewen's steel pins. An opening was made on each side for a couple of rubber drainage-tubes. The edges of the flaps were brought together with silkworm gut sutures and then dressed with iodoform, washed gauze, absorbent cotton and put up in a Macewen's splint. There being but little oozing, and a perfectly normal temperature, the dressings were not disturbed until May 8th. The wound was found to be completely healed except at the site of the drainage-tubes. The sutures, tubes and steel pins were removed and the dressings reapplied. The second dressing was done on May 22nd, when, wishing to go home, the bony union being firm and strong, the leg was put up in plaster-of-Paris. She went about a few days in a chair, and left for home on May 24th, with instructions to return in a month.

She returned on July 1st and had the plaster removed. While at home she was going about on crutches. The wound was all healed up, and there was no tenderness at all about the leg, which was perfectly straight. There was only half an inch shortening in the limb, and she was able to bear her weight and walk without its causing any pain.

*Remarks.*—This is a very good example of the excellent results obtained by an excision of the knee in a favorable case. It was intended at first to do an “*eration*” operation, but owing to

the advanced condition of the disease and the involvement of osseous structures, it was decided to at once proceed to excision. In cases of knee-joint disease, the extent, symptoms and appearances are often deceptive, and do not give a correct idea of the amount of disease. On opening the joint the disease is usually found to be greater than anticipated—that is, in those cases where there has been no suppuration. The Macewen splint is very satisfactory, and, in combination with the steel pins which fix the bones together, dressings can be done with but little pain, the leg being easily lifted from the splint and the dressings changed without disturbing the position of the bones and with but little pain to the patient.

### Reviews and Notices of Books.

**A Handbook of Diseases of the Nose and Naso-Pharynx.** By JAMES B. BALL, M.D. (Lond.), M.R.C.P., Physician to the Department for Diseases of the Throat and Nose, and Senior Assistant Physician, West London Hospital. London: H. K. Lewis, 136 Gower street, W.C.

The aim of the present work is to give within moderate compass such a description of the nose and naso-pharynx as will be useful to the senior student and practitioner. Controversial points and theoretical discussions have been omitted, while diseases of uncommon occurrence are but briefly mentioned. The author devotes the first two chapters to the applied anatomy and physiology of the nose, and the third and fourth to the subjects of diagnosis and treatment considered in a general way. Then follows an account of the diseases of the nose as ordinarily met with. The descriptions are clear and the treatment recommended plain and practical. The book is, in fact, not written for specialists, but for general practitioners, and in this particular the author has been remarkably successful. We recommend it specially to those who, by the necessities of practice, are obliged to undertake the care of nose cases which they would much prefer passing on to a specialist. Such readers will derive instruction and comfort from Dr. Ball's work. A most useful formulary forms part of the volume.

## Society Proceedings.

### MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

*Stated Meeting, 2nd May, 1890.*

G. E. ARMSTRONG, M.D., PRESIDENT, IN THE CHAIR.

*Laparotomy.*—DR. L. SMITH read a paper on five cases of laparotomy.

*Discussion.*—DR. TRENHOLME said he believed the true success of these cases lay in the use of antiseptic measures. He believed in abdominal section for pelvic abscess in all cases, whether complicated or not.

DR. BELL said that the pain after such operations varies with the complications present. His experience was that these patients suffered little pain after such operation.

DR. ARMSTRONG remarked that he had lately had two cases of pelvic abscess communicating with the bowel. In the one case he attempted drainage and careful washing out of the abscess cavity, but with an unhappy result. In the second case he proposed doing abdominal section, to which the patient would not consent; therefore he had to pursue the method of treatment adopted in the former case. His patients, after laparotomy, had not experienced much pain.

DR. HUTCHISON then related the following cases which had occurred in his practice:—

*Rheumatism.*—J. McD., aged 15 years, was seen on the 16th March, 1890. Family history good. Looks healthy, with rather a heavy, dull face. Had been suffering for a few days prior to my visit from pains in the larger joints, lassitude, and restlessness. On examination, temperature  $102\frac{1}{2}^{\circ}$ , pulse 110, and respirations slightly quickened; both ankles hot, swollen and painful; fair amount of perspiration. Was put on soda salicylate five grains every four hours. Next day (17th) the temperature was  $102^{\circ}$ ; general symptoms improving. On the 18th, temperature  $100^{\circ}$ ; improving; suffering no pain; felt comfortable and quiet. At 9 P.M. I was called suddenly; found patient in violent spasms, head thrown back, back arched, and

body resting on heels and back of head. Patient apparently completely unconscious. Pupils markedly dilated, responding very little and very slowly to light. The muscles of the arms were so flexed that the pulse could not be counted, but the heart beat at 120 to the minute. Temperature  $100^{\circ}$ . Each time the spasm came on it was accompanied by a peculiar loud cry, so loud that the house was surrounded by anxious neighbors. There was some vomiting between the spasms. When I arrived, no cause could be assigned by the family for this condition, which had developed half an hour before my arrival. I had made up my mind that it was strychnine poisoning and had despatched my cab for a medical friend to divide the responsibility when I heard a loud laugh from the patient resembling that of hysteria. I immediately applied cold flagellations, which quickly stopped the cries and spasms; they never returned, but patient was still unconscious, in which condition he was on Dr. E.'s arrival. After watching him for half an hour we returned home. On the following morning I found he had wakened up at  $\frac{1}{2}$  A.M. feeling sore and tired and without any knowledge of what had occurred. Temperature normal. I kept him in bed for the following week, and he has had no return of the symptoms.

*Pneumonia with subsequent delirium.*—A. C., aged 33 years, good family history, no insanity. Always been healthy; never suffered from any serious illness. I saw this patient on March 13th, 1890; he had taken a chill the day before while at work, returned home, and went to bed at once. Physical examination showed pneumonia of the right base; temperature  $104^{\circ}$ . This condition continued much the same for the next three days, when he was attacked with more severe continuous pain on right side. On examination, a loud friction murmur was heard. On the seventh or eighth day the temperature fell to normal, resolution was going on, and percussion note was slightly dull. About this time I noticed that the patient, although knowing the attendants and myself, was acting under a delusion, in fact talking about things altogether foreign to his sickness and employment, and was prepared to argue the point. The attendants had told me

that for two or three days he had been acting strangely, but thinking it was the ordinary delirium of exhaustion, took no notice of it. This delirium lasted about two weeks, during which time temperature, pulse and respirations were normal, condition of lung improving, and cough somewhat troublesome. I thought of typhoid fever, but could find no evidence of it, except a slight bleeding of the nose during the third week of the illness. A few days after this complete consciousness returned and the patient was convalescent.

My object in bringing this case before the Society was to try and decide the cause of the delirium ; it was totally unlike the cases of nervous exhaustion I had seen, and reminded me somewhat of the case of Dr. Campbell's some time ago which ultimately turned out to be miliary tuberculosis of the brain.

*Foreign Body in the Larynx.*—S. H., aged 13 months ; on the 27th March, 1890, was given by a small brother a portion of boiled egg which contained some egg shell ; child immediately commenced to cough and choke ; coughed up a little blood and mucus, but no shell. I saw the child an hour afterward. He looked perfectly well, and continued so till the third day, when gradual laryngeal obstruction was noticed, accompanied by moderate degree of pyrexia ; the obstruction increased to such a degree on the fourth day that I asked my friend Dr. Armstrong to see the case with me late at night to consider the advisability of intubation or tracheotomy. It was decided to delay a few hours, during which time the general condition improved and the necessity for operation disappeared. On the eighth day the child seemed perfectly well, with the exception of loss of voice ; slept and took food well, and just an occasional cough : normal temperature. On the thirteenth day the child suddenly choked, coughed a great deal, and brought up a comparatively large piece of egg shell, with some blood. Voice immediately returned and the child has since had no further trouble.

The peculiar points were : (1) The absence of the ordinary symptoms of a foreign body in the throat ; (2) the laryngitis was apparently due to a foreign body which had done damage and disappeared ; (3) that so large a foreign body as

the specimen exhibited could remain so long in so small a throat without causing continued symptoms of obstruction. I may say that the throat was illuminated and a careful examination made by Dr. A. and myself, but nothing could be found or seen in the upper part of the throat.

*Discussion.*—DR. GEO. ROSS remarked that of the first case there could be no two opinions. The symptoms which had so suddenly developed were undoubtedly of an hysterical nature. He had never met with hysteria arising during the course of a constitutional disease, and opisthotonos as a symptom of hysteria in the male is very rare. Delirium in pneumonia is common, but delusional disturbances of mind in the course of convalescence are unusual and hard to explain. Such cases are apt to be met with in those where there is prolonged nervous exhaustion.

DR. JAS. STEWART said that the mental disturbance in pneumonia resembles puerperal mania and not delirium.

DR. SMITH remarked that he had met with delirium after the administration of salicylic acid.

DR. GEO. ROSS said that distinct delusions, even of a dangerous character, arose when this drug was first brought into use, and it was due, doubtless, to the impurities contained in the drug.

*Injury following Delivery by Forceps.*—DR. SPRINGLE exhibited a photograph of a baby recently delivered by forceps, from which there resulted a paralysis of the left side of the face and left side of the tongue. Two days later a serous discharge was noticed coming from the left ear, and the supposition was, considering all the symptoms present, that the child had suffered from a fracture of the base of the skull due to the application of the forceps during delivery.

*Vesical Calculus.*—DR. GURD exhibited this specimen which had been passed per urethram. In size it was equal to that of a small bean.

*Stated Meeting, 16th May, 1890.*

G. E. ARMSTRONG, M.D., PRESIDENT, IN THE CHAIR.

*Subsequent history of a case of Nephrectomy.*—DR. SHEPHERD reported the death of a woman from whom he had removed the left kidney in September, 1885, for calculous pyelitis (*vide New York Med. Journal*, 23rd April, 1887, for full report of case and operation). After the operation the remaining kidney had done good work, the amount of urine excreted daily being between forty-four and fifty ounces. Two years after the operation the patient had complained of pains in the region of the right kidney, and pus in small quantities had appeared in the urine. At that time he had suggested exploring the right kidney, as he felt sure there was a calculus, but the patient would have nothing done. A year ago she appeared at the hospital and was admitted. She was at that time passing large quantities of pus in the urine, but she was in good condition and refused any operation. With rest in bed the pus had almost disappeared. She was not seen until a few weeks ago, when her husband had brought her to the hospital in a very weak and feeble condition; she had been confined some ten days previous. At this time she was only passing from four to ten ounces of urine daily. She had died after being two days in the hospital. At the autopsy the right kidney was found much enlarged and greatly disorganized by a large pus cavity which contained a small stone; the left ureter was obliterated and appeared as a round cord. No doubt this patient's life might have been further extended had she submitted to a second operation two years ago. She had given birth to three children after the removal of the left kidney.

*Foreign Body retained in the Nose for Twenty-five Years.*—DR. MAJOR reported the case of an English-woman, recently arrived in Canada, who had applied at his clinic for diseases of the nose and throat at the Montreal General Hospital for relief from nasal obstruction. The patient had attributed the difficulty she experienced in breathing to a catarrhal condition, the result of climatic causes. On examination, the right nostril was seen

to be occluded by swelling of the turbinated tissue, but when a probe was passed for exploratory purposes a foreign body of large proportions was encountered. Cocaine was applied, and, after some difficulty, a rhinolith was dislodged, which was drawn through the nostril after some trouble. The body had measured 19 by 13 by 9 millimetres, and weighed  $2\frac{1}{2}$  grammes. The patient, who gave her age as 31 years, stated that when six years old she had introduced a number of small sea-shells into the nostril. She had always believed that they had all been removed. She thought it quite likely that a shell would be found to be the nucleus of the mass. The woman's husband, who accompanied her, said he remembered perfectly the sea-shell episode, and could of his own knowledge confirm his wife's statement. The rhinolith, intact, was produced, and when it was crushed, fragments of a pearly nature were easily distinguished. It was an interesting fact that a foreign body could occupy a nasal chamber for twenty-five years without exciting suspicion and without giving rise to much annoyance. It was also curious that when examining the patient no offensive odor was detected and the lip was not excoriated, as was usual in such cases.

*Subchordal Laryngeal Growth Removed by the Endolaryngeal Method.*—DR. MAJOR reported the removal of this growth by Mackenzie's antero-posterior cutting forceps. The patient had given a previous history of subacute laryngitis. The operation had been rendered more difficult than usual by the irritable condition of the throat generally, but more especially from the situation of the tumor, which grew from below the right vocal cord, well forward, in its anterior third. A similar growth was removed from the right anterior faucial pillar in the same man. The microscopical report by Dr. Wyatt Johnston showed the case to be one of simple papilloma. The galvano-cautery was afterward applied to the seat of origin, which was thoroughly destroyed.

*Complete Bilateral Abductor Laryngeal Paralysis.*—DR. MAJOR also reported an interesting case of this form of laryngeal paralysis which had followed cerebro-spinal meningitis. The patient, a lad of 17 years, had been under observation for seven

years and had been tracheotomized. Death was the result of displacement of the tube during sleep.

*Pigmentation of the Skin in Graves' Disease.*—DR. R. L. MACDONNELL exhibited the photograph of a patient whom he had had under his care in the Montreal General Hospital—a girl aged 21, who for several years had suffered from palpitation on exertion. Six months previously to admission thyroid enlargement had been noticed for the first time. Exophthalmos was not prominent. The remarkable feature of the case was the well-defined brown pigmentation on the upper and lower eyelids which had made its appearance during the last six months, and seemed to have no tendency to spread. The natural complexion of the patient was fair, and the pigmented skin had the appearance of a huge freckle. These patches have been noted in cases of exophthalmic goitre, and universal bronzing has been recorded.

*Case of Aneurysm of the Aorta.*—A paper on this case was read by Dr. Major and Dr. R. L. MacDonnell. The patient, a man of 35, had been admitted into the Montreal General Hospital on the 11th February in a condition of the most urgent dyspnoea, and asphyxia was imminent. Intubation of the larynx practised immediately by Dr. Major gave but partial relief. On the following day the condition of the patient had so far improved that a physical exploration of the chest became practicable. Weak breathing at the left pulmonary base was the only physical sign perceptible. The breathing was loudly stridulous and there was a brassy cough. The patient had suffered from slight attacks of dyspnoea on previous occasions, but had never been subject to cough or pain in the chest. A history of syphilis was probable. He had been employed as a storeman in a warehouse, and had done a great deal of heavy lifting. The dyspnoea returned with great intensity on several occasions during the time that he remained in hospital. Death from sudden syncope occurred on the sixth day. The autopsy revealed the fact that an aneurysm as large as a tennis ball occupied the posterior part of the transverse arch of the aorta, lying behind the left bronchus and compressing it. Rupture had taken place into the posterior mediastinum, which was distended with blood, and there was a rent

in the œsophagus just above the cardiac orifice, through which a quantity of blood had passed, completely filling the stomach and six feet of the small intestines. There was hæmorrhagic infarction of the fibres of the pneumogastric nerve, especially of its recurrent laryngeal branch. There were also multiple cicatrices of both lungs, the remains of spots of embolism, and a recent hæmorrhagic infarction in the left lung.

DR. MACDONNELL made the following remarks upon the clinical features of the case : As soon as there was time to take in fully the clinical bearings of the case, the diagnosis of aneurysm was confidently made. The age, occupation, the condition of the larynx, the cough, the exclusion of air from the left lung, admitted of no other explanation. Two forms of dyspnœa were probably present—one continuous, resulting from the gradually increasing pressure of the tumor upon the trachea and the left lung, the other sudden and paroxysmal, resulting from irritation of the vagus or its branches. That spasm of the larynx was not the only cause of dyspnœa was shown by the fact that the introduction of a tube did not entirely give relief. An aneurysm of slow growth had formed upon the aorta at a point beyond the origin of the great vessels. Therefore the radials were unaffected and the pulses remained of equal size. The tumor presses upon the left bronchus from behind. The fact of this pressure coming from behind and not from above accounts for the absence of tracheal tugging. The general condition up to the time of admission was that commonly seen in patients with small aneurysms of the transverse arch. There was some dyspnœa upon exertion, but there was nothing to interfere with the duties of active life. On the day of admission some violent change occurred in the thorax and urgent laryngeal dyspnœa was set up. The aneurysm ruptured and a sudden gush into the posterior mediastinum takes place, which by pressure on the vagus and its recurrent branch, and by the hemorrhagic infiltration of their fibres, sets up the laryngeal spasm. This condition lasted probably all the time of the patient's residence in hospital, when a second hemorrhage occurred which caused the fatal syncope.

DR. MAJOR briefly referred to the laryngeal condition and to

a few points of interest in diagnosis. At the laryngoscopic examination shortly after admission to the hospital, he showed abductor paralysis of the left side with intermittent spasmodic movements of the right vocal cord. The larynx was situated deeply in the neck and was stationary; there was no suprasternal depression, and no retraction of the diaphragm. The chest muscles were not actively engaged, but the abdominal walls were undergoing violent contractions, particularly on expiration. The voice and cough were of an asthenic nature. Vagus pressure was diagnosed and subsequently confirmed post-mortem. Tracheotomy was not entertained, as intubation afforded little or no relief, and the other laryngeal signs did not particularly refer to laryngeal obstruction.

DR. MILLS asked if (1) there was evidence *post-mortem* of chronic congestions, (2) a microscopic examination of the vagi nerves and centres had been made with a view of determining the presence or absence of degeneration. With a large aneurysm it was possible to understand that the blood might be very imperfectly circulated, a considerable portion of the elastic force of the aortic arch being lost, hence congestions and, as a consequence, dyspnoea owing to imperfect aeration of the blood. Experimental section of the vagi had been shown by several observers to lead to cardiac degeneration. The members of the Association would remember a paper read to them by Dr. Workman and himself about a year ago, in which the investigations of Fantoni and Lustig more especially were reported, with some reflections on the same in the light of his (Dr. Mills) own researches. The influence of the nervous system over nutrition (metabolism) was bound to attract our increasing attention, and must enter more largely, he believed, into the physician's thinkings and practice. What the whole history, from this point of view, of the pressure of an aneurysm might be it was as yet impossible to determine in detail. That it led to both spasm and paralysis of the muscles of the larynx was clear enough. Did it also lead to degeneration of the vagus fibres and their corresponding central cells, with widespread effects on the organs to which the nerve is distributed? This question requires for its solution careful micros-

scopic examination. Certainly there are many symptoms in cases of aneurysm that are very obscure at present. In addition to the cardiac effects, it had now been rendered reasonably certain that the pulmonitis following experimental section of both vagi nerves was due to purely trophic effects—*i.e.*, the nutrition becomes disordered, and as he understands inflammation, it is simply deranged nutrition, a remark which perhaps applies to all diseases, though the term metabolism appears more suitable than nutrition. The fact that the adductors and abductors of the larynx become affected and restored in a different order is but another sample of the functional individuality of muscles and nerve fibres, even when the latter run in the same nerve-stem for a greater or smaller portion of their course.

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### Selections.

#### LETTERS TO MY HOUSE PHYSICIANS.

By WILLIAM OSLER, M.D.,

Professor of Medicine, Johns Hopkins University, Baltimore.

#### LETTER I.

: FREIBURG, May 17, 1890.

DEAR L. : This is a charming town, beautifully situated at the south-western end of the Black Forest, and with a medical faculty which attracts students from all parts of Germany and not a few from abroad. During the past few years the number of men in attendance has risen rapidly and the semester has reached six hundred. I met here my friend Ramsay Wright, of Toronto University, and together we saw much of interest.

Bäumler, who has charge of the medical clinic, is a man of about 45, and we are very much indebted to him for making our short stay here agreeable and profitable. He was in London at the German Hospital, and subsequently practised there as a consultant for nine years, when he was called to the chair of Medicine. The medical wards, containing about one hundred and twenty beds, are very conveniently arranged, and the plan of having a separate lecture-room for each department, which is almost universal at German universities, is very advantageous.

There are three assistants, the first of whom, Dr. Reinhold, has been here three years, and, as is customary, is appointed for an indefinite term ; the second and third assistants remain for one or two years. In addition, four men are named for periods of three months to act as clinical clerks in the wards.

To-day's routine was as follows : At 7 A.M. the professor gave a didactic lecture (of which five are delivered weekly) to about a dozen students, the small number being due to a holiday yesterday and in part, no doubt, to the fact that attendance upon these systematic lectures is not compulsory. The subject was Diseases of the Œsophagus, and spontaneous rupture, perforation and hemorrhage were discussed in a most exhaustive manner. Afterward, in his private room, Dr. Bäumlér raised the question of the value of such teaching to the medical student, and suggested that the same might be got in a shorter time from books. Possibly ; and, though I am strongly opposed to our present system of over-lecturing, I could not but feel that the men who had listened and taken notes had got their information in a much more interesting and instructive manner than if they had read the subjects in any text-book. Indeed, I do not know of any one *Practice* which contained all the information given in the three-quarters of an hour. The question must be discussed temperately, as it has two sides, one of which is ably presented in the May number of the *New Review*, in a Lecture against Lecturing, by Professor Sedgwick.

One thing in the lecture-room pleased me greatly : around the walls were inscribed on each side—above the names of Hippocrates, Galen, Vesalius and Harvey, and beneath these in groups—those of the great clinicians of all countries ; and it warmed my heart to see, as the representatives of America, the names of Flint and of dear old Dr. Bowditch. At 8 o'clock the visit to the wards was made and new or specially interesting cases examined. In commenting upon a case of typhlitis, Bäumlér spoke of the great frequency of recovery in this disease, which he thought, as is now almost universally accepted, was always at first an affection of the appendix. The tendency toward early operation was, in his opinion, at present too strong. I mentioned

the case which we had in the wards a few months ago, and which was certainly a most encouraging one in support of early interference; but who can say whether the small localized abscess found by Dr. Halsted at the point of the appendix might not have healed, or at any rate subsided, as the inflammation had done in a previous attack? Still, no one will deny that the lad is not better without his rudimentary appendage.

At 9 o'clock the students assembled in the large ward, in the centre of which chairs were arranged on either side of a bed, a method which is followed in the case of fever patients, and other cases too ill to take to the auditorium. A *Practicant*, as a final student is called, was then asked to examine the patient before the class, and an hour was occupied in the thorough investigation of the case—one of typhoid fever. Comments were made on each interesting feature, and the symptoms summed up in a clear and orderly fashion, most instructive to the class, the members of which had an opportunity of afterward looking at the case. Typhoid patients are uniformly bathed whenever the temperature rises to 103°F., and no internal antipyretics are used. The good effects are not, it is thought, confined to the lowering of the fever. The mortality is here only about 8 per cent. lower than in the ordinary symptomatic method; but you shall hear much more on this subject. A convenience which we do not always see in American hospitals is the stand in each ward for the examination of the urine, and a microscope with the necessary reagents. A clinic is held daily, and on Wednesday it lasts two hours; so we concluded that the Freiburg professor did a very full day's work before 10 o'clock in the morning. In another ward we found waiting four candidates for the *Staats-Examen*—the test demanded by the State, and which is a very formidable affair, lasting for several days in each subject. We then went to the post-mortem room to see a case of bullet-wound of the brain. Ziegler, the professor of pathology, came here last year from Tübingen, and lends additional strength to the faculty, as he is one of the most progressive of the younger generation of workers in his department. To English and American students he has become well known through Macalister's translation of his work on

pathological anatomy, which has had an extraordinary success here, a sixth edition being in course of publication. He is a young-looking man, with a pleasing, frank manner, and he gave us a hearty welcome and asked us to come to the post-mortem room to see an examination of three students for the license (*Staats-Examen*), and a most practical test it was. The men drew lots for trunk, head, and position of scribe. The poor fellow who began the work had evidently not been a diligent attendant in the post-mortem room, for he bungled the inspection of the abdomen and thorax in a shocking manner. The examination of the heart—the *pons asinorum* of dissection—loosened his sweat centres, but Ziegler dealt with him most gently, considering the repeated aggravations. We could not wait to see the end, as it was a matter of several hours. In addition to this searching examination, there are others in pathological histology and general pathology. Von Kahlden, the Docent in pathology, showed us the laboratory, which is not large, but very well equipped, particularly for histological work. We afterward spent a very pleasant evening with Ziegler and von Kahlden, both of whom are genial, sociable men. Ziegler must be most industrious, as, in addition to the teaching, which occupies, he said, at least three hours a day, the revision of his text-book has been continuously in hand, the editions having followed each other so rapidly; then he edits his *Beitrag*, which has become a most important pathological journal, and recently, in conjunction, with von Kahlden, he has established the *Centralblatt für Pathologie*. By the way, I have sent out von Kahlden's new book on histological methods. Call the attention of S. to the section on Eürlich's blood methods, which seems fuller than is usually given. To-day we saw Ziegler perform a most interesting autopsy before the class in a case of bullet-wound of the brain. Early in April the young lad had attempted suicide, and had discharged a revolver twice at his head. One bullet flattened against the frontal sinus, where it was found post-mortem; the second passed through the left hemisphere to the occipital lobe, where it lay on the median surface close to the cuneus. There was a firm-walled tract in the course of the bullet. An operation for abscess

had been performed yesterday, apparently only by enlargement of the original orifice and the insertion of a drainage-tube. There was extensive basic meningitis. The boy was hemiplegic and aphasic, but we did not learn whether an examination of his visual fields had been made, which would have been of great interest considering the position of the bullet in the occipital lobe.

One of the assistants showed us through the new surgical clinic, which is not yet completed. The operating theatre is very well arranged, with a composition stone floor and iron frames for the seats, so that the whole room can be flushed with the hose and thoroughly cleansed. Carbolic acid is the chief disinfectant, bichloride being rarely used, and the gauze for dressings is simply sterilized.

The Anatomical Institute is a fine new building, of about the size of one of the pay-wards, with a large lecture-room in the rear. Professor Wiedersheim is in charge, and, as is customary in German universities, is an anatomist in the wide and proper sense of the term, having to teach human and comparative anatomy and histology. One of his assistants takes the surgical anatomy, and this really meets the objection one often hears urged in America against a pure anatomist teaching medical students. In a well-equipped anatomical department how easy it would be to have one of the surgical assistants teach the senior students the surgical relations of the subject in special courses! The anatomical lecture-room is one of the best I have seen—high and spacious, with splendid light from the roof and sides. In the centre of the arena is a trap-door with hydraulic arrangement, by which, on turning a key in the floor, a table ascends from the preparation-room below. Wiedersheim is a beautiful draughtsman, and the blackboards were covered with elaborate diagrams, in colored chalks, of the origin of the cranial nerves. In the schemata which he thus makes of the nervous system from day to day he always uses the same colored chalk to indicate the same structure at different levels.

A man who has brought much renown to the university is Weismann, the professor of zoology, whose writings on heredity and Darwinism have attracted so much attention. In a recent

pamphlet, *Ueber die Hypothese einer Vererbung von Verletzungen*, he makes a strong criticism of the recorded instances of the inheritance of peculiarities of structure acquired by accident or disease. His collected essays have been issued in English by the Clarendon Press, at Oxford, and form perhaps the most notable contributions to the theory of evolution which have been made during the past decade.

We came to the conclusion that Freiburg had a most progressive university, and certainly, so far as medicine, pathology and anatomy are concerned, the post-graduate student will find everything that he could desire.—*N. Y. Med. Jour.*, July 19.

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**Angular Curvature: Rapidly Developing Paraplegia: Laminectomy: Recovery.**—(By W. Arbuthnot Lane, M.S., F.R.C.S.)—I recently published a case of paraplegia of some standing associated with spinal disease, in which, on removal of the several laminæ forming the angle of the prominence, the cord was found to be compressed between the body of one vertebra and the margin of the lamina of the adjacent vertebra. No evidence of tubercular material was present in the spinal canal, and the boy recovered completely from the paraplegic condition. Since that time up to the present I have only come across one case of paraplegia associated with spinal disease which seemed likely to derive great benefit from a surgical operation. I have, however, operated upon the spine in paraplegia associated with fracture of the column with advantage, which, though only temporary and partial, was sufficient to encourage me in continuing to adopt the same treatment in suitable cases. The case of paraplegia due to spinal disease above referred to, and which I am about to describe, differs in many particulars from the one published last year. For instance, the paraplegia was developed with great rapidity, the loss of power of movement became complete within a few weeks of its first appearance, and the compression resulted, not from the rare condition of approximation of the lamina of one vertebra to the body of the other, but from the pressure exerted by a mass of tubercular material which intervened between the

laminæ and dura mater. The condition of the parts found at the operation showed that any further delay in resorting to operative interference would probably have been followed by a rapidly fatal result. The following are the brief particulars of the case:—

H. M., aged 32, was admitted into Guy's Hospital under my care on March 20th, 1890. He was a commercial traveller. His family history was good. He had had pleurisy in 1887. Two years ago he noticed a pain in the middle of his back while running. This pain remained localized at the same point for a time, but later it extended to the left hip. He regarded it as lumbago. Six months afterwards he noticed a prominence in the spine, which was treated as a ganglion. This soon developed into an angular curve, which continued to become more sharply angular at this point. While walking home on a snowy day, three weeks ago, he noticed for the first time that his right leg was weak and somewhat numb, and that his toes were inclined to catch as he drew his foot forwards. On admission he was found to be a delicate man, with hair rapidly becoming gray. There was a very sharp angular curve, its apex corresponding to the spine of the tenth dorsal vertebra. His right leg lay motionless in bed, the foot being extended and adducted by the contraction of the muscles of the calf. The resistance offered by these muscles prevented the foot being flexed to a right angle. When flexed as much as possible the patient could extend it slightly by means of the flexor muscles. He could not flex the knee, but if the knee were placed in a position of flexion he could forcibly extend it; he could also adduct the thigh upon the pelvis. He could not voluntarily contract the extensor muscles of the leg. He did not notice any loss of power of the left leg, but there was some apparent paresis of the extensor muscles of the leg. The patellar reflexes were much exaggerated on both sides, and ankle-clonus was also present. A depressed patellar reflex could be obtained on the right side. The plantar, abdominal, epigastric and cremasteric reflexes were absent on both sides. There was impaired sensation on both sides, extending up to the inguinal region. On April 9th, his symptoms had progressed steadily since his admission on March 20th. Anæsthesia and

analgesia were almost complete on the right side up to the distribution of the ilio-inguinal and hypogastric nerves; above this sensation was impaired for an interval. The loss of sensation on the left side was very considerable, yet not so marked as on the right. The patient was then able to adduct the right thigh only very slightly when it was placed in a position of abduction, but could produce no other voluntary movement in the muscles of that limb. He could adduct the left thigh and extend the knee-joint if the latter was flexed for him. Otherwise he had no voluntary control over the muscles of the left leg. On April 19th some slight power of adduction of the left thigh remained. Analgesia existed over both legs, also anæsthesia to moderate stimuli, but at places he could feel a forcible pinch as a gentle stroke. Ankle clonus was marked on both sides, but especially on the right. The knee-jerks were marked. Plantar reflexes present and marked on both sides. On May 2nd he had completely lost power over both of his lower extremities. There was analgesia on both sides, and what ordinary sensation was left was very slight. The superficial and deep reflexes were more marked than on the last observation, and it had become possible to obtain an epigastric reflex on the right side. A few days later the epigastric reflex could be obtained on the left side. During the whole of this period his temperature had been normal, with occasional trifling variations. On May 13th he was put under chloroform and the soft parts were turned off the laminæ and spinous processes of the ninth, tenth and eleventh vertebræ. These were removed with bone forceps, when a large mass of granulation tissue, resembling in appearance and structure tubercular synovial membrane, protruded. This contained in its centre about eighty minims of purulent material. The whole of the growth was removed, together with a small process which extended forwards to the right of the dura mater sheath. The mass seemed to be centrally placed, and, except for the presence of the narrow prolongation already alluded to, there was no evidence at the time of the operation that the right segment of the cord was more compressed than the left, though it would seem probable that at an earlier period this material was placed more

to the right of the middle line. It could be scraped off the dura mater, which was quite intact and healthy. The wound was closed and two drainage-tubes inserted. These were removed on May 14th, on which day he said that his legs felt quite different. On the 16th he was able to move the left leg slightly, and sensation, both special and ordinary, had improved. He continued to gain power in both legs with rapidity, sensation apparently improving in the same proportion. Corresponding with the increase in power and sensation the reflexes became less exaggerated. During this period he suffered severely from cramps in his legs. At the present time, June 12th, he has lost his exaggerated reflexes, he has completely recovered sensation in the lower part of his trunk and in his legs, and he can move his legs freely and with much force. He is waiting till the spinal column has consolidated to be fitted with a suitable proplastic support. Recovery has in his case been most complete.—*Lancet*, July 5, 1890.

**Post-Epileptic Unconscious Automatic Actions**—(By Walter S. Coleman, M.B., M.R.C.P.)—In a typical epileptic fit three distinct stages may be distinguished: (1) Sudden loss of consciousness, with or without warning; (2) convulsion, first tonic, and then clonic; (3) a longer or shorter period of continued unconsciousness, without convulsion. If a large number of cases be taken, we find great variation in the degree in which each of these stages is present. In some, for example, the convulsion may be severe, and the recovery of consciousness rapid; while in others, although the convulsion may be slight, the patient may remain in a state of unconsciousness for some time. Again, in the condition of *petit mal*, consciousness may not be lost, but may merely be "defective," and the stage of convulsion may be slight, or altogether absent, and so on. The object of this paper is to draw attention to some special variations of the third stage, in which the convulsion has ceased, but consciousness has not been restored. I am indebted to Dr. James Anderson and Dr. Tooth for permission to quote several cases illustrating the different varieties. The duration of this

stage, as is well known, is very variable. Frequently it is prolonged and so deep as to be spoken of as *coma*, in other cases it passes insensibly into normal sleep, and in others it is only momentary. As a rule, the patient lies perfectly still during this stage with all his muscles relaxed. Occasionally, however, without in the least recovering consciousness, the patient may perform automatic acts of great complexity. He may talk, run about aimlessly or in a fixed direction, and may become violent or even homicidal. This stage in these cases may last from a few seconds to several hours, and on recovering consciousness the patient has not the slightest recollection of what he may have been doing. Dr. Hughlings Jackson regards this condition as analogous to the paralysis of the affected limb, which is seen after epileptiform fits. He thinks that there is exhaustion of the "highest" (intellectual) centres in the brain, and that, in consequence, the normal control is taken off the lower centres. The condition is usually spoken of as the post-epileptic state. It certainly is subsequently to the convulsion, but should, strictly speaking, be regarded as the closing stage of the fit.

It is most important to bear in mind that these automatic actions may occur, not only after severe epileptic fits, but quite as frequently after minor seizures (*petit mal*) in which there may be nothing to attract the notice of anyone that there is anything the matter with the patient, who suddenly loses consciousness but does not fall, and immediately performs acts which are without reason, often grotesque, and not infrequently criminal. This is well illustrated by the following case. A clerk in the city, who had been attending at Queen-square Hospital for some years for epilepsy and *petit mal*, but who had never previously performed any automatic acts, was one day sent to a merchant's office where he had never been before. Almost immediately on entering he recollects experiencing his usual aura of an attack of *petit mal*, but remembers nothing further. It appears that he then pushed the merchant out of his chair, and sat down in it himself, displaced all the papers on the desk as if searching for something, got up without taking any of the papers, and abruptly left. He passed safely through the crowded city streets

to his own office, and then only did he recover consciousness. He went back on his errand, but had the greatest difficulty in persuading the merchant, who had not noticed the initial attack of *petit mal*, that he had acted unconsciously. Had he taken any paper of value his story would almost certainly have been disbelieved, and he would probably have been unable to clear himself from a charge of wilful theft. These automatic actions may be roughly divided into certain groups.

*Cases in which the patient merely talks.*—In these cases there is rarely any coherent line of thought to be detected. Utterance is usually rapid and indistinct, and is extremely like that of a person talking in his sleep. Not infrequently there is some word or phrase which is repeated after each attack. One girl who used to have as many as eighty attacks of *petit mal* in the day, used to say, “Fsum, tsum, tsum” about twenty times, and then abruptly recover consciousness. A boy who had frequent fits used to repeat “Forty, market, corner, book” over and over for about a minute after each. In France cases have been described as “arithmomaniacs,” epileptics who are usually of weak intellect and occupy themselves habitually with simple arithmetical calculations. At the close of a fit these patients will often propound some problem, such as the number of seconds in 1500 years, etc.

*Cases allied to somnambulism.*—In one case actual somnambulism did occur after each nocturnal fit. The patient, a boy, was subject to slight fits during sleep, at the close of which he used always to get up, go to the window, open it and close it, and then return to his bed, without recovering consciousness at all. In another case a woman more than once got up and went out into the street in her night-dress. On one occasion she was taken to the police-station on the supposition that she was drunk. Another, a man, used to get up after each nocturnal fit, put on his clothes, and return to bed with them on. If he did not find his own clothes he put on those of his wife. This patient used also to perform automatic acts after diurnal fits. He used to brush his clothes vigorously, and then “tidy” the table by sweeping anything that was on it on to the floor. Closely allied are

those cases in which the patient walks about unconsciously after a diurnal fit (either severe or slight). One such patient, on several occasions, after an attack of *petit mal*, walked to a house two miles off which he had occupied three years previously, the present occupants of which did not know him. After a short stay he would go away, and not recover consciousness for some time afterwards. Another, who was going from the city to Islington, found himself on the platform of a suburban station to which he had no object in going. How he got there he has no recollection. In other cases (frequently spoken of as "pro-cursive epilepsy"), at the close of the fit the patient suddenly springs to his feet and runs about at full speed, avoiding all obstacles. If restrained such patients may become extremely violent, as in a case which I have previously recorded (*Lancet*, Oct. 12th, 1889). In the case of another patient, whom I saw with Mr. Jago of Barnsbury, such attacks constituted seizures of *petit mal*. He frequently was seized with a sudden uncontrollable impulse to run at full speed, which he had to keep up for a minute or two.

*Actions suggested by the feeling of malaise.*—This feeling of malaise is adopted by Dr. Gowers, in his classical work on Epilepsy, as the explanation of those cases in which, at the close of a fit, patients commence to undress themselves, a proceeding which has given rise to unjust charges of indecent exposure or suggestion. Another of Dr. Gowers' patient used to climb up a dining-room table as if it were a flight of stairs. He regards both acts as the outcome of the patient's desire to go to bed.

*Cases of so-called "kleptomania."*—It is not at all uncommon for epileptic patients to transfer, without considerations of ownership, any articles which may be lying near them to their pockets. They appear to be guided by the proximity of the objects and not by their intrinsic value—a shaving brush, for instance, being selected quite as soon as a purse. One patient, who had been epileptic for some years, on one occasion had an attack of *petit mal* in an ironmonger's shop. He then placed a large coal-scuttle on each arm and deliberately walked out of the shop with them. There is usually no attempt to select articles, anything that is

handy being stowed away. In this respect the epileptic "kleptomaniac" is widely removed from most of the "kleptomaniacs" met with in the police-courts.

*Violent acts after epileptic fits.*—These are frequently seen in epileptic patients in asylums, and are often the cause of their being placed under restraint. In these cases also the acts of violence may occur in attacks of *petit mal*, and may therefore be quite sudden, without any appreciable warning or apparent cause. Undoubtedly many murderous assaults have been committed in the post-epileptic state, without their automatic character being recognized. In one case under my observation a youth aged 18 several times attempted to mutilate his genital organs after an epileptic fit, and on another he almost succeeded in doing the same to a younger brother. He was in consequence removed to an asylum.

*Cases in which patients deliberately micturate.*—This occurs in these cases, not as a part of the general convulsion, but as an apparently purposive act after an attack. Thus, Trousseau mentions a magistrate who on one occasion was observed to leave his court, go into the council chamber, micturate in the corner of it, and then return to his own seat without being at all aware of the action. A similar tendency was present in the case of a respectable girl, 20 years old, who came under observation recently. She had attended the hospital for twelve months for ordinary epileptic fits and frequent attacks of *petit mal*, consisting chiefly of sudden desire to pass urine. Usually the sensation had been transient, and she had been able to retain control over her bladder. On a recent occasion, however, when she was at a public entertainment, the attack of *petit mal* was of longer duration than formerly, and while in the unconscious condition she deliberately lifted her clothes and began to void urine in public; and it was with the greatest difficulty that her friends prevented the authorities from handing her over to the police. Many other cases might be quoted, but the foregoing will serve to illustrate the kind of actions which may occur in the post-epileptic state. The frequency with which these phenomena followed attacks of *petit mal* impresses the necessity of exercising

great caution when called upon to give evidence in a police-court or elsewhere, as to the responsibility of a person for acts of this description. It is evident from these cases that it is not sufficient to exclude severe epileptic seizures, but a liability to *petit mal* must also be inquired for, and excluded, before it can be decided that criminal and other acts have not been involuntary epileptic phenomena. At the same time, the other extreme must be carefully avoided, that of regarding *all* acts of violence, etc., in epileptic patients as involuntary. Partly owing to the social isolation which is so often their lot, and partly to the cerebral deterioration which so frequently occurs, these patients may become suspicious and irritable, and their moral sense may become much blunted. It must be borne in mind that in post-epileptic phenomena there is usually no motive for the act, and there is often something grotesque about it; and when an epileptic, otherwise in good mental condition, steals valuable or desirable things, or deliberately commits some act with the view of gaining some advantage for himself, one should be very slow to give evidence that such acts are involuntary and part of an epileptic fit.—*London Lancet*.

### **Esmarch's Bandage as an Aid to Cocaine Anæsthesia in Minor Surgery —**

Some time ago Mr. Mayo Robson and Dr. Corning showed that the local anæsthetic effects of cocaine, when applied by subcutaneous injection, can be considerably intensified and prolonged, and the danger of poisoning prevented, by means of an Esmarch bandage applied above the site of the injection. Dr. E. Kummer, of Geneva, recently tried this method in over 50 cases of various minor surgical operations, including incision of whitlow, evulsion of ingrowing nails, excision of hypertrophied scars, or of subungual exostoses, ganglia of the wrist or fingers, stretching the median nerve, resection of phalanges or digits, etc. The results obtained were highly satisfactory, all the operations being totally painless, and no toxic phenomena occurring. As a rule, Dr. Kummer employs a 1 per cent. solution of hydrochlorate of cocaine, injecting several drops with a Pravaz syringe into

several points around and over the site of operation, and carefully preventing the reflux of the fluid by compression. The total maximum dose of the alkaloid in adults was never more than 0.05 gramme, the limit in children being 0.01-2. In operations on a finger or toe a thin elastic bandage was tied around its base; this was fully sufficient to secure a perfect anæsthesia of all local tissues, including bones. In operations higher up the limb two elastic bandages—a proximal and a distal one—were necessary, and even then only soft tissues were anæsthetized, the bone remaining sensitive. Anæsthesia was complete in about eight minutes, when the operation may be commenced. When the operation was finished, and before the dressing was applied, the wound was allowed to bleed moderately for some while, in order to allow as complete a washing-out as possible of the cocaine injected. When the application of Esmarch's bandage is impracticable cocaine produced anæsthesia of the skin alone, for which purpose an injection of 0.01 gramme was sufficient.—*British Medical Journal*.

**A Case of Antifebrin Poisoning.**—A young muscular, married woman, who suffered frequently from headache, and was in the habit of taking antifebrin under medical advice. on the 26th June, while suffering from headache, took at 7 A.M., fasting, about a teaspoonful of antifebrin which she herself shook into a glass of water out of a wooden box. This dose having no immediate effect after about ten minutes, she took such another. Her husband, afraid of the dangerous effects of such a large dose, gave her a glass of milk and soon afterwards a solution of alum, with the result of producing emesis. But in spite of that, she soon experienced vertigo, ringing noises in the ears, throbbing in the temples, dull pains in the head, and very great weakness, and the complexion became bluish gray. When Dr. Vierhuff saw the patient four hours after the antifebrin had been taken she presented the following appearance: lividity of countenance; blueness of the lips, fingers and toes; remarkable pallor of the whole surface of the body; pupils contracted; consciousness not impaired; heart's action weak; pulse

84, weak; temperature 36.4C. A heaped-up teaspoonful of Carlsbad salt as a purge and alcoholic stimulants were given. In about half an hour sudden collapse set in, the heart's action became irregular, the pulse became uncountable and barely perceptible, and breathing very shallow. Consciousness disappeared and the woman appeared to be moribund. The treatment then consisted of irritation applied to the soles and palms, the dashing of cold water on the body, and the subcutaneous injection of two grammes of a solution of camphorated oil and sulphuric ether. Consciousness gradually returned, but the patient remained extremely weak, and the collapsed condition lasted some three hours and a half, when improvement slowly set in. After the vomiting of some dark material the patient felt somewhat relieved and took some milk. Another faint turn occurring, Dr. Vierhuff made a solution of salt which was injected into the skin by means of an irrigator, to which a strong Pravaz syringe was attached. In the space of two hours as much as a beer-glassful had flown in. In the meantime camphorated oil and ether were injected as before. The introduction of this quantity of solution of salt into the circulation appeared to be of the greatest service, but the patient remained in a critical state for fourteen hours after the taking of the medicine. Anæmia and debility remained for some time, and it was a week before she was able to walk in her room.—*Centralblatt für die gesammte Therapie Wien.*, Juli, '90.

**Typhoid Fever in the Hospitals of Paris.**—M. Merklen, at the Société Médicale des Hôpitaux, read a report of a committee appointed to investigate this subject. It was found, as a result of their labors, that, although statistics were often deceptive, yet it would appear that the method of Brand yielded results slightly better than what is known as the symptomatic treatment. The difference in mortality is not more than 3 or 4 per cent., but it would probably be greater if all cases indiscriminately were subjected to bathing, and if the cold baths were not used, in some instances, until the patient had been for some days treated on the expectant plan. For all that, in Paris, the low mortality reported by Brand

(1 per cent.) and by Vogt (2.7 per cent.) is far from being reached. Our figures approach more nearly those reported by the civil hospitals of Lyons, viz., 7 or 8 per cent. Brand has stated that every case of typhoid fever in which the treatment by bathing has been begun before the fifth day will recover without complication. Unfortunately our hospital patients do not arrive at such an early stage of the disease. According to M. Peter, the cold bath constitutes a supreme resource against a supreme danger. It is in reality a powerful antithermic agent and an efficacious diuretic, but should it be reserved for exceptional cases or should it be adopted as a treatment suitable for all cases? It does not appear that the use of the bath has afforded results markedly more successful than those yielded by other plans of treatment. In the figures above mentioned, the combination of quinine and tepid bathing has furnished the best results (7.33 per cent.). M. Jaccoud, with a treatment combining antipyretics, cold sponging and tonics, has lost 71 cases in sixteen years, equivalent to 10.83 per cent.; M. Bouchard, with quinine, tepid baths gradually cooled down, and intestinal antisepsis, has a mortality of 11.16 in 421 cases. These results do not vary greatly from those obtained in our hospitals by the Brand method. Nevertheless, since 1882 the mortality from typhoid fever in our hospitals has been diminishing. In the previous report this successful result was attributed to the use of antipyretics. Since then, however, this rate of mortality has again fallen, and this is probably the result of the introduction of the bathing treatment. Better figures may be looked for, and the investigation committee hope that their efforts may be aided by the careful recording of cases and their results.—*La France Médicale*.

**The Value of Vaccination.**—Dr. Swaine makes the following report in the *British Medical Journal*, July 5th, 1890:—"I have just read in the *Journal* of May 10th, 1890, the paragraph regarding the efficacy of vaccination in prevention of smallpox and diminution of mortality observed among the native bearers of the Stanley expedition during the relief march

across Africa. Allow me also to testify to the efficacy of vaccination, which has given immunity from smallpox to the regiment (2nd Infantry H.C.) under my charge during three epidemics. The Sepoys and their families have been so thoroughly protected by vaccination and revaccination, that when stationed at Ellichpur Berar, where there was a severe epidemic of smallpox in the district and cantonment during April and May, 1883, although the men and families of the regiment (1,715 persons) had been in communication with the infected villages, only two cases occurred. These two were the children of Sepoys, and had not been vaccinated, as they had only arrived in the lines a few days before. All their brothers and sisters were vaccinated, and were free from smallpox. There were no other cases in the regiment. At Hingoli, where the depôt and families (800 persons) of the Sepoys were left during the absence of the regiment in Burmah, there was a severe epidemic of smallpox in the cantonment and surrounding villages (January to May, 1888), to which there was free communication, but there was not a single case among the families and depôt of the 2nd Infantry H.C. The regiment returned from Burmah and arrived at Hingoli in April, 1888, in the middle of the epidemic. The whole regiment enjoyed complete immunity, although the men were in a most favorable condition for contracting the disease, as they were anæmic and debilitated, owing to exposure and hardships during field service in the unhealthy climate of Burmah. During the epidemic of smallpox at this station (Jalna, Deccan) last year the same complete immunity was enjoyed by the men of the regiment and their families (1,537 persons). I have been now with this regiment eleven years, and during that time have had three epidemics of smallpox in the stations where we have been quartered, and have had only two cases in the regiment, and these were the two unvaccinated children at Ellichpur."

**Treatment of Ringworm.**—Mr. Jonathan Hutchinson (*Archives of Surgery*, January, 1890) says: "I have gradually, after trials of many other remedies, settled down in tolerable content upon a plan which relies chiefly upon

chrysophanic acid. My prescription, with the very rarest exceptions, is as follows: The liquor carbonis detergens (Wright's) is used as a wash in the proportion of a teaspoonful to a pint of hot water. With this the scalp is to be well washed twice a week, and all scales and crusts removed. The hair is to be shaved or cut close. The curative ointment, which is to be rubbed in more or less freely, according to its effects, night and morning, or every night only, by the same rule, is composed as follows:

℞ Acid Chrysophanic, . . .	ʒi.
Hydr. Amm. Chl., . . .	gr. xx.
Lanoline, . . . . .	ʒi.
Adip. Benzoe, . . . .	ʒvi.
Liq. Carb. Deterg., . .	℥x.

Misce fiat Ung.”

Mr. Hutchinson remarks that the secret of success in treating ringworm consists in the patient continuance of the same remedy. He usually promises a cure to the persevering, but never a rapid one. It is only the impatient who are disappointed. Mr. H. has no faith in the rapid cure of ringworm.

**Abuse of Purgatives.**—Professor Sanger, at a meeting of a medical society at Leipzig, spoke very strongly on the abuse of purgatives. He complained that not only did the public buy immense quantities of aperient pills, draughts and waters, but that practitioners also pandered to the craving for instantaneous relief from constipation, so common amongst patients. Quack laxative medicines were advertised in every newspaper, on walls, in stations, and on the trees and rocks in romantic districts of Europe frequented by tourists. The competition in invention of a secret purgative was very keen. In this respect, a Polish doctor was not wise in his generation. This gentleman, who, according to Dr. Sanger, appeared to have no special anxiety about his patients' vermiform appendages, prescribed gravel, and boasted that he had already prescribed whole cart-loads; but a drug which anybody could scrape up in his garden could not be patented, and therefore would never gain the con-

fidence of the public, who love mystery in purgatives as in other matters. Professor Sänger said that the abuse of these drugs caused, not habitual constipation, but rather "artificial constipation." The evil was most prevalent amongst women with chronic pelvic diseases, real or imaginary. He ordered, in such cases, that all purgatives be discontinued. He never had bad results, even when constipation lasted for over a week. Belladonna was the only drug he ever used when flatulence, etc., set in, and when the constipation lasted for very long. He objected to dieting, which kept up a pernicious feeling of invalidism, and, finding that the patients drank little water, he made them take several glasses of filtered water daily, when fasting; occasionally whey or buttermilk was given as a change. Fruit, brown bread and exercise were recommended. Professor Sänger found this treatment far better than massage, visits to watering-places, enemata, and other familiar means to the same end. In the long run his patients had natural actions of the bowels, and were cured of their invalidism.—*Brit. Med. Journal.*

**Painted and Dyed Sausages.**—In the report of the Dairy Commissioner of New Jersey for the year 1889, the following interesting particulars as to the manufacture of sausages are given. Twelve samples of Bologna sausage were examined, with the result as follows:—

"The analysis of the Bologna and the skin in which the meat was placed showed that some dye, probably one of the anilines, was used to color the material, in order that some defect might be hidden or the article made to appear better than it really was; also, that some substance had been applied to the exterior of the sausage similar to varnish. Further analysis revealed the presence of triamidoazobenzine, or Bismarck brown, one of the aniline colors; this was in the meat. The skin, or 'casing,' was coated with a varnish containing shellac. This discovery was the means of arriving at all the details of the process employed. The sausage in question was prepared in the following way: after the meat was chopped and the sausage-meat thus prepared put into the casings, the sausage was boiled in a bath containing a portion of the following coloring

agent: Bismarek brown, fourteen parts; garnet red, two parts; water, one and one-half pints. This gave the sausage a brown color. When this process was complete the sausages were coated with a varnish composed of shellac, resin, oil and alcohol. In order that the small local manufacturers of sausage might engage in the practice of making dyed sausages, the compositions referred to above were offered for sale through the State, and the staining material was sold under the name of 'smokine' or 'liquid smoke.' The sale of the article was checked by the official action of the inspectors throughout the State."—*The Sanitarian*, July, 1890.

**Herpes Zoster in Influenza.**—Among the innumerable complications and sequelæ of influenza rashes and skin affections of various kinds have not been wanting. Urticaria, ecthyma, scarlatiniform, morbilliform, and polymorphous erythema, erythema nodosum, roseola, erysipelatoid dermatitis, purpura hæmorrhagica, herpes of the lip, nose and cheek, with several anomalous eruptions, have been reported by different observers. To this formidable list must now be added herpes zoster. At a meeting of the Medical Society of Bologna on March 28th, Dr. G. Finzi reported a case in a girl of 15, who, after recovering from a severe attack of influenza, was seized with neuralgic pain, accompanied by a pricking and burning sensation, shooting from the back round the right side. On being seen five days later, a chain of herpetic vesicles was found extending along the seventh intercostal space, the lymphatic glands in the axilla being swollen and tender, and pressure along the course of the seventh intercostal nerve making the patient scream with pain. In from eight to ten days the vesicles disappeared, the whole duration of the symptoms having been about a fortnight. At the same meeting Dr. Camillo Moglia reported a case of herpes zoster corresponding to the eleventh intercostal nerve of the right side in a girl of 18, in whom the disease appeared at the beginning of an attack of influenza, and lasted a month. Another case in which "bilateral universal" herpes zoster (which, from the description, seems to have been a vesicular eruption all over the body) showed itself on the fourth day of influenza is recorded by Dr. Luigi Pennetti in the *Riforma Medica* of May 29th; the eruption recurred in a milder form after a second attack of influenza. Altogether the herpes zoster lasted twenty-five days. In Dr. Finzi's case antipyrin relieved the pain, but Dr. Moglia's patient proved refractory to treatment.—*Brit. Med. Journal*.

**Etiology and Treatment of Insomnia in Children.**—(SIMON, *Rev. mens. des Mal. de l'Enf.*, May, 1890.)—The treatment of insomnia will depend upon the age of the child when it is due to digestive trouble. The condition may be the result of too frequent nursing, to improper physical condition of the mother, or to some peculiarity about her milk. With bottle-fed children the insomnia may be traced to the bottle or its contents. Should the insomnia continue after these precautions have been taken, a teaspoonful of lime-water or of Vals water may be given between consecutive nursings, and as a laxative a teaspoonful of syrup of chicory or a pinch of magnesia in sweetened water. If insomnia is due to premature weaning, it will usually disappear if the child is restored to the breast. If weaning has occurred at the proper time, the regulation of the diet will go far toward relieving any tendency to insomnia. When insomnia is dependent on indigestion in children two years of age and upward, a dose of wine of rhubarb or of wine of pepsin at suitable intervals is indicated. To children five or six years of age give a few drops of the following mixture :

℞ Tinct. quinquinæ, . . .	5.00 grammes.
" rhei, . . . . .	2.00 " "
" calumbæ . . . . .	2.00 " "
" nucis vom. . . . .	0.50 gramme.

All food should be well cooked, and should be finely divided if there be any suspicion that it will not be well masticated.

Insomnia may be attributable to nervous disorders, which may be divided, in this connection, into several groups. The first group would include cerebral sclerosis, chronic hydrocephalus, cerebral tumors, bony lesions, with abscess of the brain. For insomnia from cerebral sclerosis, bromide of potash may be given until relief is obtained, either with or without the iodide. Should this be unavailing, valerian or chloral may be given, with calome] as a laxative. Similar treatment will be suitable with cerebral tumor, or chronic hydrocephalus, but not with cerebral abscess. The insomnia with the latter condition will continue until the pus is evacuated by suitable trepanation. The second group from which insomnia may result includes acute congestion, in-

ipient meningitis, and cerebral irritation. With acute congestion one should use mild revulsive agents, and, in addition, quinine, aconite, the bromides, and calomel. With incipient meningitis revulsives are also indicated behind the ear or at the nucha. With cerebral irritation, the bromides and chloral will prove beneficial, the latter being given by the rectum. For insomnia with headache, in growing children and those who droop under the confinement of school, a course of bitter tonics, gymnastics, lukewarm baths, and diminution of the hours of study, should be advised. With the neuralgias and chorea, the insomnia may be antagonized by suitable doses of antipyrine. If a child is hysterical, iron, valerian, asfoetida, and warm baths should be used the same as if no insomnia existed. With epilepsy, if the bromides are ineffectual, strychnine and belladonna should be tried. With all the foregoing conditions galvanization of the head will prove most beneficial in adults, but from the anatomical peculiarities of the case, if it is used in children, the current must be very weak, and not employed more than half a minute at a time. Static electricity is not open to the same objection, and gives admirable results if the insomnia proceeds from chorea, hysteria, headache, gastro-intestinal disorder, or disturbed mental balance. When insomnia is due to pain, as in Pott's disease, coxalgia, white swelling, etc., large doses of quinine will sometimes afford relief. If due to the fevers, opiates must be given, but very gradually, for their depressant action must be remembered, and also the fact that they lock up the secretions. With influenza, quinine or antipyrine will relieve insomnia, and with the rheumatic diathesis the same drugs with the addition of salicylate of soda.—*Amcr. Jour. of Med. Sciences*, August, 1890.

**A Contribution to the Etiology of Diphtheria.** (By E. Klein, M.D., F.R.S.)—This paper, which was read at an ordinary meeting of the Royal Society on May 22 last, contained the substance of a research which had been undertaken by the Medical Department of the Local Government Board, and was communicated to the Society with the permission of the Medical Officer. The paper commenced by stating that the microbe of diphtheria had

been first described by Klebs in 1883, and first grown in artificial cultures by Löffler, but that the author, in the Report of the Medical Officer of the Local Government Board for 1889-90, had shown that two kinds of bacilli occur in diphtherial membranes, the second of which is the more virulent of the two. This more virulent bacillus acts very powerfully upon guinea-pigs by subcutaneous injection, producing a local tumour which precisely resembles, both in pathology and in microscopic section the diphtherial membrane of the human subject. In human diphtheria the bacillus is present only in the diphtherial membrane, but neither in the blood nor in the diseased viscera; and the same holds good with inoculated guinea-pigs. In subcutaneous inoculations with artificial cultures, although it causes in these animals disease and death, and although the lungs, intestines, and kidneys are greatly congested, the diphtherial bacillus remains limited to the seat of inoculation; from whence it has been concluded that the diphtherial membrane is the sole seat of multiplication of the bacillus, but this produces a chemical poison which is absorbed into the system, and which causes the generally diseased condition, and often death. Roux and Yersin have separated from artificial broth cultures the chemical products alone, and by injection of the latter into guinea-pigs have produced a general effect. In this year's Report of the Medical Officer to the Local Government Board the author has shown that such injection of cultures into guinea-pigs produces an active multiplication of the bacilli at the seat of injection, and that they can be obtained in pure culture on gelatine both from the local tumour and from the nearest lymph glands. On various occasions during the last three years the author has received information from health officers of a curious relation between a disease in cats and human diphtheria; such that a cat or cats were taken ill with a pulmonary disease, and when ill were nursed by children, and then these latter sickened with well-marked diphtheria. Or children were taken ill with diphtheria, and, either at the same time or afterwards, the cat or cats sickened. The disease in the cat was described as an acute lung trouble; the animals were quiet, did not feed, and seemed unable to swallow. In some cases they recovered; in

others they became emaciated, while the lung trouble increased, and they ultimately died. In one instance the cat malady, occurring where children were soon after attacked by diphtheria, was of a widespread nature; and *post-mortem* examination of the affected cats showed severe lung disease, broncho-pneumonia, and large white kidneys due to fatty degeneration of the entire cortex; a similar condition being also met with in the human subject as an effect of diphtheria. Subcutaneous inoculations of cats were carried out with particles of fresh human diphtherial membrane and with cultures of the diphtherial bacillus, producing a local diphtheritic swelling at the seat of inoculation and a general visceral disease. In the cases in which death followed after a few days the lungs were found much congested; when death followed after one or more weeks the lungs showed broncho-pneumonia, and the kidneys were enlarged and white, the cortex being in a state of fatty degeneration. If the disease lasted beyond five to seven days both kidneys were found uniformly white in the cortex; if of shorter duration the fatty degeneration was sometimes only in patches. Although in these experiments the bacillus was recoverable by cultivation from the swelling at the seat of inoculation, no bacilli were found in the lungs, the blood, or the kidneys; and hence the conclusion is justified that, as in human diphtheria and in that produced by the inoculation of guinea-pigs, so in these experimental cats the visceral disease was a result of the action of a chemical poison, produced by the growth of the bacillus at the seat of inoculation. From this it is seen that the similarity between the natural and the artificial disease in the cat is very great, and the question that arises is as to the manner in which the cat either receives or imparts the diphtherial contagium, in the natural disease. This natural disease in the cat is in its symptoms and pathology a lung disease, and it is reasonable to suppose from analogy that the lung is the organ in which the diphtherial process in the cat has its seat. The microscopic examination of the diseased lungs of cats dying from the natural disease bears out this supposition, the correctness of which has also been proved by direct experiment. Broth culture of the special bacillus was introduced into the wind-pipe in cats

without injury to the mucous membrane. The animals became ill with acute pneumonia, and on *post-mortem* examination, from two to seven days, there was found extensive pneumonia and fatty degeneration of the kidneys. The air passages contained an exudation like that of human diphtheria, and the bacilli were present in large numbers. During the last ten or twelve years several epidemics of diphtheria have been traced to milk, but the way in which the milk became contaminated with the diphtherial virus was not ascertained, although the evidence was very strong that it had not been from a case of the disease in the human subject. The cows which yielded the milk were not reported to be unhealthy, except from having sores or chaps on their teats. The author has made experiments which appear to him to throw much light upon these outbreaks.

Two perfectly healthy milch cows, which had been kept under observation for ten days prior to the experiment, were inoculated with a broth culture of the bacillus derived from human diphtheria. On the second and third days there was a soft tender swelling at the place of inoculation, which reached its *maximum* at the end of a week, and then gradually became smaller and firm. The animals had a raised temperature, and left off feeding on the second or third day, then to all appearance recovered. But on the eighth or tenth day they were attacked by slight cough, which gradually increased. Both became emaciated; one died on the fifteenth day, the other was killed (being very ill) on the twenty-fifth day. During the illness both animals had an eruption on the teats and skin of the udder, which appeared in successive crops. From one of the cows on the fifth day milk was drawn from a healthy teat, the outside of the teat and the milker's hand having first been thoroughly disinfected. From this milk cultivations were made, and it was found that thirty-two colonies of the diphtheria bacillus, without any contamination, were obtained from a single cubic centimetre. Contrary, therefore, to what happens in the guinea-pig and in the cat, the diphtheria bacillus passes from the seat of inoculation into the system of the cow, and makes its appearance in the milk. The presence of the bacillus in the eruption on the udder was also demonstrated, both by microscopic examination

and by experiment. Two calves were inoculated with matter from this eruption, and both developed a similar one, besides becoming affected with severe broncho-pneumonia and fatty degeneration of the kidneys. It therefore appears that a definite disease can be produced in the cow by the diphtheria bacillus, and the contamination of the milk shows that the bacillus, as such, invades the general system.

At the beginning of the month of April two cats died at the Brown Institution, after having been ill for several days, with symptoms like those of natural cat diphtheria. Between the beginning of April and the beginning of May, fourteen cats became similarly affected, some more severely than others, and some died with the characteristic morbid changes. This epidemic, as it may be called, commenced with the illness of the first two cats about the end of March; and the question arises as to how the disease originated in these two animals. No cats had been ill in their shed, and the two affected ones were healthy when received at the institution some weeks before. But during the latter half of March there were in the stables of the institution two milch cows ill with diphtheria induced by inoculation with the human diphtheria bacillus—in fact, the two cows already referred to. The diphtheria bacillus was found in the milk drawn from one of these animals on the fifth day after inoculation, and orders were given to the attendant that the milk of both cows was to be thrown away. This order was not obeyed, for part of the milk was given to the two cats above mentioned, and they sickened as described, within a day or two afterwards. It ought to be mentioned that the man in attendance on the cows had also charge of the cats, but, in view of the fact that he was himself free from the disease, the possibility of his having conveyed it from the cows to the cats may be disregarded.—*The Practitioner*.

**Inflammation of Bones of Typhoid Origin.**—According to the Berlin correspondent of the *Medical Press and Circular* for June 4, 1890, Herr Fürbringer introduced this subject at the recent Congress of Medicine. He remarked that the subject had never been regularly treated in any work, and that in treatises on typhoid the subject only

came in for treatment as a complication, but it had been well described abroad, and especially by French writers. In 1885, Freund gave an account of the literature of the subject, and reported five cases of his own. In the preceding year seventeen cases observed by other authors followed, among which were eight by Ebermaier, who was the first to furnish proof that the affection owed its origin to the typhoid bacillus. The disease consisted in longer or shorter, slighter or heavier, attacks of periostitis and osteomyelitis of a suppurative or non-suppurative form. The attacks befall the most varied parts of the bony structure. A careful examination of the recorded cases show that a large number of the cases described must be excluded from the category of typhoid osteitis. The author had only observed the disease five times in sixteen hundred cases of typhoid fever. The most remarkable case was that of a boy of  $7\frac{1}{2}$ , in whom, in the course of four months, seven outbreaks of the disease attacked ten different parts of the bony system. The boy recovered, and indeed began to mend from the day on which the crisis of an attack of influenza occurred, the only good deed, the author remarks, he had ever witnessed from the miserable *grippe*. The other four cases were observed in the hospital Friedrichshain—two boys aged 12, a man aged 21, and a woman aged 25. The last patient showed a pyæmic temperature curve, with rigors, although suppuration never took place. Disease of the ribs awakened suspicion of a hepatic abscess. Recovery took place in this case also, although the patient was at one time as good as given up. In the third case the trochanter and ischium were chiefly affected, the diagnosis as marked on the note of admission being coxitis. In the fourth case the skull was the part affected, in a rather severe but evanescent manner. The fifth patient died after cessation of the osteomyelitis from hæmatopyopneumothorax, in consequence of bursting of a necrotic collection in the lungs. The author preferred the term osteoperiostitis, as a separation of the osteitis from the periostitis was not possible. His cases confirmed the view of Ebermaier that the typhoid bacilli wandered from the medulla of bones to the periosteum. As regards symptomatology, he remarked quite striking exacerbations of pain, and the frequency of the occurrence of the

disease without suppuration. Some of the suppuration cases were due to sepsis, serofulous tendencies, advanced disease, and possibly improper treatment. Regression took place as in syphilis, but the topi did not so completely disappear as in that disease.—*Therapeutic Gazette.*

**Treatment of Acute Gonorrhœa.**—In the *Archiv für Dermatologie und Syphilis* appears a paper by Dr. Friedheim, containing an elaborate account of a large number of experiments made in the clinic of Professor Neisser, of Breslau, with the view of determining the best treatment in acute gonorrhœa. The object aimed at was to find the local application which possessed in the highest degree the power (1) of killing the gonococci, (2) of influencing the inflammatory phenomena, (3) of promoting epithelial desquamation, and thereby securing mechanical elimination of the micro-organisms. Among the numerous drugs experimented with were various preparations of mercury, including the perchloride and salicylate, permanganate of potash, iodoform, boric acid, pyrogallie acid, re-orein, antipyrin, thallin, and many others. But of all those now tried, the best results, as tested by the microscope, were obtained from a solution of nitrate of silver, of a strength varying from 1 in 4,000 to 1 in 2,000. The treatment is begun by the injection of this solution in the ordinary way, from four to six times a day, the result being that at first the discharge becomes more abundant, thicker and more purulent; but in about four days the secretion diminishes, becomes thin, and contains a quantity of epithelium. The gonococci also diminish in a remarkable manner, and after a few days disappear altogether. When this has taken place, the number of injections of nitrate of silver is reduced to two and afterwards to one daily; and other injections, such as boric acid or some preparation of zinc, are used as well. But, in spite of the almost total disappearance of the discharge, the one daily injection of the nitrate of silver is to be kept up for many weeks. In cases where the nitrate of silver could not be borne, even in weaker solutions than those above mentioned, salicylate of mercury, or thallin, or the chloroborate of sodium was substituted with a certain amount of success; and in the very rare

cases in which no antibacterial injection could be tolerated, internal remedies were resorted to. Of these, cubeb, turpentine, oil of gaultheria, oil of sandal-wood, kava-kava, ichthyol, creolin and copaiba were tried; but among these, copaiba alone, and that only in some cases, was found to have any decided effect on the gonococci. As regards the danger of complications from the use of the nitrate of silver injections, it was found that this mode of treatment was really the best preventive. Thus, among twelve hundred cases of gonorrhœa treated in various ways, there were one hundred and sixty-four of epididymitis, but in one hundred and forty-two of these the epididymitis was present when the patient first came under treatment; while of the remaining twenty-two cases, only one was being treated with nitrate of silver. The total number of cases given in the table which is appended to Dr. Friedheim's paper as having been treated by nitrate of silver injections is three hundred and eighteen, and in two hundred and thirty-seven of these it is stated that the antibacterial action of the drug was proved.—*British Medical Journal*, May 24, 1890.

**A Plea for Circumcision.**—"It is surely not needful to seek any recondite motive for the origin of the practice of circumcision. No one who has seen the superior cleanliness of a Hebrew penis can have avoided a very strong impression in favor of the removal of the fore-skin. It constitutes a harbor for filth, and is a constant source of irritation. It conduces to masturbation, and adds to the difficulties of sexual continence. It increases the risk of syphilis in early life, and of cancer in the aged. I have never seen cancer of the penis in a Jew, and chancres are rare."—(*Jonathan Hutchinson in Archives of Surgery for July, 1890.*)

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TOO MANY LECTURES.

The large number of didactic lectures demanded by examining boards has recently attracted attention amongst those interested in medical education. Our views upon the matter have already been expressed, but we would particularly draw the attention of our readers to the proceedings of the General Council of Medical Education of Great Britain, before which body the subject was discussed in June last. It is in the Scotch universities that lecturing is particularly used as a means of imparting instruction, and it has already been stated in our pages that the Canadian student has to attend a few hundred more lectures in the four years of his career than are demanded of the Scotch student. Dr. Leishman, whose experience in Scotland seems to have taught him that teaching was better than lecturing, moved the adoption of the recommendation "that the number of systematic lectures in each course, especially in winter, may with great advantage be restricted to two or three weekly, and that the time so gained should be devoted to class examinations, tutorial instruction, and practical work." He was in favor not so much of cutting down the actual time devoted to any subject, but of allowing the professor to substitute for lectures other and more useful means of imparting knowledge. Dr. Struthers thought that two or three lectures a week were sufficient. The lectures in Scotland were in excess. As to the number of courses, one seemed to be considered sufficient. Mr. Mitchell Banks observed that the Scotch lecturer appeared to be a sort of man-eating tiger amongst lecturers. He said he had heard of being preached to death by

wild curates, but an even more terrible catastrophe would be to be lectured to death by Scotch professors, a fate which he himself had narrowly escaped. Restriction of the number of lectures was indispensable. Sir John Simon considered that it was absurd to require a student to attend lectures on subjects which might equally well be learned from textbooks. The present abundance of systematic lectures was in excess of the requirements of the age. Eventually an amendment was carried as follows: "That regulations requiring attendance on systematic courses ought not to require attendance on more than two or three lectures weekly in any one course, nor an attendance upon more than two or three lectures on any one day."

We wish the gentlemen who have devoted their energies to the construction of medical boards would look abroad beyond the boundaries of their own province, and see what is done elsewhere in medical education. Reform would soon follow, and we would hear no more of the addition of lectures to the already overburdened course.

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### THE BERLIN MEDICAL CONGRESS.

According to the cabled reports received by the *New York Medical Record*, the tenth International Congress would appear to have been a great success. Nearly eight thousand physicians, representing every nation in the globe, were in attendance, of which number a very large proportion came from this continent. A proposition to hold the next Congress at St. Petersburg in 1893 was rejected, and the place of meeting decided upon was Rome.

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RECENT APPOINTMENT TO THE ONTARIO MEDICAL COUNCIL.—At the last meeting of the Ontario Medical Council, Dr. Oldwright, Professor of Sanitary Science in the University of Toronto, was appointed Examiner in Chemistry in the place of Dr. Acheson. One unacquainted with the peculiarities of Canadian licensing boards, and of that of Ontario in particular, might be led to suppose that Dr. Oldwright was a distinguished chemist whose services in that special branch of science entitled him to

advancement and honour. This is not the plan followed by the Ontario Council. Dr. Oldwright was appointed an examiner in chemistry because he was innocent of any connection with the teaching of that branch and had devoted himself to other studies. We heartily commend the action of the worthy professor of sanitary science who promptly declined the appointment and refused to allow the stupidity of the Council to place him in a false position. The absurd rule by which teachers are excluded from taking part in examinations would soon be done away with were those appointed gifted with as much common sense and self-respect as was the last appointed examiner in chemistry.

THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.—The Alvarenga prize, of the College of Physicians of Philadelphia, consisting of one year's income of the bequest of the late Senor Alvarenga, of Lisbon, has been awarded to Dr. R. W. Philip, of the Victoria Dispensary for Consumption and Diseases of the Chest, Edinburgh, for his Essay on Pulmonary Tuberculosis, which will be published by the College.

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### Obituary.

WM. KITCHEN PARKER, M.R.C.S.E., L.S.A., F.R.S., F.L.S., F.Z.S.—The death of this eminent man will be regretted by all scientific anatomists. His contributions to morphological anatomy were numerous and valuable, and his published works are well known to students of higher anatomy. For years Prof. Parker held the chair of Comparative Anatomy at the Royal College of Surgeons, England, and for a considerable number of years the Royal Society placed a large proportion of the Government grant for scientific research at the disposal of Prof. Parker for the purpose of illustrating and publishing his works. During the time Professor Parker was carrying on his scientific labors he was also engaged in a large and general practice. He had no private means, and as morphological anatomy is not a very lucrative pastime he was obliged to submit himself to the drudgery of general practice to get a living. A few years ago he retired on a small pension from the Government, and since

then he has devoted his whole time to the subject he loved so well. Among the many valuable works published by him are the following: "Morphology of the Skull," "The Shoulder Girdle," and "The Structure and Development of the Skull in Mammalia." To the general reader he was known by a fascinating work called "Mammalian Descent." His contributions to the transactions and proceedings of the Royal Society, Zoological Society, and various other societies were many and of great value. Two of his sons are well known zoologists.

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### Personal.

—Dr. T. Johnson-Alloway and Dr. Buller sailed for Europe in the last week in July.

—Dr. F. M. Harkin, of the class of 1885, has been appointed house surgeon of the Emergency Hospital at Marquette, Mich.

—Dr. W. E. Ellis, of the class of 1887, has been appointed surgeon of the Milwaukee, Lake Shore and Western Railway Company, at Watersmeet, Michigan.

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### Medical Items.

—The annual meeting of the American Climatological Association will be held in Denver, Sept. 2nd to 4th, and a successful gathering is expected. The Western Passenger Traffic Association has granted a one fare for round trip rate; tickets to be bought August 31st and September 1st, and good for return till September 25th, which is open to others as well as members. One-third of the time is expected to be given exclusively to the study of Colorado subjects, and after the three days' sessions the visiting physicians are to be given an opportunity personally to investigate the mountain resorts by a series of complimentary excursions.—*N. Y. Med. Record*.

MEDICAL CONGRESSES.—The following is an extract from a leading article in a recent number of the *N. Y. Med. Record* on the International Medical Congress at Berlin. Unfortunately, in some respects, the writer is not very far wrong: "The true

science of medicine is modest and of a retiring disposition. It likes to do its work in quiet corners. It makes simple announcements of the results of its labors. Not so with the frequenters and hangers-on of congresses. What would hopelessly disturb pure science, is the very life-blood and delight of pseudo-science. The former despises what the latter revels in. Every congress thus far has suffered from the polyglot clamor of those who go to blow their own trumpets, those who are mere medical politicians, wire-pullers, open advertisers, brazen-faced priority-claimers, and a host of people who have their little axes to grind. True merit too often stays at home. . . . . But the consultation-hunters, the claim-everything agents, the notoriety-promoters, the enterprising hob-nobbers, the 'strictly-business' doctors, and those little fellows who so dearly love to rub up against the big fellows—those and others like them are always out in full force."

**A FUNNY HEALTH OFFICER.**—The Michigan State Board of Health recently took Health Officer Davis, of Close Village, to task for failing to send in his weekly reports. His reply was unique. He says: "There has not been enough sickness here in the last two or three years to do much good. The physicians find time to go to Milwaukee on excursions, serve as jurors in Justice courts, sit around on drygoods boxes, and beg tobacco, chew gum, and swap lies. A few sporadic cases of measles have existed, but they were treated mostly by old women, and no deaths occurred. There was an undertaker in the village, but he is now in the State prison. It is hoped and expected that when green truck gets around, melons plenty, and cucumbers in abundance, that something may revive business. If it does I will let you know."—*Medical Record*.

**ARSENIC IN WALL-PAPERS.**—The *British Medical Journal* reports a simple and easily applied test of arsenic in wall-papers, devised by F. F. Grensted, as follows: Turn down an ordinary gas jet to a point until the flame is wholly blue. When this has been done, a strip of the paper suspected to contain arsenic is cut one-sixteenth of an inch wide and an inch or two long.

Directly the edge of this paper is brought into contact with the outer edge of the gas flame, a gray coloration, due to arsenic, will be seen in the flame (test No. 1). The paper is burned a little, and the fumes that are given off will be found to have a strong garlic-like odor, due to the vapor of arsenic acid (test No. 2). Take the paper away from the flame and look at the charred end; the carbon will be colored a bronze red. This is a copper reduced by the carbon (test No. 3). Being now away from the flame, in a fine state of division, the copper is slightly oxidized by the air, and on placing the charred end, a second time, not too far into the flame, the flame will now be colored green by copper (test No. 4). By this simple means it is possible to form an opinion, without apparatus and without leaving the room, as to whether any wall-paper contains arsenic; for copper arseniate is commonly used in preparing wall-papers. The first and second tests would be yielded by an paper containing arsenic in considerable quantities.

THE REIGN OF GOOD QUEEN BESS.—Dr. B. W. Richardson, in his recently published abridgment of "The Health of Nations," the *magnum opus* of the lamented Sir Edwin Chadwick, in a chapter under the heading "Progressive Health," gives a comparison of mortality in the Elizabethan and Victorian eras:—

"According to John Graunt's reports, from the parish registers, the condition of the whole city of London, in the time of Queen Elizabeth, was very much that of a 'slum.' The death rate was in fact that of a slum, it was more than 40 per thousand, but now, under some advance towards unity and centralization, it is about 20 per thousand, still including upwards of one-third of preventable deaths. The death-rate then largely exceeded the birth-rate, while now the reverse is the case. The death-rate of the children under five years was then one-third, or 33 per 100. It is now 27 per 100, and grievously too heavy. The deaths from old age, or the age then called old, of seventy, were 7 per cent., they are now sadly too low, but even in the city proper they are 18 per cent. As to personal security, John Graunt boasted that not more than one in two thousand was then

murdered annually, which he ascribes to good local government. At the same rate now murders in the whole of the metropolis should amount to no less than 2,500 annually, whereas they actually amount to an average of no more than 12 for the whole five millions of population—a population which approaches to that of the whole kingdom of England and Wales in the time of Elizabeth.”

HOW RESPECT FOR SCIENCE IS ENFORCED IN RUSSIA.—*Le Journal de Médecine de Paris* (22 Juin, 1890) is responsible for the following:—“ A correspondent at St. Petersburg writes: ‘ An extraordinary affair at Odessa has come to my knowledge. There is in the city in question an Institute of Bacteriology, founded and maintained in the municipality. The director is a Dr. Bardach, a pupil of Pasteur, who superintends the vaccination of cattle against anthrax and Siberian plague, after the method of Pasteur. The Russian Imperial Government sent circulars to all the landed proprietors of the south of Russia requiring them to have their cattle vaccinated, and the brothers Pankvatjeff, two millionaires, accordingly sent for Dr. Bardach the other day to come to their estates in order to vaccinate their cattle. Unfortunately the doctor made some mistake in the vaccine virus, and in two days there died 3,552 sheep, 1,200 horned cattle, and some hundreds of horses. Their owners brought an action against the Bacteriological Institute—that is to say, against the city of Odessa—and demanded damages. The case was tried a few days ago. The counsel for the city stigmatized the brothers Pankvatjeff as persons knowing nothing of scientific matters, and stated that he was at a loss how to characterize ‘ persons who dared attack the great and celebrated *savant* Pasteur.’ In short, he pleaded so effectually that not only did the brothers Pankvatjeff fail to obtain a verdict, but the tribunal condemned them to pay, in common, a fine of 3,500 francs, as well as the costs of the trial, *pour leur apprendre a mieux estimer la science.*”