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## Original Communications.

### ON THE PROGRESS OF MEDICAL SCIENCE DURING THE PAST HALF CENTURY.

BY SIR JAMES GRANT, M.D., K.C.M.G., OF OTTAWA.

An Address delivered at the Fortieth Annual Meeting of the American Medical Association, at Newport, R.I., June 27th, 1889.

*Mr. President and Gentlemen* :—I beg to return to you my sincere thanks for the invitation extended by a committee of this Association to be present at this meeting of the medical profession of the United States, and it is an additional source of gratification that I am asked to a seat on this platform. I am reminded of the fact that when the Marquis of Lorne was Governor of Canada, the Royal Society was invited to lunch at the Government House. When the health of the President of the United States was proposed, a sentiment which we Canadians fully appreciate, and which we are delighted to honor next to that of our glorious Queen Victoria, Mark Twain was asked to respond. He thanked His Excellency for the compliment, and was proud to be the recipient of the distinction, but regretted that being unprepared he was unable to respond. I feel very much in the same position on being called upon to speak to this large body before me. For fully twenty-five years I have been in the habit of attending the meetings of your Association at various points, and it is to me a source of pride and gratitude to be able to note the progress of that profession to which I have the honor to belong. This is an exceedingly important epoch in the history of our profession. You have just celebrated your

one hundredth anniversary, which marks the progress of this great country. In entering the hall to-day, the observation dropped from a bystander that the insane doctors were meeting here. It struck me as somewhat peculiar, inasmuch as I was not aware of the fact that this meeting could appropriate that idea. It was soon cleared up, as I learned that that branch of the profession met here. Let me for a short time draw your attention to the remarkable advance in the several departments of the profession which has been made within the past century.

It was in 1835 that Gardner Hill, of Lincoln Lunatic Asylum, announced the treatment of insanity by non-restraint. Prior to that time the poor lunatic was subject to be confined in the corner of a cell with chains round his neck, his arms manacled, and pendulous clubs attached to his feet in order to prevent locomotion. His food was served to him as it would be to an ordinary quadruped, and in fact the whole treatment of the insane in those days was most irrational in its character. Much credit is due to Pinel in Paris, Tuke of York, and Charlesworth in the city of Lincoln asylum, in which the grand final experimenting of entire freedom of the insane was carried out.

We find here that in the great institutions of this country for the treatment of the insane every indication of progressive development as to the principles of treatment in cases of mental aberration have been carried into operation most successfully. You have undoubtedly great workers in the subject of psychological investigations. When in Edinburgh some years ago, Dr. Tuke, the author of that admirable work on "Insanity," remarked to me that by far the best journal on psychological medicine was that published by the late Dr. Jewell of Chicago. The investigations of the late Dr. Gray of Utica are well known, doubtless, to every member of the Association. The subject of cerebral pathology attracted his closest attention, and his demonstrations by the large microscopic sections of the brain which he was enabled to make did much to convey an accurate idea of cerebral structure under very diverse circumstances. Strange to say that some of the most violent forms of insanity ever under the microscope have not been traced to anything like change of

structure. Such, also, was the impression conveyed to me by Tuke of Edinburgh. These, of course, may be looked upon as irregular cases, as usually insanity rarely takes place without some definable reason in the great nervous centre. Under these circumstances, is not the trite and laconic observation of *Punch* brought home to us with more than ordinary force: "What is matter? never mind; and what is mind? that's the matter." Pursuing this subject still further, the investigations of our physiologists within the past quarter of a century have certainly accomplished much as regards our knowledge of the nervous system. Disturbed cerebral centres frequently telegraph their abnormal condition to the peripheral surface, producing an abnormal condition of facial expression. By a process of careful analytical induction, such men as Ferrier of London, Hamilton and Seguin of New York, and Hammond of Washington, have been enabled to take stock of the changes and define the region of the disturbed centres. This embraces the great recent advances in the subject of cerebral localization, and is the very cue to the advances in cranial surgery undertaken by such men as Horsley of London, Macewen of Glasgow, and Seguin and Warren of New York.

In looking around me on this platform, I am extremely grateful to find present one of the ex-Presidents of this Association, Dr. Bowditch of Boston, whose name is so closely associated with the subject of pleuritic effusion, and who worked so vigorously to convey his accurate impressions as regards the treatment of this important thoracic disease. Not alone have his observations been confined to the chest, but in the domain of preventive medicine he has also been one of the pioneers. It has been well said that "an ounce of prevention is better than a pound of cure," and notwithstanding the fact that the members of the medical profession, in the advocacy of sanitary science, are curtailing very effectively the means of their ordinary livelihood, still their philanthropic efforts are never stayed where they can be of advantage to the public at large. The great public institutions of this country give evidence of the principles of sanitary science. The jails are made comfortable even for the most dejected crimi-

nal. The hospitals give evidences of thorough ventilation and ample supply of light, and all the modern improvements for sewage and water supply, very important factors in the treatment of the sick. The articles of diet are being carefully investigated. Milk is now known to be a prolific source both of scarlet fever and diphtheria, and in early life being a common source of diet, how necessary are the investigations of the sanitarian. Less than half a century ago Farr of London gave a great impulse to the progress of sanitary science by the introduction of tabulated statistics as to the life and death rate. In the various medical institutions in this country, as well as in Canada, the subject of sanitary science is receiving the most careful consideration, and very justly so, inasmuch as it pertains most closely to the welfare of society at large.

Let me draw your attention for a few moments to a great gymnasium of the human system, of which we have evidence in the surgery of the abdominal cavity. This country has reason to feel proud of what has been accomplished in this department. The name of Ephraim McDowell of Kentucky with you, as with ourselves, is a household word. He possessed the skill, the forethought and the knowledge which enabled him to undertake the first ovariotomy. Following rapidly in his path came Dunlop of Ohio and Kimball of Lowell, Mass., the latter of whom maintains the vigor of youth although considerably over his seventieth year. These men constitute an intellectual tripod, if I may so term it, in the domain of abdominal surgery. Before me I see a gentleman whose name I cannot refrain from giving expression to—Dr. Senn of Chicago—who has accomplished so much with reference to the lesions of the intestinal canal. His name will undoubtedly become a household word amongst the members of our profession. While adverting thus personally to what your men have achieved, I feel confident you will join with me in recognizing the admirable achievements in the same line of thought brought about by such men as Sir Spencer Wells, Drs. Thornton, Bantock, Lawson Tait, and Keith of Edinburgh. Almost every organ in this cavity has been operated on successfully, and the achievements mark beyond a doubt the progress of surgery during the latter half of this century.

There is another department concerning which I desire to allude briefly, namely, that of therapeutics. Medicines are now no longer, we hope, administered empirically; the why and wherefore are being inquired into most carefully. How the remedial agents act directly or indirectly on the blood and tissues is the subject of much physiological research. Here comes in a question of the slowing of the heart's action by digitalis and the reduction of febrile states of the system by antipyretics. Much credit is due to the pharmaceutical associations of this country for the elegance of the preparations placed before the profession, so much so that the old British pharmacopœia must undergo considerable modification. There is also a marked advance in dietetics, embracing peptonoids and very digestive materials introduced to tone and assist digestive function. Cod liver oil and its emulsion also occupy an important place as therapeutic adjuncts. And in addition, the triturates so recently introduced are doubtless valuable as means of medicinal administration.

On my way from Boston yesterday I was gratified to read the instructive address of the Hon. Chauncey Depew to the legal profession, in which he referred to the representation of this country. Of the thirty-two presidents, eighteen were members of the legal profession, and during the past one hundred years, in eighty-two of that period the presidential chair has been occupied by legal lights of this country. The bearing of this subject is extremely important, inasmuch as the medical profession is concerned. In the Commons of Canada there are at least fifteen or twenty medical men, and in the Senate also quite a number of members of the medical profession. In the Local Provincial Parliaments our profession is ably represented. Thus we have been enabled to guide and direct public opinion towards the important question of medical education. I listened with pleasure to the report of your committee on this subject, recommending the introduction of a higher standard in this country, both as to preliminary education and subsequent academic study. Having been upwards of twenty-two years consecutively in the Medical Council of Ontario, I have had opportunities of observing the importance of this question. The Local Parliament of Ontario

passed a bill for the formation of a Council, giving it the power to appoint examiners in medicine, irrespective of the teaching bodies, and thus guard the portals of entrance into the medical profession. Prior to this time the entrance of homœopathists and eclectics into the profession was very considerable, but now that matters have been placed on a uniform basis of examination, except in special subjects such as homœopathy and eclectic materia medica, we find that this elevated standard has improved very materially the entire status of our profession; in fact, to-day there are very few graduating homœopathists or eclectics compared to the regular profession, greatly brought about by the introduction of the elevated standard of medical education.

In the great medical centres of this country we cannot fail to miss many of the old landmarks, men like Dunglison, Gross and Pancoast, of Philadelphia; Parker, Buck, Marion Sims, Flint, Hamilton and Van Buren, of New York; White, of Buffalo; Brainard and Jewell, of Chicago. These men gave a force, a character and an impulse to the profession recognized throughout the civilized world. Younger men are following rapidly into the path of distinction, and have achieved more than an ordinary celebrity, such as Thomas and Emmet, of New York; Storer of Boston, and Goodell of Philadelphia; particularly in the diseases of women. I am pleased to observe here so many younger members of the profession. To attend these meetings is a duty they owe not only to themselves but to the communities in which they are laboring. Here we receive, as it were, a bird's eye view of the progress of our profession in every department, and the very intellectual friction produces a tonic influence which sends every member of this Association home with renewed vigor in that profession we delight to honor. A young Western physician, recently visiting Paris, remarked to his professor if he knew So-and-So in the medical profession; the reply was that he did not. "What has he written?" was the question asked. The young physician answered, "He has not written anything so far as I know, but he has a very large practice." To the younger members of the medical profession I would say, in order to achieve a lasting reputation, record your facts, note

carefully bedside observations, and do not be in a hurry in drawing sudden conclusions. Thus you will be enabled to contribute your mite to the journalism of this country, and support a most commendable department of literature which guards over the best interests of our profession.

To the profession in Canada permit me to say that I consider ourselves one people. Placed as we are on either side of an imaginary Chinese wall, we speak the same language, we enjoy the same literature, we take our inspirations from the same fountains of science in all that pertains to the best interests of our profession, and I will say, in as far as the unity of that profession is concerned, that the beautiful sentiment expressed by Her Majesty the Queen on the completion of the Atlantic cable applies equally well to our profession: "What God hath joined together let no man put asunder."

In conclusion, let me again return you my warmest thanks for the kind reception I have received and the delight I have experienced in the presence of your great historian, Bancroft, and many other old friends I see around me still in the vigor of life. Let us then work on to do honor to our profession, to alleviate the sufferings of humanity, and in that profession to perform the important responsibilities assigned to our respective charges. And I feel I cannot do better than express the lines so beautifully written by your gifted poet who now slumbers amidst the illustrious dead of this great Republic:

" Let us then be up and doing,  
With a heart for any fate;  
Still achieving, still pursuing,  
Learn to labor and to wait."



## ABSTRACT OF A CLINICAL LECTURE

DELIVERED AT THE MONTREAL GENERAL HOSPITAL, JULY 18TH.

BY T. JOHNSON-ALLOWAY, M.D.,

The first case upon which I intend to operate to-day was admitted into hospital July 1st, and has the following history :

Aged 21 years ; married four years ago. Two pregnancies ; the first terminated at the eighth month of gestation, the other at the third month. Ever since this miscarriage, which took place two years ago, she has complained of the following symptoms : severe pain in left lumbar region, back and hypogastrum ; a bearing-down feeling constantly present ; dysmenorrhœa ; frequent micturition ; leucorrhœal discharge ; dyspareunia and painful defecation. She has lost her health generally, and is quite unable to do ordinary housework.

On examination, I find she has the small, delicate, though proportionately-formed pelvis so characteristic of the poorly-fed French-Canadian race. The perineum is intact, and will not require attention. There is bilateral laceration of the cervix uteri, with ectropion and extensive glandular hypertrophy. The uterus is enlarged, hard, tender, and retroverted to the third degree. It is mobile, and easily replaced to its normal position, showing that if we can only adopt some method of treatment which will keep it permanently in the forward position, we will in all probability relieve our patient of her suffering.

Before we touch upon the subject of treatment, however, it would be well to ask ourselves how so grave a pathological condition of the uterus could occur in so young a woman. If we look back we will see that she was married at 17 and became immediately pregnant. Now at this age the pelvic organs have not sufficiently matured to be capable of carrying out the functions of pregnancy and parturition without suffering injury to themselves in making the attempt. In this case the uterus with difficulty fulfilled its functions until the eighth month of gestation, when, unable to do so any longer, it expelled the contents. The cervix, not being properly prepared for such an event, gave way instead of dilating, giving rise to one of the most serious

lesions occurring during childbirth—bilateral laceration. Following an extensive bilateral laceration of the cervix we have a constant endeavor on the part of nature to repair the injury. Incumbent upon this we have hyperæmia with increased formation of connective tissue; enlarged, bulky uterus (arrest of normal involution); subinvolution, not only of the uterus, but of the broad ligaments, utero-sacral and round ligaments. The patient, through necessity, has an "early getting up"; intra-abdominal pressure has full sway, forcing the displaceable or pubic segment of the pelvic floor downwards. As this process advances, the fundus of the uterus, having no support, topples backwards and descends low down in the pelvic cavity. We now have retro-displacement, uterine congestion, endometritis, menorrhagia, leucorrhœa, and reflex neuroses in almost any or every part of the body; those affecting the head, stomach and intestines are probably the most common.

There are also two other conditions which we see following as results of a laceration of the cervix uteri. I mean incapacity for conception, or absolute sterility; and its converse, the tendency to abortion, or virtual sterility. In cases of absolute sterility depending upon this condition, it may be due to occlusion of the internal os by the muco-purulent plug resulting from the chronic inflammatory condition of the endometrium, which either altogether hinders the entrance of the spermatozoa or kills them outright by its acrid properties. There is also another factor in such cases, namely, the disturbed normal relationship of the intra-pelvic parts, caused by the uterine displacement. These conditions tend to prevent conception taking place.\* On the other hand, it is strange that in certain cases the same pathological conditions render conception more easily accomplished, and facilitates it by reason of the unusual gaping condition of the cervical canal. But here in this latter case we are liable to a series of abortions, following one upon another at short intervals. The ovum grows and gradually expands the cavity of the corpus uteri. The absolute sterility has been overcome and the

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\* It is thought that ectopic pregnancy is often associated with backward displacement of the uterus.

woman is pregnant ; now steps in the laceration to "kill all her joy." As the uterine cavity expands, the organ assumes a spherical shape, with a short, flattened cervix attached to its lower segment ; the cervical canal is practically effaced, and the internal os is immediately continuous with the vaginal tube. Here the parts which should be protected and kept at rest are exposed to friction and injury. The result is that the internal os gradually opens, a slight hemorrhage takes place, uterine contraction sets in, and the ovum is expelled. As a result of the same factors, pregnancy rapidly takes place again, followed again by abortion, and so on until a vicious circle has been established, which will continue until the laceration has been repaired and other concomitant conditions remedied.

Returning now to the case before us, it is evident that we must first begin by repairing the lacerations of the cervix, which I will do according to Emmet's method ; I will then elevate the uterus and broad ligaments by shortening the round ligaments. I have now repaired the cervix, using silk-worm gut (salmon size) as sutures (three on each side). From the dorso-gluteal position we will extend the patient flat upon her back as if for a laparotomy, and take up the round ligaments according to the method explained in a previous lecture.

The next case to be brought in is one of some interest. She is an extremely emaciated woman of 38 years of age ; married eight years. Six months after marriage she had a miscarriage at the third month of gestation. There was retention of the decidua, accompanied with severe hemorrhage which lasted for some days. She was confined to her bed for six weeks with severe pain and a continuous bloody discharge of a foetid character. Rigors and other evidence of recurring attacks of sepsis took place from time to time during the following three months. She lost flesh gradually, and became finally a confirmed invalid, unable to leave her bedroom. This state of things continued for three years after marriage, when she consulted me. I found one of her most distressing symptoms was constant vomiting ; she could not retain the smallest quantity of food, which resulted in the extreme emaciation at present so noticeable a feature of

her disease. There were also severe dysmenorrhœa and menorrhagia; constant pain in the back, hypogastrium and right iliac region.

On making a vaginal examination I found the uterus sharply anteflexed, not enlarged appreciably, but very tender during pressure of the bimanual method. The whole pelvic floor was somewhat limited as regards mobility, with a bulky mass fixed in the region of the right lateral pouch. This mass was very sensitive to the touch, causing the patient to cry out and exhibit a tendency to faint. The ovary on the left side could be defined, and seemed slightly enlarged, but there was no fixity of parts on this side, the ovary could be moved freely about during the bimanual and was not very tender to pressure. The cervix was bilaterally lacerated and lips everted; extensive glandular hypertrophy of the everted mucous membrane. A glairy, tenacious discharge occupied the cervical canal, and the inflamed cervical surface bled freely on being touched. Consistent with above symptoms and pathological condition nothing could be done beyond confining the patient to bed on hot-water douches and the iodine and glycerine treatment. This course was faithfully carried out for three months. At the end of that time the pelvic floor became more mobile; the tenderness to a great extent had disappeared, the inflamed erosion showed a tendency to heal, and the patient was in a sufficiently improved condition to permit of the cervical laceration being repaired without danger. This operation was accordingly done and all went well. For some months she appeared to have derived benefit from the trachelorrhaphy, but eventually all her old troubles relapsed, especially the inability to retain food. She became an attendant at the out-clinic, but did not improve. Every now and then a sharp onset of severe abdominal pain with some fever and constant retching would recur. These attacks would necessitate her confinement to bed for a week or more at a time, causing her to become morose and careless about life. Two weeks ago she called on me in this state of mind, and I took the opportunity of suggesting the removal of the appendages, which I considered the seat of disease. She and her husband readily consented,

and now I propose to do that operation by laparotomy. The incision I make is about two inches in length. The left ovary is enlarged, and being free from adhesions is delivered with ease and after the application of a silk ligature is removed. The right ovary is adherent to adjacent parts by old inflammatory remnants, which I have carefully separated with my fingers, and the ovary is now delivered and removed in the same manner as the left. The abdominal cavity is now carefully cleansed, and as there is no colored fluid of consequence found in Douglas's pouch, the wound is closed by four silkworm-gut sutures and dressed with cotton wool, a single layer of sublimated gauze intervening. This dressing will not be disturbed until the ninth day, when the sutures will be removed.\*

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## Retrospect Department.

### QUARTERLY RETROSPECT OF MEDICINE.

By R. L. MACDONNELL, M.D.,

Professor of Clinical Medicine, McGill University; Physician to Montreal General Hospital.

#### HEART COMPLICATIONS IN GONORRHOEA.

Gluzinski, in a recent number of the *Przeгляд Lekarski*, gives some details with respect to circulatory diseases depending on gonorrhœa.† Complications connected with the serous membranes of the internal organs, such as that of the heart, were unknown until recently. Brande (1854) published two cases of endocarditis and pericarditis respectively in connection with gonorrhœal rheumatism. Sigmund (1858) observed two cases of pericarditis in women. Gluzinski has collected thirty-one cases. The following conclusions might be derived from these observations: 1. Pericarditis as well as endocarditis might supervene in the course of gonorrhœa. 2. These may develop after gonorrhœal rheumatism, but also without the presence of such an affection. 3. The complaint often assumes the character of a severe infectious disease, as in endocarditis ulcerosa, runs an acute course, and sometimes gives rise to failure of the heart. The fact that of the thirty-two cases published, in only two were the patients women

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\* Sutures removed; primary union; no pain nor vomiting since operation, first time for years; expresses desire for food.

† Vienna correspondence of the *British Medical Journal*.

might be explained by the suggestion that in the case of acute rheumatism in the female sex the presence of a simultaneous gonorrhœa was less frequently enquired for. Gluzinski argues that it must not be supposed that these complications were analogous to orchitis or cystitis set up by extension of the inflammatory process *per continuitatem* or *per contiguitatem*. He gives the following explanation. The synovia of joints affected with gonorrhœal rheumatism has been repeatedly examined for micro-organisms. Some, who believe they have discovered a specific microbe, consider the rheumatism to be a direct result of the gonorrhœa. Others who have failed to find gonococci or other pyogenic micro-organisms in the synovial fluid, regard this affection as a secondary one, due to the penetration of pyogenic micro-organisms owing to a lesion in the urethral mucous membrane. This hypothesis was confirmed by a case published by Weichelbaum where gonorrhœa was complicated with endocarditis and cardiac failure and the streptococcus pyogenes was proved to be present in the vegetations on the valves. Dr. Gluzinski said that complications did not always occur in so acute a form as the endocarditis ulcerosa or pericarditis acuta. In eight cases which he had observed these complications were of a mild character. The patients complained of "stitch" in the left chest and palpitations of the heart. There was accelerated and increased action of the heart, and frequently also a slight pericardial r le. In spite of the most careful examination no other affection could be detected but gonorrhœa. These cases mostly ran a rapid and mild course and might very easily be overlooked. They deserved the greatest attention, however, as endocardial murmurs and cardiac failure came on in two of these cases. In the majority, rheumatism was either quite missed or came on after the cardiac affection had set in. In all the patients there was gonorrhœa of long standing. Gluzinski concluded that just as acute affections of the heart occurred in acute gonorrhœa, mild diseases of the serous membrane of the heart could also supervene in the course of chronic gonorrhœa.

#### ENTERIC FEVER.

*Ehrlich's Diagnostic Sign.*—Dr. Howard Taylor, of the

London Hospital, discusses the value of this sign in a recent (May 4th) number of the *Lancet*. Several years ago Ehrlich first drew the attention of the profession to the importance of a certain condition of the urine to be found, he claimed, in enteric fever and not in any other disease. In 1882 he announced the fact that such urine gives a re-action—with one of the aniline derivatives—different from that of normal urine, and from the re-action of the urine of patients suffering from other diseases.

His test solutions are as follows: A, a saturated solution of sulphanilic acid in dilute (1 in 20) hydrochloric acid; B, a five per cent. solution of sodic nitrite in distilled water. Both of these solutions must be fresh, especially the latter, which cannot be depended upon for more than a week at a time at the longest. When they are mixed, of course, a solution of sulphanilic acid containing free nitrous acid is produced, which is the actual test of solution, but on account of the extreme instability of the latter the two solutions must be mixed fresh at each testing. In using the test, about twenty-five parts of A are added to one of B. Mix with this an equal bulk of the urine to be examined, and render alkaline with strong ammonia.

With healthy urine, the only change which ordinarily occurs is a mere deepening of its colour to a cherry or a vinegar brown. In conditions of pyrexia other than typhoid fever the color also deepens, but still remains merely brown, although usually it becomes of a darker tint than the average color given by normal urines. But in typhoid fever the color rapidly turns red, the exact tint it acquires varying from the yellowish red of bichromate of potassium solution, though ruby red to a rich port wine color. On shaking the test tube a froth is produced which has usually a delicate pink color that is very characteristic.

Now as to the limitations of the test. Dr. Taylor says that (1) it is not always given until the latter end of the first week; (2) after the morning temperature has once reached normal during the intermittent stage (usually in the fourth week) it may—though it frequently does not—cease to be given. “Still, so far as my experience has gone \* \* \* the re-action is present during the greater part of the febrile

period *in every case*. It is this which constitutes the great value of the test."

Unfortunately in exceptional cases the test is given in other diseases. Dr. Taylor has found occasionally, even in healthy urines, the development of a slightly reddish color, but this is *very rare* and the redness is hardly ever well marked, indeed, he has never seen the deep rich crimson which is given in so many cases of enteric fever.

Several cases of Bright's disease, both acute and chronic, gave this "typhoid re-action." It is more frequent in albuminous urines. But with this exception it is extremely rarely given in the urine of non febrile patients. "Thus, out of a large number of cases of valvular disease of the heart it only occurred in one out of six cases, and in two cases of diabetes mellitus and one of diabetes insipidus which had been repeatedly tested, the re-action has not been given on any occasion.

Of the febrile diseases it seems to be especially common in measles. In acute general tuberculosis, which most simulates enteric fever, it has been found absent in all the cases examined. In acute and advanced chronic phthisis the re-action has been found, but in ordinary cases it has not been found. In the cases of lobar and of lobular pneumonia which have been examined, none of the urines have turned red; but other observers have found the re-action in some cases of the former disease. In only two of a large number of cases of acute rheumatism has the re-action been present.

The absence of the re-action is practically proof positive that the case is not one of enteric fever (provided that the disease has lasted six days or more and that the temperature has not yet fallen to normal.) Its presence suggests, but does not prove, that the case is one of typhoid; the probability being greater the deeper the tint produced.

#### URÆMIA.

*Treatment of Chronic Uræmia by Morphine.*—At the Medical Society of London (April 8th, 1889) Dr. Stephen Mackenzie read a paper on this subject. Three cases were reported. *Case 1*—A woman aged thirty-eight. Diffuse chronic nephritis of some years standing; anasarca; ascites; breathlessness;



urine one-half to two-thirds albumen; heart hypertrophied; double papillo-retinitis. Treatment for renal symptoms at first afforded great benefit, and in about six weeks she was free from dropsy and breathlessness and able to leave her bed. One evening there was a sudden attack of intense dyspnoea (fifty respirations to the minute); heart's action weak (150-200 per minute); cyanosis; clammy sweat; intense mental excitement. Nitrite of amyl, alcohol, ammonia and ether were administered without any relief and then one-sixth of a grain of morphine was injected hypodermically. In a few minutes the dyspnoea was less urgent, in twenty minutes the patient was able to lie down and on the following morning was in her usual condition. Several subsequent attacks, after intervals of complete freedom from dyspnoea were treated in a similar manner after the failure of other remedies. Morphine hypodermically and internally never failed to afford relief, and at no time were toxic effects induced. The patient died three months and a half later of symptoms of chronic Bright's disease.

*Case 2*—Woman aged twenty-eight; granular kidneys of four years' standing. Considerable anasarca, about one-third albumen in the urine; hypertrophy of the left ventricle; mitral incompetency, double papillo-retinitis; much breathlessness; headache. After decided improvement for a time she suffered from severe headache, nausea, breathlessness, irregular action of the heart and great sleeplessness. Chloral, bromides, nitro-glycerine, and inhalations of oil of juniper were used without effect or with but little effect. Ten minims of solution of hydrochlorate of morphine were then administered, with rapid alleviation of all the symptoms. It was repeated on many subsequent occasions with equal benefit and with no drawbacks. The patient died of the combined effects of a carbuncle and the renal disease about two months after the treatment was employed. Ten minim doses of solution of morphine always promptly relieved distressing symptoms; five minim doses were not sufficient.

The principles of the treatment of uræmia were declared to be three: 1, the elimination of the poison; 2, the counteraction of the poisons; 3, the prevention of the absorption and the retention of further poisons. Morphine is valuable in

fulfilling the second indication, as it frees the bloodvessels from the spasm induced by the poison in the blood. The indiscriminate use of morphine was not recommended and in the light of the asserted susceptibility of patients with disease of the kidneys to the toxic effects of opium, it would be given with eyes open to its possible danger.

#### CIRRHOSIS OF THE LIVER.

*Cirrhosis of the Liver Causing Hemorrhage into the Pelvis.*—At the Hunterian Society (March 28th, 1889) Dr. Pitt showed a specimen of extensive hemorrhage into the pelvis associated with cirrhosis of the liver. Small hemorrhages are common but extensive hemorrhages are rare. The blood was effused freely into the left broad ligament, slightly into the right and formed a large tumor over four pounds in weight, surrounding the bladder by a blood clot one inch and a half thick, compressing it and causing retention of urine probably from pressure on the ureters for the last twenty-four hours of life. The blood extended into the submucous tissue of the bladder, it also spread through the inguinal canal up on to the abdomen, chiefly on the left side, as far as the ribs and nipple forming a layer one inch thick and three inches wide. The liver was a typical hobnail cirrhosis. The kidneys were healthy except for some seaming. The specimen was taken from a woman aged thirty-eight, admitted with cedema, pyrexia and cough, who became increasingly drowsy and died.

*Non-alcoholic Cirrhosis.*—Dr. Goodhart, at a meeting of the Pathological Society, of London (April 16th, 1889) described a case of cirrhosis of the liver occurring in a female aged twenty-one. There was absolutely no history of alcoholism or syphilis. Two years before her death she had married and three months later had a miscarriage which was followed by septic poisoning. Later she developed jaundice and ascites and vomited large quantities of blood. The post mortem examination revealed an ordinary case of cirrhosis with enlarged spleen. He suggested that the cause was plugging of the portal vein from the septic process with secondary shrinking of the liver and fibrotic change. In the ensuing discussion Dr. Moore related in detail a case of hæmatemesis which was associated with the presence of a firm cord-like

clot in the portal vein, the liver was firm but not cirrhotic. Dr. Crooke referred to the effects of specific febrile disease on the livers of young children; he had many times met with interstitial hepatitis after scarlet fever, and this might lead to a contraction like that which occurred in the kidney. The President (Dr. W. H. Dickinson) had known severe cases of cirrhosis fatal under two years of age, and many such cases had followed measles and scarlet fever.

*The Curability of Interstitial Hepatitis.*—Professor Semmola\*, of Naples, protests against the exaggerated importance attached to the anatomical basis of disease. The error is common of associating the post mortem changes of the last and probably incurable stage with the symptoms of an earlier and possibly curable stage. He regards the atrophic stage as seen in the dead house as the dregs of the disease, and as far as therapeutics goes he refers merely to the early condition when the liver is large and the new tissue has not become hard, contracted and fibrous. Semmola has long ago (1869) suggested the possibility of the curability of interstitial hepatitis, and at the International Medical Congress at Amsterdam in 1879 he brought forward a series of cases in support of his views. Millard (*Progrès Médical*) has advocated the same proposition and has also published a series of cases in which a cure has taken place.

Semmola, in his recent cases, does not appear to have drawn a line between those due to malarial and those of alcoholic and syphilitic origin. It is possible that the former may be more readily curable than the latter. It would also appear that sufficient account is not given to the establishment of a collateral circulation and to the consequent disappearance of ascites and other symptoms, the interstitial hepatitis remaining unaltered. The principle of Semmola's treatment is the rigid restriction to a milk diet. More solid dietary, and especially meat, increases the hepatic irritation and exaggerates the disease.

#### GRAVES' DISEASE.

*The Connection of Graves' Disease with Nasal Symptoms.*—This subject, it will be remembered, came under discussion at

\*Le Progresso Medico, January 15th, 1889. From the *London Medical Recorder*.

the Medico-Chirurgical Society of Montreal last November.\* On the 12th April last Mr. Felix Semon read an important paper on a case of Unilateral Incomplete Graves' Disease after removal of nasal polypi, at a meeting of the Clinical Society of London. The patient was exhibited. As an introduction three cases were cited. These were recently observed by Hopmann, of Cologne, Hack, of Freiburg, and B. Frankel, of Berlin, and in all three cases intra-nasal operations undertaken for the relief of nasal obstruction had very unexpectedly led to the diminution or even disappearance of the symptoms of Graves' Disease, from which the patients in question had concomitantly suffered. Mr. Stoker, of London, has reported two cases in which intra nasal operations had caused diminution or disappearance of goitres, though in his cases no other symptoms of Graves' Disease had been present. That in these cases the changes in the domain of the sympathetic were actually due to the intra nasal operations, and that the diminution of exophthalmos and of goitre corresponded to the side which had been operated upon. Dr. Semon now regretted having to bring forward a case illustrating the possibility that the changes occasionally brought about by intra nasal operations in the domain of the sympathetic might be other than favorable ones. In his case operations undertaken by means of the galvano-caustic loop for the removal of multiple recurrent mucous polypi of the nose had suddenly caused exophthalmos of the patient's right eye, occurring within a day or two of the operations. The presence of Graefe's and Stellwag's symptom plainly showed that the exophthalmos was of the nature of Graves' disease, but there was neither enlargement of the thyroid gland nor increased frequency of the pulse rate. Not the least remarkable fact in connection with this case was that whilst the intra-nasal operations had produced one neurotic symptom (the exophthalmos), they had cured the patient of another, viz., asthma, from which he had begun to suffer shortly after the appearance of the nasal polypi. Should further operations be undertaken? Mr. Brudenell Carter felt inclined to regard the alleged connection as a mere coincidence. A case had come under his notice of a young lady aged sixteen whose left

\**Montreal Medical Journal*, Vol. VII, No. 8.

eye suddenly appeared wide open. On careful examination it was found that there was little or no real protrusion of the globe beyond what was produced by the downward pressure of a displaced eyelid. An operation on the lid relieved the symptom which he did not regard as belonging to Graves' disease, and he thought that probably a similar operation would give relief in Mr. Semon's case. Dr. Semon in reply thought that coincidence was rendered extremely improbable by the fact that at least five cases were on record in which exophthalmos had been associated with affection of the nose. In these cases the symptoms had developed shortly after a nasal operation and always on the same side as the latter.

*The Relation of Exophthalmic Goitre to Tabes Dorsalis.*—Barié reports\* the history of a patient who presented many symptoms—on the one part those of tabes, lightning pains, Romberg's sign, absent patellar reflex, plantar anæsthesia, inco-ordination of movement, vertigo, gastric crises; on the other, the signs of Graves' disease, exophthalmos, tachycardia, hypertrophy of the heart, enlargement of the thyroid gland. He concludes that these concurrent phenomena are the expression of a pathological complexus with its seat in the bulbo-protuberantial centre. He admits that goitre may be a symptom not of the actual condition of tabes but of its early stages, that it is of the nature of a simple congestive hyperæmia which is likely to be improved by a course of ergot with faradization.

Seven cases, all in females are reported by Löffroy.† All had tachycardia, six had ocular protrusion, two had thyroid tumor. He is not in accord with the views of Barié but believes that one may see in the same patient the two diseases side by side, but he recognizes the fact that ataxia may give rise to tachycardia and possibly to a slight degree of protrusion of the eye.

*The Pathology of Exophthalmic Goitre.*—Observation has taught us that in all probability the pathological changes are to be found in the nervous system, and for many years it was supposed that the cervical sympathetic was the seat of the disease, but experience showed that this view was not based on fact. The sympathetic was often found diseased when there

\* Soc. méd des hop., 14th décembre, 1888.

† Revue des Science Médicales, 15th April, 1889.

was no exophthalmic goitre, and as many times was found normal in structure when the three cardinal symptoms were most highly marked. In the *British Medical Journal* (March 30th, 1888), Dr. White, of Guy's Hospital, publishes a case where very suggestive changes were found in the floor of the fourth ventricle.

The patient, a woman æt 31, had two attacks of "ulceration of bowels" two years previously. Mother died at 21 of rheumatic fever. The symptoms of Graves' disease were well marked; palpitations, goitre; slight exophthalmos with Graefe's sign; normal optic disks; pulse, 150. In spite of treatment diarrhœa, jaundice and pneumonia on the right side set in, and the patient soon died.

At the autopsy the following were the more important observations made: Normal amount of fat in orbits; cervical glands slightly enlarged; thymus easily recognized, but not enlarged; thyroid extremely enlarged uniformly; confluent lobular pneumonia. Heart, 11 oz.; no fatty change. Stomach large, and small intestines all intensely congested, with swelling of the mucous membrane: solitary follicles more prominent than usual. Liver, kidney and supra-renal capsules normal; mesenteric glands swollen, injected. The capillaries of the brain were everywhere full, especially on the floor of the fourth ventricle.

A series of sections was made extending from the lowest part of the medulla to the corpora quadrigemina. At the level of the lower part of the olivary nucleus there was just under the posterior surface of the medulla, evidence of slight inflammation, shown by engorgement of the vessels, blood being present in their sheaths, and by a few wandering cells in the posterior median nucleus on each side. The next few sections were healthy, but those near the nucleus of the sixth nerve showed considerable changes. Just under the posterior surface of the medulla, from the middle line to the restiform bodies, which were slightly involved, were numerous hæmorrhages. The area occupied by these did not extend deeply, so that, except for a slight implication of the sixth nucleus on one side, the nerve cells had escaped injury. The fibres of the facial nerve, which approach the surface here were free. The hæmorrhages seemed almost entirely limited to the posterior

superficial part of the reticular formation, but there were two or three small deeper ones. Though most marked at this level, they existed in all sections up to the lower part of the aqueduct of Sylvius where, however, only one or two were seen. They always occupied the posterior part of the reticular formation. The hæmorrhages were not old, but had not occurred immediately before death. The cervical sympathetic cord was quite healthy. In the superior cervical ganglia the nerve cells were healthy, the sections were full of leucocytes.

The hæmorrhages were visible to the naked eye, and none of those present had ever seen them so marked in the medulla. Dr. White supposes that these hæmorrhages occurred as a result of the pneumonic fever from which the patient suffered. He infers that since hæmorrhages would naturally take place in that part of the central nervous system which was rendered weak by local disease-changes, they indicate the seat of the pathological processes which underlie the various symptoms of exophthalmic goitre.

#### INFECTIOUS JAUNDICE.

Some notes of this interesting condition, by some writers described as Weil's disease, have appeared in the *Retrospect of Medicine* of this JOURNAL. Several cases have been observed in Montreal within the last few months. The patients were children, and the prominent symptoms were jaundice and fever. Infection was probable, as some of the children in the neighborhood was similarly attacked. The whole subject is attracting considerable interest in Europe, and many clinical observers are paying attention to it. Fränkel, in the course of an article "On the Study of the so-called Weil's Disease,"\* relates the history of a case in which symptoms resembling decidedly those of Weil's disease, came on as the result of an external wound which had taken on a slightly erysipelatous action. The symptoms soon declined, and the patient became free from fever and felt almost well, except that he suffered from great lassitude. After some eleven days he experienced a slight relapse with moderate elevation of temperature and an increase in the enlargement of the liver and of the spleen.

This observation induced Fränkel to make a careful critical

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\* Schn. idt's Jahrbücher der Gesamten Medicin, 15 Mai, 1889.

examination of the numerous publications on the subject of Weil's disease, and he came to the conclusion that "the collection of symptoms described by Weil have no specially characteristic significance either in their ætiology, symptomatology or in their anatomical relations. Evidently in the cases described it appears to act as a septic infection in which the poison enters the body from without or from the intestine. The febrile jaundice, the extensive implication of the nervous system, the enlargements of the liver and of the spleen, the albuminuria, are no more characteristic of a special disease than the relapsing type of the fever. Fränkel, therefore, proposes to abolish the name Weil's disease, and to substitute for it that of Infectious or Septic Jaundice.

"The following reasons for regarding this affection as an independent one have been advanced. From acute yellow atrophy of the liver it is distinguished by the swelling of that viscus, by the high temperature, by the simultaneous swelling of the spleen, by the involvement of the kidneys, and by the absence of hæmorrhage; and from catarrhal jaundice by the higher range of temperature and the implication of the spleen, liver and kidneys. It resembles relapsing fever in many respects, especially the variety called by Griesinger bilious typhoid. This disease, however, never exists in sporadic form, and hence may be excluded even in the absence of the important negative evidence that would have been furnished by an examination of the blood for the spirillum of Obermeier. The concurrence of jaundice, apyretic intervals, and distinct relapses, suffices to exclude the view that the affection is an abortive typhoid complicated with jaundice. \* \* \* \* \* Among the widely-varying symptoms and post-mortem appearances of the numerous cases of 'Weil's disease' now on record, there is nothing distinctive of a hitherto unrecognized disease. On the other hand there is strong evidence that some of them were cases of septic poisoning. In Fränkel's case, which corresponded in all respects with those described by Weil, the point of septic infection was a wound of the head; and in Fedler's cases, at least in the nine butchers, the infection may have entered the system in a similar manner, through cuts and abrasions too slight to attract attention, or through the ingestion of decaying meat."\*

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\* Editor of the Philadelphia Medical News, May 25th, 1899.



*Cardiac Crises in Tabes Dorsalis.*—Groedel (*Deut. Med. Woch.*, No. 20, 1888) describes three cases of tabes in which attacks of angina pectoris were present. The symptoms were similar to those described by Vulpian and Leyden. I. A Hamburg merchant, æt 49, who had suffered for one year from shooting pains in the lower extremities, was aroused in the middle of the night by a tightening pain about the chest with dyspnoea. The medical man who was summoned diagnosed tabes. No physical signs of organic heart lesion were discovered. The patient was sent to Nanheim where, after some unusual fatigue at an excursion, there occurred another attack of angina with pallor of the face, dyspnoea, and smallness of the pulse. No cardiac lesion. In the following year there were several less severe attacks, while the ataxia gradually increased. II. An American, aged 50, for some years a tabetic. For several months past, without any assignable cause, attacks of angina pectoris. II. A third case is mentioned, but it is not as characteristic as the two others since the patient has also chronic nephritis with cardiac hypertrophy to a slight degree.

#### ADDISON'S DISEASE.

*Contributions to the Pathological Anatomy of Addison's Disease.*—Kahlden reports two observations of autopsies made in two cases of this disease. The patients were aged respectively 54 and 70 years.\* In both cases the suprarenals presented at their centres caseous masses, in which the anatomical structure of the glands was lost, and in which a considerable number of tubercle bacilli were present. The semilunar ganglia were the seat of remarkable changes; the ganglionic cells, as well as their nuclei and their protoplasm were transformed into pigmentary granulations: the greater number of blood vessels here had undergone hyaline degeneration with an infiltration of the adventitia with rounded cells, at the same time that the splanchnic nerves showed a thickening of the lamellar sheath. There were hemorrhages more or less abundant in the periphery of the ganglia. These lesions were not equally manifested on either side. The author is of opinion that these anatomical modifications of the semilunar ganglia can explain partly the symptoms of the disease, although one is

\* Archiv für Pathol. Anat. u. Physiol., Band cxv., Heft I.

not justified in concluding from two cases that the alteration in the semilunar ganglia is sufficient to account for all the symptoms which belong to Addison's disease.

As for the pigment of the skin it was altogether accumulated in the layers of the rete Malpighi, though it could be traced to the horny layer. The most external layers of the outer epithelial sheath of the hairy follicle were to a similar extent filled with pigmentary granulations. These are not formed in the epithelial cells themselves; they take their origin in the derma, whence the migratory cells transport them into the epidermis. Each epithelial cellule receives its pigment from several migratory cellules at a time. These latter are found arranged in the papillæ of the derma on each side of the blood-vessel going there, and seem to be loading themselves in order to carry the pigment which is formed by alteration of the blood to the epithelial cells. This origin of the pigment is the more probable, since nowhere was there any trace of hemorrhages, and since the lesions of the coats of the vessels were insignificant and of secondary origin.

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## QUARTERLY REPORT ON DISEASES OF CHILDREN.

By A. D. BLACKADER, B.A., M.D.,

Instructor in Diseases of Children, McGill University; Assistant Physician, Montreal General Hospital.

WHOOPIING COUGH: ITS NATURE AND TREATMENT—SUMMER  
DIARRHŒA: PREVIOUS LESIONS; INTESTINAL IRRIGATION  
—FUNCTIONAL MURMURS OF HEART IN EARLY LIFE—  
POSITION OF APEX BEAT.

During the past few years the exact contagion of whooping cough has been the subject of much research. In 1870 Letzerich found in the sputa of whooping-cough patients round and oval spores, which at a later stage in their development gave place to certain fungi, which, introduced into the trachea of tracheotomized rabbits, were followed in eight days by laryngo-bronchitis with attacks of convulsive cough and increased secretion from the nasal fossæ. In 1876 Tschäunner repeated these experiments and produced a modified whooping-cough in his own person. Two years subsequently Birsch-Hirschfeld went carefully over the same ground, but failed to confirm their conclusions. In

1883 Benger described a new bacillus, which he declared was not found in any other affection of the respiratory system, but his work has never been verified. In 1886 Afanassiëff made a very thorough investigation of the micro-organisms found in the sputa of those suffering from the disease. His facilities were good, for his own children, four of whom had the whooping-cough, were the patients. "The bacilli which he obtained, and which he considered characteristic of whooping-cough, were circular or oval, of a pale cinnamon color, and from 0.2 to 2.2 millimetres in length. They appear in from four to fifteen days after the first manifestation of the disease, and may sometimes be found for a period of four months. Inoculations made with the greatest care in rabbits and puppies produced a disease closely resembling human whooping-cough. Semtchenko has confirmed these results of Afanassiëff, and concludes that the bacilli are specific, that they may appear as early as the fourth day of the disease, that they multiply in the organism until the disease reaches its height, that they disappear while the paroxysmal cough still persists, and become more numerous if broncho-pneumonia supervenes." (*Rev. des Malad. de l'Enfance*, May 1888.) Since then, Schwenker (*Lancet*, Jan. 7, '88) and Wenat (*Medical News*, June 2, '88) have both confirmed Afanassiëff's discovery.

As regards treatment, there is still much diversity of opinion. It would appear as if different epidemics vary much in the way they yield to the several medicines. Good reports continue to reach us in regard to the value of antipyrin in checking both the frequency of the attacks and their violence, and when given in the doses originally recommended by Sonnenberger, viz., as many centigrammes per day as the infant is months old, or as many decigrammes as the child is years old, administered in three or four divided doses during the twenty-four hours, I have never seen any ill results occur. The best results are obtained when the treatment with antipyrin is begun at the first appearance of the disease. Like everything else, it sometimes fails, and in such cases, considering the ill effects sometimes produced by prolonged administration of the drug, it would not appear advisable to push its further use. In a recent number of the

*Archiv f. Kinderheilk.*, t. x, fasc. vi, Dr. O. Mugdan reports the results which have been obtained under several modes of treatment at Baginsky's clinic in Berlin. (1) *Resorcin*—Moncorvo was the first who employed this drug in whooping-cough. He painted the pharynx and larynx with a solution of resorcin, commencing at first with one of a strength of 1 to 2 per cent., increasing it afterwards gradually to 8 per cent. At Baginsky's clinic it was administered internally without any appreciable beneficial result. Since the researches of Afanassieff, it is admitted that the special bacillus of this disease, instead of fixing itself exclusively on the laryngeal mucous membrane, invades all the respiratory tract, and particularly the mucous membranes of the bronchi, of the trachea and of the nasal fossæ. Considering these facts, inhalation practised with a strong solution of resorcin might perhaps give more appreciable result. (2) *Cocaine*—Painting the mucous membrane of the pharynx and afterwards of the larynx with a solution of cocaine, 5 to 10 per cent., has been highly extolled by Prior. In the patients subjected to this mode of treatment at Baginsky's clinic the number and intensity of the fits of coughing have been favorably modified in the majority of the cases, but, nevertheless, the writer is of the opinion that this mode of treatment should not be employed except in grave cases which do not yield to other medication, on account of the resistance which many children make to its employment, and on account of the frequency of symptoms of intoxication. (3) *Antipyrin*—The results obtained from the use of this drug, in the few cases in which it was tried at this clinic, were disappointing. Dr. Mugdan says of it: "In the seven patients thus treated, neither the number nor the intensity of the fits of coughing underwent any modification; while it is to be remembered that this drug is far from being inoffensive, and accidents of intoxication have been already reported on all sides." (4) *Insufflation*—Michael, considering pertussis as a nervous reflex provoked by the specific irritation of the poison of the bacillus in the nasal and pharyngeal mucous membranes, used insufflations into the nasal fossæ, at first of boric acid and quinine, then, later, exclusively of benzoic acid. The

results obtained by him were very satisfactory. Since then, Bachem, Hagenbach, Stœrk and Lublinski have also acknowledged the good results obtained by this means of medication. Genser alone found no appreciable result from these insufflations. In Baginsky's clinic, of 25 children subjected to methodical insufflation of benzoic acid, 17 presented a marked amelioration from the first insufflation. A cure was generally obtained in the space of one to three weeks.

Jacobi still strongly advocates the use of belladonna in this affection, and writes as follows (*Arch. Pædiatrics*, July, '89): "The prevention of whooping-cough, which is a specific and contagious disease, is certainly not easy, as contagion may take place very suddenly, especially during the first or second stages of the disease. . . . Isolation is an absolute necessity, difficult though it be. In one point isolation is more effective in this than in other contagious diseases, namely, that the disease does not appear to be carried by persons not affected. As regards treatment, the air must be kept pure, uniform, and moderately warm. No draught of wind must be permitted. Utensils must be kept clean and be disinfected. The mucous membranes must be kept in, or restored to, a healthy condition, particularly those of the mouth and respiratory organs. Thus no injudicious exposure must be allowed. The digestive organs have to be watched, the stomach must not be full at any time; the food must be digestible and the bowels kept regular. An important indication is that of treating a catarrhal or inflamed mucous membrane. It is quite possible that only such a mucous membrane is capable of admitting the contagion of whooping-cough, as it does that of other infectious disease—for instance, diphtheria. Besides, by attending to the mucous membranes in time, the occurrence of serious complications, such as pneumonia, may be prevented. Catarrh of the mouth and pharynx ought to be treated with doses of potassium chlorate of from half a grain to a grain in a teaspoonful of water every hour. Expectorants may be used, but all those which have a depressing effect must be avoided, particularly antimonials. . . . Cases exhibiting a severe degree of pharyngitis and laryngeal hyperæmia, par-

ticularly in children who have suffered a long time from chronic inflammatory affections of the parts, will do well, as far as the local symptoms are concerned, under the use of the tincture of *pimpinella saxifraga*; a drachm distributed over the twenty-four hours will be the proper dose for a child of from one to three years. Local applications have been resorted to by many. . . . If they prove anything, they speak for the difficulty encountered in the treatment of whooping-cough, and for the confidence of the physician in the patience and submission of his wards. Quinia has been used both internally and externally by a number of authors of good repute. It was first recommended by Letzerich. . . . Rossbach credits the drug with the power of relieving increased reflex irritability. Binz, however, attributes to it an anti-zymotic action. He gives as many decigrammes daily as the child has years, so a child of four years would take eight grains of quinia a day. He expects to find an improvement after two or three days, the attacks by that time becoming shorter and less severe. When it cannot be given internally he administers it in suppositories or by injection. In our country it is particularly Forchheimer who has reported 97 cases as having been benefited by the administration of quinia. In those cases in which either convulsions have occurred during severe attacks, or in which the interruptions of the circulation is such that cerebral hemorrhage or convulsions must be feared, the inhalation of chloroform, or, according to some, of ether, can be recommended. In the case of a very young infant, I have administered chloroform once every hour for every new attack during the course of a number of days in succession for this purpose with apparently beneficial result. . . . Of all medicines advised against whooping-cough, I prize belladonna most highly. I have always returned to it after having discontinued it for the purpose of trying one after the other of the many remedies recommended during these thirty years. As early as 1861 I had occasion to express in the *American Medical Monthly* the following opinion: Belladonna is the most powerful remedy in whooping-cough. I scarcely remember a single case in which its administration for years past proved unsuccess-

ful in shortening the duration of the process. The effect is generally not a sudden one. Many cases in which belladonna is given from the first commencement will become worse for a short while, then remain at their height for some days or a week, and gradually improve in both the character and frequency of the attack. In others the effect is perceptible from the outset of its administration. From fear of ill effects it is generally given in doses entirely too small, and which cannot but prove unsatisfactory. . . . To obtain a cure in whooping-cough the remedy must be given in a dose sufficient to produce erythema or at least a flushed condition of the face and, as it were, a feverish appearance after every dose. If not obtained at first, the dose is to be gradually increased until this result is obtained. Some of the old authors recommended the administration of belladonna to such an extent as to produce the first symptoms of poisoning; but others insisted on this practice being dangerous and wholly objectionable. I, for my part, soon found that those children suffering from whooping-cough who exhibited general erythema from an apparent overdose recovered soon, while others in whom no such symptoms were observed remained sick for a long time, and continued experience has proved that the occurrence of this symptom is necessary for the full remedial effect. Vogel also speaks highly of the effect of belladonna, taking the dilatation of the pupils as a guide. This effect is rather late in appearing in children, and is not required; indeed it may become quite uncomfortable. Evans, in the *Glasgow Medical Journal* (1880), recommended the administration of a large dose first, to be followed by smaller ones afterwards. Very young infants may take proportionately large doses; I do not remember a single case in which less than half a grain of the extract was taken in the course of twenty-four hours. The tincture of belladonna is a convenient remedy, inasmuch as the dose can be readily and gradually increased. A baby of two years may take daily doses, the first of which may be six drops. If the flush be perceptible within twenty or thirty minutes, that is the dose; if not, the number of drops must be increased to obtain the effect.

After a few days, larger doses are required ; there is no case but demands at least twice the amount of the original dose of belladonna within ten or twelve days, or before the disease disappears." It must be confessed that to many this will appear heroic dosage.

*Summer Diarrhoea among Infants.*—Dr. L. Emmett Holt writes (*Medical News*, Feb. 23, 1889) on the prevention of this trouble, viewed in the light of the lesions. He says that the dyspeptic intestinal catarrhs of infancy produce lesions of considerable importance, not so much in their immediate effects as in their relation to the severer forms of the disease, particularly enterocolitis. His attention was first drawn to this subject by two autopsies on children ten months old. One died of acute pneumonia without intestinal complications. Throughout the large intestine the solitary follicles were increased in size and number, and some were eroded at their summits as if about to ulcerate. The infant had been nursed entirely, and its health seemed good, but during its first five months of life the bowels were never normal ; the passages were green, and nearly always contained mucus ; they were never more in number than three or four daily. This gradually improved without treatment, and during its last months the bowels were in every way normal. The second child fell from a window and died within an hour. In this child the colon was found in a condition similar to the other case. The patient had never had acute diarrhoea, but for three weeks before death the stools had been green and contained mucus. The microscope showed but slight catarrhal changes, the important feature being the great enlargement of the solitary follicles. Examinations of other cases, in which a dyspeptic intestinal catarrh had been allowed to run on without treatment, showed similar changes in the intestinal wall. The majority of all severe and fatal forms of enterocolitis in summer are preceded, often for weeks, by a dyspeptic catarrh. This often passes unobserved, as the mothers attach little importance to it, especially if the infants are teething. Follicular changes are slow in disappearing, and their treatment is very unsatisfactory. The proper treatment is prevention ; every diarrhoea should



receive early and intelligent treatment, best obtained by ensuring proper digestion, which implies proper feeding, with especial care to avoid over-feeding.

In a very excellent lecture on the treatment of enterocolitis in infants, Dr. E. P. Davis (*Med. News*, July 6, '89) says:—Should the case go on to well marked intestinal catarrh with enteritis, a more decided policy must be adopted. An effort should at once be made to remove the irritating ingesta from the intestines, to prevent the growth of bacteria, and to feed and support the patient in every possible way. An intestinal antiseptic is indicated, and from experience calomel seems best fitted for an early stage of the disease. In one-tenth or one-twentieth grain doses with soda or milk sugar, it may be given every hour or half hour until the stools show a free secretion of bile. For the first six or eight hours food should be replaced by teaspoonfuls of whiskey and boiled water, or Jacobi's mixture of white of egg and whiskey and water, care being taken that fluid in *small* quantities is taken very freely. Temperature may be reduced by the warm or hot bath, and a cold cloth upon the head. A spice plaster upon the abdomen may often be used to advantage. If pain and restlessness with fever are not controlled by the bath, antipyrin in one-half grain doses may replace opium to advantage. If the antiseptic action of nature's intestinal antiseptic, the bile, with the calomel, are not sufficient to check the growth and invasion of bacteria, intestinal irrigation should be promptly undertaken, before prostration supervenes. A soft catheter (No. 11), a connecting glass tube and fountain syringe are needed. The fluid may be boiled water made alkaline by sodium bicarbonate, thymol 1 to 1000, or sodium salicylate 20 gr. to 20 ounces of water. The infant is to be laid across the lap of the nurse, who receives it on its abdomen upon a rubber sheet gathered into a pail below. The oiled catheter is introduced by the right hand and pushed gently into the bowel. As it advances it is held by the thumb and finger of the left hand placed against the child's nates, while the right rotates it; if a decided obstruction presents, it is slightly withdrawn and then advanced. It may be introduced six or eight inches

without difficulty. The fountain syringe should be held from two to three feet above the patient and the fluid allowed to flow freely. Its temperature should be from 90° to 110°; if the child is in collapse, a hot irrigation is a decided stimulant. The quantity of fluid used may vary from twenty ounces to double that amount. In collapse after the fluid returns clear, several ounces of hot water, or water containing a little whiskey, may be introduced into the bowel for absorption with decided advantage. While the introduction of the catheter may be resented, the passage of the fluid is a positive comfort; and it is not an unusual occurrence for infants to fall asleep on the nurse's lap while receiving the irrigation, and sleep for an hour or two, the temperature at the same time falling considerably. The irrigation may be employed twice daily without injury to the patient, and even oftener in urgent cases.

*Functional Murmurs of the Heart during Childhood.*—M. Hochsinger, in a paper (*Rev. Mens. des Mal. de l'Enf.*, Jan., 1889), states that the inorganic *bruit de souffle* of the heart is absent during childhood until the second half of the fourth year of life. The fact is surprising, as the circumstances which habitually call forth these sounds in adults are met with in early childhood with much greater frequency and more marked intensity. The writer states that he has examined several hundred children under three years of age with the view of determining the question as to the presence or absence of these sounds. He did not find them present in a single case, although there were evidences of extreme anæmia in several of the cases; in all, the heart sounds were clear, sharp, and well defined. Of twenty-four very anæmic children who had passed the third year, only eight presented evidences of the bruit. Of twenty-nine who had suffered from attacks of scarlatina, diphtheria, pneumonia, phthisis, etc., in four cases only could a systolic murmur be heard at the level of the valves, and the youngest of these was five years of age. The author believes that it is not until after the sixth year is passed that the signs furnished by auscultation have the same significance as in adults. If such is true, every systolic murmur heard in early childhood is of great diagnostic value, as indicating with certainty a distinct lesion.

*Position of Apex Beat during Childhood.*—In a paper (*Rev. Mens. des Mal. de l'Enfance*, Nov. '88) M. Storck gives us the result of careful examinations made upon upwards of three hundred children between the ages of one month and fifteen years to determine, as far as possible, the position of the apex beat and præcordial dulness during infancy and childhood. The following are his conclusions :—(1) It is frequently impossible, during the first year of life, to determine with precision the exact point at which the apex of the heart strikes the chest-wall. (2) In most cases the apex of the heart is located on or outside the mammillary line until after the twelfth year. (3) The apex of the heart is never found within this line until the age of two years. It is very rarely found within it until the seventh year. (4) During the first four years the apex beat is almost always found in the fourth intercostal space. With regard to percussion, there are great differences of opinion. The author's investigations led him to recognize during childhood three degrees of præcordial dulness—the first corresponding, as a rule, to the first year of life, the second to the sixth year, and the third to the twelfth year.

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### Reviews and Notices of Books.

**Diabetes: its Cause and Permanent Cure from the standpoint of experience and scientific investigation.** By EMIL SCHNÉE, M.D., Consulting Physician at Carlsbad, &c. Translated by A. L. TAFEL, A.M., Ph.D. London: H. K. Lewis.

In reading over this book one is very forcibly reminded of Benvenuto Cellini's interesting autobiography, in which, noted for his vanity, he by no means under-estimates his skill as an artist nor his prowess as a soldier. Schnée's work is composed of about two hundred small pages, and contains "everything of importance that has thus far been written about diabetes"; so says the author. His view, "based on experience," attributes diabetes to a luetic (*i.e.*, venereal) constitution, consequently the curative method proposed by him "is able to effect a lasting cure of diabetes, which fact borders on the miraculous," more

especially seeing that the disease results in "organic destruction which no physician thus far has been able to heal." The author has no doubt as to the cause of diabetes, inasmuch as "it manifests itself only in persons who are hereditarily predisposed for it." The author further writes with italics: "*Herein lies the great mystery, never before discovered by anyone, of the cause of diabetes, and here, according to my conviction, hereditary lues on the part of one of the parents, grandparents or great-grandparents of the patient has to be taken into consideration. A transmission of lues through vaccination also is not excluded.*" This fact discovered by him "lets a flow of light into the chaotic darkness of diabetes. A new epoch in the therapeutics of diabetes has no doubt been inaugurated with this discovery." Chapter IX is headed with large capitals: "The so-called cures of diabetes that have hitherto been made are illusions." Thank God that chaotic period passed away in 1881, the time of Dr. Schnée's discovery. Now the rational practitioner, if he will only follow Dr. Schnée's method—that is, not to omit the methods heretofore generally adopted—to practice massage with a preparation of mercury; the use of moderate intercourse so that there may be a "regular circulation of the juices"; ventilating the lungs by drawing deep breaths; an intelligent care of the skin, "*the use of hot Carlsbad waters, regulated for individual cases, which is of especial value, as one of the factors in this my therapeutical system.*"

His "entire secret consists in restoring the equilibrium," which, from the rather indefinite suggestions advised by the writer, would be best attained by the unfortunate victim of this malady going to Carlsbad, consulting Dr. Schnée, and, under his instructions, drinking and using its waters and drugs prescribed by him.

We cannot refrain from making use of quotations in reviewing this interesting and instructive book. It is interesting in revealing the fact that on the other side of the Atlantic there yet remain some whose talents might be a successful investment for the proprietor of "safe cure" or other similar merchandizable material in editing or preparing advertisements; it is instructive,

because it really contains much useful information that would be valuable to anyone desirous of being posted on the literature of the disease referred to. Any one interested in the subject of the work will certainly read it with mixed pleasure.

**Elements of Histology.** By E. KLEIN, M.D., F.R.S.  
Philadelphia: Lea Brothers & Co.

The subject of histology, both normal and pathological, has become such an important one that the physician or surgeon who is not well posted in it cannot be considered quite up to the times. Herein is one subject in which the young graduate has the decided advantage of his older *confrère*—even no further back than twelve or fifteen years. Diagnosis is now frequently made by the use of the microscope: indeed that instrument cannot be dispensed with. Of course, to be able to recognize diseased structures implies the knowledge of the appearance of healthy tissues, hence the necessity of a good text-book on normal histology. Klein's book is, without doubt, the best modern book in the English language; other good books exist, some of them translations, but anyone having the *last* edition of Klein will be able to post himself to date. It is a common saying that the medical practitioner is always a student. We would suggest to the practitioner of over twelve or fifteen years standing to borrow a few slides from a first or second year student, and, with the use of a microscope and these slides, to peruse Klein's book, and in it he will find three hundred and fifty-seven pages, every one of which will only serve to convince him more and more of his ignorance of the subject and of the truly progressive nature of the *science* of medicine. We have no hesitation in recommending this book highly to both students and practitioners.

**Synopsis of Human Anatomy.** By J. K. YOUNG, M.D.  
Philadelphia: F. A. Davis. 1889.

This is another of those numerous "aids" for the busy practitioner and student. It is a mere compilation which any student could make for himself, and contains nothing new either in

arrangement or matter. It is merely a "cram-book" on anatomy, the sort made use of by lazy students for examination purposes, and one which would not help them in any practical examination on the subject. Anatomy should be chiefly learned in the dissecting-room, and such works as the one under review can teach but little that is of use. We cannot recommend this work (which is good enough of its kind) to students or practitioners, when so many good text-books on anatomy can be so easily procured.

**Electricity in the Diseases of Women.** By G. BRETTON MASSEY, M.D. Philadelphia: F. A. Davis, publisher. 1889.

This little work is probably the only one written at the present day upon this subject worth perusing—those of Apostoli and Engelmann being, of course, excepted. There is one special virtue in connection with it—it is written by a specialist in nervous diseases and their treatment by electricity. The author begins with a short treatise on the general physics of electricity, the various kinds of batteries and necessary instruments to complete an outfit for the treatment of uterine disease. The author then goes very fully into Apostoli's methods, including the use of the galvanic and the faradic currents, their distinctive difference and relative application. The treatment of fibroid tumors is next taken up. Cases are cited in full, and the usual ending in such cases is adopted—"still under treatment." The treatment by electricity of uterine hemorrhage comes next. Then the treatment of endometritis, subinvolution, uterine hyperplasia, and pelvic indurations; of pelvic pain, dysmenorrhœa with stenosis, extra-uterine pregnancy, etc., etc.

A more thorough and useful little book to those interested in the electrical treatment of disease we do not think can be obtained, and we heartily recommend it.

**Transactions of the American Ophthalmological Society.** Twenty-fourth annual meeting, New London, Conn., 1888. Hartford: Published by the Society.

The transactions of this society's last annual meeting is full of interesting material, although nothing very new was communicated. The society and the medical world in general

have to lament the loss of some of the leading men in this branch, viz.: Dr. C. R. Agnew and Dr. Loring—men whose able work lives after them. Also Dr. Joseph Aub, of Cincinnati. Dr. Swan Burnett presents an interesting analysis of the refraction of 576 human corneæ by means of Javal and Schiøtz Ophthalmometer, which is well worthy of study and reflection. Dr. Sutphen, of Newark, reports three operations of puncture of the retina for detachment in a patient. Dr. Sutphen at first tried profuse diaphoresis and rest in bed without any success. Puncture was then made of the right eye, vision being only perception of light. No return of detachment had occurred up to seven months later. Vision was  $\frac{1.5}{100}$  with  $-\frac{1}{20} = \frac{1.5}{40}$ . In the left eye the result was negative. Detachment returned after first operation, when it was repeated, but a short time after detachment again appeared.

Dr. Edward Jackson, of Philadelphia, exhibited a new form of cataract knife, being a combination of the Graefe and Beers' forms. The advantages are: The puncture and counterpuncture are as perfectly under control as with the Graefe knife. The flap may always be completed with one forward thrust. The escape of the aqueous can be largely prevented until the incision is nearly completed. The counterpressure of the back of the knife balances the pressure of the cutting edge and aids in fixation.

Dr. Tansley, of New York, exhibited a lachrymal syringe, canalculus compressor, and a new form of lachrymal probe.

The proceedings of the Ophthalmological Branch of the International Congress at Washington are also embodied in the transactions. These include a very interesting series of cases of tenotomies for heterophoria, by Dr. David Webster.

## Society Proceedings.

### MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

*Stated Meeting, May 3rd, 1889.*

WM. GARDNER, M.D., PRESIDENT, IN THE CHAIR.

Dr. M. C. McGannon was elected a member of the Society.

*Cystic Ovarian Tumor.*—DR. WM. GARDNER showed a large ovarian tumor, the interest of which lay in the fact that it was composed of two very large cysts containing papillomatous growths and a small dermoid cyst containing a bunch of hair and one tooth. From the hilum of this ovary there also hung a thin-walled cyst of the size of a large orange. It had a thin separate pedicle. This tumor was removed from a married woman of 57 years of age.

In answer to DR. SMITH, DR. GARDNER said that the prognosis was favorable, but not cloudless.

DR. HINGSTON agreed that tapping papillomatous cysts was unwise, inasmuch as it led to the spreading of the disease to the peritoneum. He referred to a case in which he began an operation for removal of an ovarian cyst, but on opening the abdomen he found both tumor and peritoneum covered with papillomata. He emptied the cyst, but did not attempt to remove it. The woman got better and lived for seven or eight years.

*Pharyngeal Fibroid.*—DR. HINGSTON exhibited a large pharyngeal fibroid and said that the subject of it was a strong, able-bodied young man, full of life and vigor. The tumor, which was of a very solid character, had formed in the respiratory tract. It had pushed forward into the nostril, where a prolongation was visible at the alæ of the nose. It had dilated the nostril considerably, till it had given a frog-like expression to the countenance. There was a profuse discharge from the nostril and occasionally bleeding. Within a month the growth had projected into the throat about half an inch below the uvula. The soft palate was rendered tense, and the hard palate was arched downwards and forwards. Nasal respiration was impossible, and there was considerable dysphagia. On passing the little



finger, well oiled, into the left nostril, there was found to be perfect freedom of its walls, but the longer index made out a broad and extremely firm attachment. With the right index behind the soft and hard palates, and working upwards, an equally broad and firm attachment was recognized, reaching from the extremity of the right finger behind the palate to the point of the left index in the nostril. The attachments were certainly to the basilar process of the occipital bone and the body of the atlas, and seemingly also to the body of the sphenoid. The growth was entirely subperiosteal, and, as is usual in such cases, the periosteum was much thickened. The ligamentous structures between the bones rendered the attachments more or less uneven. The tumor was removed by the slow and painful (to operator also) method of enucleating by the two index fingers. With the left index in the left nostril, and the right behind the soft and hard palates, working steadily downwards and backwards from above and upwards from below, the fingers ultimately met and separation was effected. During the operation the patient, with a gag between his teeth, was seated in a firm, stiff-backed chair during the operation, and was kept fairly steady by a couple of students. A thick, strong string, which was entrusted to an assistant, was passed through the tumor behind the palate. No chloroform was administered. The hemorrhage was alarming, and more than once during the operation partial syncope occurred. Blood passed in large quantities from the right nostril and in streams from the mouth, while a large quantity was swallowed and afterwards vomited. The patient made a good recovery. Dr. Hingston stated that the operation would have been impossible in one less robust. The operation, which lasted an hour and forty minutes, was too long and too severe to be borne without an anæsthetic by any but the strongest; and anæsthesia without tracheotomy would be inadvisable; and the amount of blood lost was too great for any but the full-blooded to withstand.

*Carbolic Acid Poisoning; Parenchymatous Degeneration of Kidneys.*—DR. FINLEY presented the kidneys of a woman aged 40, a case of carbolic acid poisoning. The organs were of

natural size ; capsules non-adherent ; cortex pale and pyramids somewhat injected. Microscopically the cells of the cortex showed marked parenchymatous degeneration and a few slight interstitial infiltrations of leucocytes, together with a few small hemorrhages. The heart muscle was soft and pale, and the fibres showed fatty degeneration. The other organs were healthy. Judging from the absence of gastro-intestinal irritation, it was probable that the poison had been taken in a dilute form. Dr. Finley stated that the patient, an intemperate woman, had swallowed an unknown quantity of carbolic acid, and died forty-eight hours afterwards. The urine was smoky, contained albumen and a large quantity of granular and hyaline casts, also renal epithelium.

*Tracheotomy vs. Intubation.*—DR. ARMSTRONG then read a paper on this subject, which appeared in full in the June number of the JOURNAL.

*Discussion.*—DR. BELL said he had had no experience with intubation, but a great deal with tracheotomy. He would be glad if intubation would replace tracheotomy, as the latter is the most unsatisfactory of operations, but he could not help thinking it never would. On examination of statistics, those of tracheotomy are better than those of intubation, as quoted by Dr. Armstrong. Trousseau claims 30 per cent. of successful operations. Among the German operators 33 per cent. is attainable ; others report from 25 to 33 per cent. of successful cases. Northrup's statistics show less than 30 per cent. Statistics, however, are of slight value, as the conditions under which the operation is performed vary greatly. It is generally supposed that an early operation is better than a late one. He has seen very many cases where physicians agreed that the child could not live more than a few hours ; tracheotomy was not allowed, yet recovery took place. He had come to the conclusion that relief should be left to nature till the child could live no longer, then resort to operation. In his experience early operation tended to cause extension of the membrane down the trachea. He believed the relief of the future for such cases would be an aseptic operation requiring no tube or other foreign substance

in the larynx. He did not think Dr. Armstrong had laid stress enough on the effect of the intubation tube on the larynx causing ulceration and subsequent stenosis. On the whole, the results of intubation had been to him disappointing.

DR. WILKINS said that he thought cases were rare where tracheotomy was done where the child would have recovered without. Cases where the constitutional symptoms of the disease were marked, such as enlarged glands, high temperature, etc., neither tracheotomy nor intubation would avail. Where the symptoms were only those of obstruction, operative procedure was always called for.

DR. MAJOR said it was difficult to compare cases, as intubation was allowed where tracheotomy would not be thought of. He had performed intubation twenty-seven times, with ten complete recoveries. Five cases were absolutely hopeless from complications of the disease. Feeding the patient is always difficult. He had had six cases of foreign-body pneumonia after intubation from entrance of food into the air passages. He now uses a No. 4 catheter, with tube and funnel, and feeds the child himself by passing the tube down the œsophagus. A nurse cannot be trusted to pass the tube.

DR. HINGSTON said that no question in surgery would be more difficult to decide by statistics than this. To arrive at a satisfactory conclusion as to which was the better operation, we would require operators of equal skill operating at the same period of the disease in similar cases. He only operates reluctantly and as a last resource; hence his results have not been brilliant. Many times he has been urged to operate where the child has recovered without it. He has had but little experience with intubation.

DR. McCONNELL said that four of the cases quoted by Dr. Armstrong occurred in his practice; of these, two were successful. The only advantage of either operation was to overcome obstruction in the air passages. Neither could have any effect on diphtheria as a disease. During intubation he applied antiseptics to the throat by means of an atomizer. He thought the administration of medicine in these cases unnecessary.

DR. F. W. CAMPBELL thought that the balance of evidence was in favor of intubation. It certainly had the great advantage of allowing the air to enter the lungs warm and moist, thus preventing congestion.

DR. LAPTHORN SMITH said that under the most favorable circumstances, the experiences of the London hospitals for children goes to prove that tracheotomy is a very dangerous operation. He firmly believed intubation would entirely replace tracheotomy.

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*Stated Meeting, May 17th, 1889.*

WM. GARDNER, M.D., PRESIDENT, IN THE CHAIR.

*Rupture of the Cornea treated by evisceration of eyeball and the introduction of a glass globe in the Sclerotic.*—DR. BULLER introduced to the Society a boy, 8 years old, who received an injury to his right eye from a stick thrown at him by a playmate. He related the following history:—

Patient was brought to me on April 19th; the injury was inflicted eight days previously. I found the eye shrunken and beginning to present the appearances characteristic of traumatic cyclitis. There were two fresh scars from recent wounds in both upper and lower lids. The wound of the eyeball extended vertically through the entire cornea and for a short distance into the sclerotic, both above and below. The cornea presented the appearance of two small turbid cornea separated by a shallow groove. Perception of light was lost, there was no conjunctivitis, and the deeper structures had evidently not undergone any active inflammatory changes. The shrunken eyeball was quite soft and slightly tender to the touch. The condition was such as would evidently involve considerable risk to the other eye from sympathetic ophthalmia. The case was one which demanded some mode of treatment calculated to obviate this danger. I do not approve of removing the eyeball in children on account of the faulty development of orbit and conjunctiva which this operation involves in young people, and the operation of optico-ciliary neurectomy would have, at best, left a very small and imperfect eyeball. The child being perfectly healthy,

with no tendency to suppurative inflammation, I determined to try the operation recently devised by Mr. Mules of Manchester ; that is, the insertion of a globe into the cavity of the sclerotic. The operation was done under rigid antiseptic precautions. The cornea was removed entirely with so much of the sclerotic above and below as to give the opening the shape and direction of a vertical ellipse. All the contents of the globe were carefully scraped out with a sharp scoop and the bleeding from the inner scleral surface arrested by packing with aseptic sponges. All bleeding had ceased in about fifteen minutes, and the smallest sized glass globe was inserted. This globe was perfectly smooth and rather more than half an inch in diameter. I selected the smaller size in order to avoid all danger of undue tension when the lips of the scleral wound were united in a vertical direction by three silk sutures. The conjunctival aperture was then united horizontally, also by three silk sutures. After carefully cleansing the eye again with solution of hydrarg. perchlor. 1 to 5000, I dusted fine iodoform powder into the conjunctival sac and covered the lids with absorbent cotton likewise freely dusted with iodoform, this being retained in place by a tolerably firm compressive bandage over both eyes. This dressing was allowed to remain undisturbed for forty-eight hours. When removed I found the eyelids and orbital tissues considerably swollen and tender ; both swelling and tenderness completely subsided in a few days under the constant application of cold aseptic compresses, and the case, as you perceive, has done remarkably well. Two days ago I inserted an artificial eye, which presents a very satisfactory appearance. There is no sinking of the upper lid, and the movements of the artificial eye are apparently almost normal. He is only permitted to wear the eye for a short time each day as yet. The sutures in the sclerotic are hidden from view, and create no irritation. The result is far more satisfactory than could have been attained by enucleation or by optico-ciliary neurectomy, and it seems probable that all danger of sympathetic ophthalmia has been removed.

*Hodgkin's Disease.*—DR. STEWART exhibited a case of Hodgkin's disease. The patient, a powerfully-built man, 22 years of

age, first noticed enlargement of the glands in the left side of the neck ten months previously. The glands have steadily continued to increase in size, until now there is a very extensive infiltration of the glands on both sides of the neck and axilla. There is no appreciable enlargement of any other group of superficial lymphatic glands. Both liver and spleen are normal in size. The patient is slightly anæmic. There is, however, no change in the absolute number of either the red or white blood cells, neither can any change in the size or shape of the red cells be determined. For the past six weeks he has been taking Fowler's solution in considerable doses, but without any benefit.

*Neoplasm of Stomach.*—DR. FINLEY exhibited for Dr. Stewart the organs of a patient with a malignant growth at the pylorus. On either side of the valve the gastric walls were uniformly infiltrated and a third of an inch thick. The mucosa was not ulcerated, and although the opening at the pylorus was only half an inch in diameter, there was no dilatation of the stomach. The pyloric growth was continuous with a nodule projecting into the hepatic flexure of the colon, causing puckering and moderate contraction of the lumen of the bowel. Microscopically, there was inflammatory infiltration of the mucosa with much hyperplasia of the submucous and muscular layers. No cancerous elements had been found after examining a large number of specimens from different parts of the growth. The liver and heart were considerably atrophied, but no metastases were present. The absence of hemorrhage was explained by vomiting always coming on after meals. The growth was doubtless of a malignant nature, as the cancerous elements are at times occluded by the fibrous elements of the growth.

DR. STEWART stated that the patient, a woman aged 46, had been subject to severe and frequent vomiting since June last; also had pain, but no hemorrhage. Moderate and progressive emaciation had accompanied the affection. A tumor was felt in the epigastrium, but no dilatation of the stomach. A diagnosis of pyloric cancer had been made.

*Abnormal Subclavian Artery and the Right Pulmonary Veins emptying into the Superior Cava.*—DR. SHEPHERD ex-

hibited a specimen obtained from the dissecting-room showing the right subclavian artery arising from the descending arch and passing upwards between the trachea and oesophagus to reach its normal position in the neck. It was given off from the descending aorta and opposite the third dorsal vertebra. The right vertebral artery arose from the right carotid and the left from the aorta between the left carotid and left subclavian. The right recurrent laryngeal nerve did not hook around the right subclavian, but formed a loop in close relation with the right vertebral, which represented, no doubt, the shortened fourth arch. This anomaly is somewhat uncommon, but is easily explained by reference to the development of the aorta. It is an example of a persistent right aortic root, and in this case the fourth right arch, which usually forms the subclavian, does not develop but atrophies. This explains the fact of the right recurrent nerve not hooking round the subclavian; both fifth and fourth arches disappear, so the nerve passes directly to its place of supply. In this case the vertebral was given off at the place where the subclavian usually begins, and really represented the remains of the fourth arch. The sympathetic of the right side was somewhat pulled down by the right subclavian. In the same subject on the right side there was only one large pulmonary vein, and it emptied itself into the vena azygos major instead of the left auricle of the heart. The combined vein was of large size, and entered the superior vena cava by hooking round the root of the right lung. In the same subject the renal arteries were multiple, and there were several muscular anomalies of no special rarity. The conformation of the teeth was peculiar; the intermaxillary bone appeared to be not fully developed, and the teeth of the upper jaw proper overlapped on each side the incisors. Patient was a woman, aged 30, who died of phthisis in the General Hospital.

*Adenoma.*—DR. MAJOR read a paper on adenoid growths of the naso-pharyngeal cavity, and described his method of operating in the recumbent position, by means of which blood is prevented from entering the larynx. He places the patient on the back, with a pillow under the shoulders and the head well thrown

back so as to make the naso-pharynx the most dependent part. He generally employs curettes of various patterns, and when the vegetations occur high up on the roof he uses his adenomatome. He considered that in diphtheria the presence of adenoid vegetations was a source of aggravation and danger. He believed that nocturnal encuresis was somewhat common in children suffering from extensive adenoid growths. Dr. Major had operated on 186 cases under ether, but had no record of cases done without anæsthetics.

*Sublingual Sebaceous Cyst.*—DR. SHEPHERD reported the case. The patient was a girl aged 19, who first noticed a swelling beneath the tongue three years ago. This interfered somewhat with articulation and mastication. A year ago the swelling projected into the submaxillary region, and when seen at the hospital was about the size of a small orange. The girl had been several times insane and once after an anæsthetic, so Dr. Shepherd decided to open the cyst under cocaine and not attempt to dissect out. An incision was first made into the cyst beneath the tongue and some fluid evacuated; then a pair of dressing forceps was pushed down through the cyst and made to project beneath the chin, with the intention of passing a drainage-tube through. An incision was here made and the forceps presented, covered with a thick cyst-wall; this was seized, the incision enlarged, and with occasional touches of the knife the cyst was drawn out entire through the opening beneath the chin. It contained sebaceous matter of a putty-like consistency. Dr. Shepherd remarked that these cysts were congenital, and, as a rule, grew slowly, so that they caused no inconvenience until about the age of 18 to 20. They are somewhat rare, but are described in most works on surgery. Sir William Ferguson gives a graphic account of the difficulties of their removal in his *System of Practical Surgery*.

DR. BELL stated that he had met with but two dermoids in unusual situations; one occurred in the mammary gland and the other he removed from a man's back.

DR. BULLER asked if Dr. Shepherd had any difficulty in removing the cyst-wall. In his experience with dermoids about



the orbit he had found great difficulty in removing them without rupture and escape of the contents, which then necessitated a very careful dissection, as their walls, when occurring in this region, are extremely delicate.

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### Selections.

#### ABSTRACT OF THE HARVEIAN LECTURES ON THE RHEUMATIC STATE IN CHILDHOOD AND EARLY LIFE.

By W. B. CHEADLE, M.D.

The various Manifestations of the Rheumatic state as exemplified in Childhood and Early Life is the subject of the Harveian Lectures delivered this year by Dr. W. B. Cheadle. To reproduce such a lecture even in abstract would require more space than the columns of this journal would allow, so fully and exhaustively is the subject dealt with. The special points brought forward will be here briefly touched upon.

Rheumatism must not be regarded as a mere affection of the joints. The rheumatic virus which produces the articular affection produces in like manner inflammation of the fibrous tissue of the pericardium, endocardium and pleura and that of fasciæ and tendons. It affects fibrous tissue not of joints alone but of these other structures, moreover it affects mucous membrane and skin and disturbs nervous centres. Arthritis must then be regarded as being only one of many rheumatic phenomena. In childhood, the articular affection has not become the chief feature, but is usually slight and subordinate, and, indeed, may be absent altogether from a seizure undoubtedly rheumatic in its nature. The joint tissues are less susceptible, the other fibrous tissues more so. Subcutaneous nodules which are so frequent and significant in early life practically disappear with the advent of puberty; and chorea, so common in connexion with the rheumatism of childhood, disappears as full maturity is reached. Endocarditis and pericarditis are more frequent in children, *i.e.*, they tend to decline as age advances. In the rheumatism of early life arthritis is at its minimum, endocarditis, pericarditis, chorea and subcutaneous nodules at their maximum. As life advances the joint phenomenon becomes more prominent, constant and typical of the disease and reaches its maximum;

while the other phenomena decline and tend to die out. The various phases of rheumatism must be regarded not as complications or sequelæ but as direct manifestations of rheumatic activity.

Another point of distinction between the rheumatism of childhood and that of later life is the tendency of the various phases to arise independently and apart from each other. The series of rheumatic events is often spread out, scattered over a period of months or years, so that the history of a rheumatism may be a history of childhood. (Cases are cited where the various phases have appeared at intervals through childhood).

*The incidence of the disease upon the two sexes.*—Taking males and females of all ages together, articular rheumatism is somewhat more common in the former. Up to the age of twenty the balance is the other way. Further, this preponderance of females over males is not uniform at all periods of this first twenty years, but shows a remarkable variation which is of considerable significance. In the first five years of life boys preponderate, viz.: 5-1. At the next quinquennial period between five and ten years, they become nearly equal, viz.: 15 boys to 14 girls. At the next period eleven to fifteen years of age inclusive, comes a remarkable change. The proportion is suddenly and decisively reversed. Girls suffer from articular rheumatism in great preponderance, viz.: 47 girls to 25 boys. After fifteen there is another change; the greater liability of girls gradually declines up to twenty, so that at the close of this period males again preponderate. The greater proclivity of females which has been noted up to twenty years of age is then in reality, chiefly due to their extraordinary liability to the disease during this particular period of from eleven to fifteen: A strong confirmation of this special susceptibility of young girls to rheumatic arthritis is afforded by the fact that the rule holds with regard to scarlatinal rheumatism. The greater liability of girls to rheumatic arthritis during this report (10-15) corresponds with a similar liability to endocarditis and chorea.

*Family predisposition.*—The tendency to rheumatism is transmitted as strongly as the tendency to gout. This is more striking than in the case of adults, partly perhaps for

the reason that the constitutional tendency existing is usually in activity before maturity—if it is there it comes out in childhood; and partly, perhaps, because of the greater ease with which the history of relatives is obtained in the case of children.

*The consideration of various phases in detail.*—The articular affection is usually comparatively slight and may even be absent altogether. It is, however, nearly always present at some period of the rheumatic efflorescence. Often when medical advice is sought the ailment passes for nothing but a slight feverish attack. Such cases are constantly described as “low fever.” The profuse sweatings, the intensely and sour smelling perspiration, are rarely seen, the rarity being in inverse proportion to age. Sudamina and miliary eruptions are rarely seen in children. The pyrexia is slight, and this is the more remarkable, because, as a rule, it rises readily in children. The slight arthritis of childhood often assumes a misleading aspect, and it is sometimes difficult to distinguish it from other ailments involving pain and tenderness of parts. This recognition is of immense importance, since a deadly endocarditis or pericarditis may be insidiously developing concurrently.

Other conditions are often mistaken for articular rheumatism. Essential paralysis in its early stage, when there is great hyperæsthesia, is one of them. But in essential paralysis there is extreme flaccidity of muscle, the limb falling limp and loose, drooping of the toes, and the fact that the tenderness in general is not confined to joints and tendons. Later the disappearance of faradic contractility and tendon reflex would be decisive.

Syphilitic disease of the ends of the long bones is sometimes mistaken for rheumatism. In this there are tenderness and swelling from accompanying periostitis, and there may be even some arthritis, the limbs being kept perfectly motionless from pain on movement. It may be distinguished by the presence of other signs of congenital syphilis, and by the history possibly; but the age at which it occurs, viz.: in the first few months after birth, is almost diagnostic. Rheumatic arthritis is almost, if not quite, unknown in early infancy. In infantile scurvy—scurvy-rickets—the swellings are

usually limited to the shafts of the long bones, although Dr. Cheadle has once seen a periosteal swelling on the malar bone and swelling and tenderness of the joints. Such, however, are rare exceptions. Other diagnostic points are the existence of spongy gums, subcutaneous hemorrhages and albuminuria. And then infantile scurvy is limited to the bottle-feeding period, i. e. when articular rheumatism is almost unknown.

*Anæmia.*—The effect of rheumatism in producing anæmia is more remarkable in children than in adults. The presence of the rheumatic poison appears to be inimical to the red corpuscles or their hæmatin. The rheumatic poison is not so rapidly destructive of red blood as that of diphtheria, which causes marked blanching in a few days; but still its effect is decided and unmistakable. The presence of valvular disease and pericarditis aggravates this tendency, and it is accompanied by progressive emaciation.

*Tonsillitis.*—Tonsillitis should be ranked as one of the rheumatic series. It occurs frequently in direct and immediate association with articular rheumatism and some pathological connexion cannot be doubted. (Trousseau and Fowler). According to the statistics of the Collective Investigation Committee the association was present in 24.12 per cent. It is not always the rule that the tonsillitis ushers in the articular affection. Tonsillitis may occur at any period of the rheumatic series, although most often it comes first—immediately preceding arthritis. It is probable that tonsillitis may occur as a solitary expression of the rheumatic state and in many cases it arises in rheumatic subjects quite apart from the articular manifestation. Dr. Cheadle has seen recently three examples of its occurrence with chorea and in all these the chorea occurred in a child who had articular rheumatism at another period. “But, of its connexion with endocarditis or pericarditis apart from arthritis I have no certain knowledge.”

The decision whether a given case of tonsillitis not immediately associated with articular rheumatism is of rheumatic nature must be based upon a comprehensive survey of the patient's life history and family predisposition as well as of the accompanying symptoms.

*Erythema Exudativum.*—The connexion is more clear in

children than in adults, and is of common occurrence. Of twenty-seven patients with rheumatic nodules eight had erythema papulatum or marginatum, one urticaria and one purpura *i. e.* ten out of twenty-seven cases and these in close association with the evolution of the nodules (Barlow and Warner). It appears in various forms—erythema marginatum, erythema papulatum, erythema nodosum and urticaria, the first named being the most common. The erythema may occur at any point in the rheumatic series, but it is usually at any rate associated with the development of active rheumatic disturbanbe in some other form and occurs chiefly in the marginate or urticarious form. It is not unfrequently associated with endocarditis and pericarditis in the more serious cases.

*Erythema nodosum.*—Although it has an arthritis of its own yet it is associated sometimes with true articular rheumatism. The eruption is attended with pain of joints and sometimes swelling, possibly from pressure. The tendency of the erythema to occur in young girls—who are also most liable to rheumatic arthritis, to endocarditis and to chorea—is in agreement with the view of its rheumatic nature; yet although often rheumatic it is often set up by other causes. It should be regarded as evidence of some irritant matter in the circulation (*e. g.* its presence in cholera, septicæmia and in poisoning by certain drugs), the rheumatic poison being regarded in that light.

*Purpura rheumatica.*—This may arise as a separate disease or in the course of a general acute tubercular rheumatism, but usually it occurs independently. Purpura rheumatica is probably a minor expression of the rheumatic state, altogether far less common than exudative erythema.

*Chorea.*—When associated with articular rheumatism it usually follows the arthritis, sometimes is concurrent with it and sometimes precedes it. All are agreed that there is a certain connexion between chorea and rheumatism. The point in dispute is the nature of the relation, its closeness and constancy. "I do not think the evidence warrants the assumption that chorea is invariably of rheumatic origin. I must say of chorea, as of tonsillitis, erythema, endocarditis, pericarditis and arthritis, in fact of the whole of the rheumatic

series except subcutaneous nodules, that it is produced by other causes as well as rheumatism. But I am convinced that rheumatism is the most common and potent factor." Children never acquire chorea by imitation. It is a "time-honored fallacy in the etiology of chorea." "I have not seen a single instance spread by imitation."

In true chorea there is, even in rheumatic cases, often something more than the constitutional basis of mobility of the nervous system, influenced and played upon by the rheumatic poison. There is frequently another factor—nervous shock. Witness the case of J. T—, eminently rheumatic, yet having two attacks of chorea ascribed to fright long before the first arthritis; and this shock or excitement is a common exciting cause in rheumatic cases. Fright chorea and rheumatic chorea should not be spoken of as distinct. The rheumatic state is the most common predisposing cause, a nervous shock stirs it suddenly into action; fright acts equally on rheumatic and non-rheumatic.

As to the degree of closeness and constancy of the connection between chorea and rheumatism, in addition to the evidence afforded by the occurrence of acute articular rheumatism either preceding or accompanying the chorea, there is still more of recent development bearing upon the question. Firstly, the records of the Collective Investigation Committee, as previously stated, show that between the ages of ten and fifteen girls have a remarkable proclivity to acute articular rheumatism as compared to boys, which is that of the maximum incidence of chorea. This corresponds with a similar greater proclivity during that same period of girls as compared with boys to organic heart disease associated with chorea, and to articular rheumatism associated with chorea. This similar harmony of relative incidence is possible of more than one interpretation, but it is *primâ facie* very suggestive of close pathological connection.

Secondly, there is the evidence afforded by the association of chorea with other conditions which are themselves found in close relation to articular rheumatism—the other members of the rheumatic series, *e.g.*, endocarditis or pericarditis in association with chorea. "There is no other general morbid state so closely associated with chorea as rheumatism. There

are only two diseases largely and closely associated with endocarditis, viz.: chorea and rheumatism. Explanations more or less plausible have been suggested as to the cause of the endocarditis of chorea apart from rheumatism, but no dynamic theory will explain the *pericarditis* of chorea when it occurs without articular affection. The significance of this fact has, I think, been overlooked.

The association of erythema nodosum or tonsillitis with the endocarditis or pericarditis would greatly strengthen the presumption of the rheumatic nature of an accompanying chorea; while the presence of nodules so absolutely associated with rheumatic activity, would be in itself conclusive. Dr. Cheadle cited several cases in illustration and as a general result of his investigations and experiences arrives at the conclusion that in the majority of cases at least chorea is a phase of rheumatism.

*Subcutaneous tendinous nodules.*—"I have long been familiar with them as occurring occasionally in the course of articular rheumatism; but the credit of pointing out their frequency and great importance as clinical signs in the various manifestations of rheumatism belongs to Dr. Barlow and Dr. Warner. Fibrous nodules are common in children but much more rare in adults. They are often overlooked because of this rarity in adults, because they are not looked for and because often they are of small size. They are sometimes to be felt rather than seen. The collective investigation records give but a small percentage of cases in which they were found, yet at the moment there are seven cases at Great Ormond Street Hospital. All these are, except one, of articular rheumatism, cases of chorea. The nodules vary in size from that of a hempseed to that of an almond or larger; in extreme cases they may attain that of half a walnut. The nodules lie under the skin and are connected with fascia or tendons—in relation with fibrous tissues. They are not tender except slightly in rare instances. There is no redness of the skin over them except occasionally from friction or pressure. They are found most commonly upon the back of the elbow, over the malleoli, and at the margin of the patella, not infrequently upon the head, especially along the superior curved line of the occiput, the temporal ridge and now and

again upon the extensor and flexor muscles of the hands, on the extensors of the feet, the vertebral spines, the spine of the scapula and the crista ilii. In extreme cases nodules may be found in nearly all these positions. Once Dr. Cheadle saw them the size of almonds studded over the flexor tendons, on the palms of the hands, and once in great numbers over the tendinous structures of the intercostals on the front and sides of the thorax. There may be only one of these nodules but more, usually three or four, are to be found. Sometimes the number is large, as many as thirty or forty. Sometimes there is only a single crop; sometimes several crops appear in succession. They develop to perceptible size in the course of a few days. Large nodules have an existence of months, Their evolution is unaccompanied by pain or fever. They consist of nuclear growth in process of development into fibrous tissue in all stages of transformation.

The connection of these nodules with rheumatism is extremely close, and I believe absolute. They owe no other origin or connection. "In all cases in which I have seen them there has been either rheumatic joint affection at the time or at some period of the child's history or such a concurrence of rheumatic events one or more—such as endocarditis, pericarditis, chorea and erythema—that there could be no doubt as to the nature of his condition." Not only are the nodules connected with rheumatism but they are specially connected with the graver forms of it; and they are signs, serious apparently, in proportion to their size and number. "I regard the eruption of large nodules (such as are shown in the sketch) as almost equivalent to a sentence of death." They mean persistent cardiac disease, generally uncontrollable, and marching almost infallibly to a fatal ending. General experience agrees as to the grave significance of these fibrous growths, at first looked upon as unimportant curiosities. In twenty-seven cases (Barlow and Warner) there was organic heart disease in all; in eight there was pericarditis; in twelve there was progressive valvular disease, and eight were fatal in spite of all treatment. Money has found nodules in half the cases of rheumatism in which well-marked heart disease occurred. Dr. Cheadle's experience is quite in accord with these observations: "I could give



examples of the association of these nodules with every other phase of the rheumatic series as well as with endocarditis and pericarditis and chorea and pleurisy, already mentioned; and in all these cases the evidence they afford as to the rheumatic nature of the affection is of the highest value, and I believe decisive. But their greatest interest lies in the fact of their frequent association with endocarditis and pericarditis of the most deadly, although subacute, form, and in their connection with chorea.

*Pleurisy* occurs in association with rheumatism in two different ways. It arises frequently towards the end of rheumatic heart disease—partly as a result of the mechanical congestion of the pleura caused by the valvular defect, or pericarditis or by extension of the latter. But pleurisy likewise occurs in rheumatism as an initial phenomenon, coming immediately before, together with, or immediately after arthritis as a direct result of the rheumatic influence. Probably many idiopathic pleurisies and pleuropneumonias are of rheumatic origin.

*Pericarditis*.—Pericarditis may appear at any point in the rheumatic procession of events—first or last, alone or in combination with other phases. Most often it comes late after endocarditis, especially when the heart is hypertrophied and dilated. Sometimes it is associated with valvular inflammation, it is often accompanied by the evolution of nodules and not unfrequently arises in connection with chorea. The development of pericarditis in association with chorea, apart from articular rheumatism, is a link of association between them which is of considerable significance. But the acute general pericarditis of rheumatic fever is not representative of the disease in children. The classical signs are sometimes wanting. Pericarditis in children occurs insidiously; a slight rub is noticed which may cease or continue without much change; the child is restless and uncomfortable; pain in præcordial region; the pulse quickens to 120 or 130; anemia increases; the chorea, if present, increases a little, or curious emotional attacks come on, the child being moved to tears or laughter by a word; the temperature is slightly raised, perhaps to 100° or 101°, but often remains normal if there be no arthritis, pleurisy or

pneumonia; and with this a mitral murmur develops or an existing one grows rougher, and subcutaneous nodules begin to appear on the elbows and knees, or ankles and occiput. The pericardial rub may disappear for a time or it may continue, but in spite of treatment the rapid action of the heart continues; fresh nodules come out; the cardiac dulness is increased; the sounds are muffled in the mid-cardiac region, but there is no sign of effusion; the heart is growing more bulky and the pericardium thicker, emaciation and anæmia proceed apace; pulse becomes more feeble; and so without extreme dyspnœa or dropsy, the patient sinks from exhaustion and heart failure.

Rheumatic pericarditis, then, in early life, is apt to be subacute, persistent, recurrent and progressive; going on not for days only, but for weeks or months, the inflamed membrane slowly or intermittingly exuding not serum but adhesive lymph, causing adhesions more or less complete, and development of fibrous tissue, so that the pericardium becomes thickened, sometimes enormously. This subacute, progressive form might almost be called "nodular," so frequent is the evolution of these significant bodies associated with it.

What is the pathological relation of the fibrous nodule to the fibrosis of the pericardium? The same virus seems to stir up inflammation alike of fibrous sheaths and of the fibrous tissue of the pericardium. The pericardial thickening has even been found nodular (Barlow and Angel Money). "I believe that the fatal issue is largely dependent upon the tightening grip of the adherent contracting pericardium." Possibly, also, there is fibrous interstitial invasion of the heart muscle and concurrent myocarditis; hence the rapid pulse and the progressive feebleness or cardiac action.

*Endocarditis.*—Endocarditis occurs acutely in the course of articular rheumatism in children just as it does in adults; yet in childhood it often occurs quite apart from any concurrent affection of the joints, and it may develop at any period in the rheumatic procession of events, early or late, in combination with arthritis or pericarditis or chorea or nodules, with any or all of these combined. Usually it comes early in the series and recurs later, towards the end. "The rule is

endocarditis early, pericarditis late." But as with pericarditis, so with endocarditis; the acute form in connection with severe articular rheumatism is far less common than one slight and trivial apparently at the time, accompanying an equally slight articular affection and chorea, all sign of it perhaps disappearing for a season, yet recurring and persisting until the injury to the valve becomes serious and finally fatal. It is not, as it is so commonly with adults, a sharp attack of endocarditis accompanying the articular affection, ceasing with it, and followed slowly by chronic after-changes in the valve or muscle; but subacute, insidious, progressive.

Valvulitis may often be overlooked owing to the mildness of the articular affection. Children are nearly twice as liable to this complication as are adults. Excluding cases arising from congenital causes, as well as those arising from the other fevers there remain three classes, (1) the valvular affection arises in association with distinct attacks of rheumatism, (2) those associated with chorea in which no articular affection is observed, (3) those in which no connection with any other morbid condition of any kind can be traced—what may be called the "unexplained cases."

Now, with regard to the first class, the organic change is due to rheumatic endocarditis, and statistics show that these form the largest proportion. The only question with regard to the second class, those associated with chorea, is whether they are the result of rheumatic endocarditis. "In my judgment most of these are to be regarded as examples of rheumatic endocarditis. The cardiac affection of chorea is, as a rule, organic, not merely functional. Functional murmurs do, no doubt, arise occasionally in chorea, *e.g.*, the ordinary hæmic murmur of the pulmonary orifice. But that the mitral murmur of chorea is not usually of functional origin seems to be established by the following considerations: 1. If the mitral murmur were hæmic it is strange that it should be mitral, such function disturbances being in other conditions associated with pulmonary and aortic orifices; and further, if a mitral hæmic murmur did exist *a fortiori*, a pulmonary one should exist also, but it does not. Moreover, the mitral murmur of chorea comes early as a rule, before anemia and

debility arise. 2. The hypothesis that the mitral murmur of chorea is commonly spasmodic or paretic is unsupported by positive evidence. It is improbable because the murmur does not arise in connection with irregular action of the heart. The general immunity of all involuntary muscle is against the theory of spasm (Osler); while as to paresis, the murmur has no special association with paretic chorea. 3. In chorea endocarditis is almost invariably found *post mortem*. There is no other disease in which it is so constant. 4. In fatal cases of valvular disease arising in association with chorea the changes found in the valves *post mortem* are identical with those from endocarditis from other causes, while the valve chiefly affected is the mitral, the one most liable to endocarditis.

Careful clinical observations bear out these observations (Osler, Stephen Mackenzie). The valvular affection in chorea is, in a vast number of cases, due to endocarditis. Is the endocarditis due to rheumatism? The evidence is strong. (1), the frequent association of articular rheumatism with chorea and endocarditis together; (2), the frequent association of articular rheumatism with the two independently with chorea on the one hand, and with endocarditis on the other; (3), the especial association of endocarditis with those cases of chorea which are also associated with articular rheumatism. The great proportion of cases of endocarditis which arise in connection with chorea arise in choreas connected with articular rheumatism. Endocarditis picks out the rheumatic cases.

It has been suggested that strain or shock or violent action of the valves is the source of choreic endocarditis. For many reasons this is untenable: (1.) The heart does *not* act violently in chorea, but feebly; tension is lessened, not increased. (2.) In diseases such as Graves' disease, where the valves flap to with great force, valvulitis is not set up, although a functional murmur is sometimes set up. (3.) Heart disease does not arise especially in connection with chorea associated with fright, when a sudden strain might be postulated, but in connection with chorea associated with rheumatism equally whether fright is or is not present as a co-factor. But the most cogent argument is that drawn from

pericarditis. Pericarditis arises in chorea quite apart from any articular affection as often in proportion to its general frequency as endocarditis. This cannot be accounted for either by the strain hypothesis, the parietic hypothesis or the spasm hypothesis. The active morbid change in the valves in subacute endocarditis appears to be analogous to that in the subcutaneous fibrous tissues giving rise to nodules. Such nodules are frequently developed without concurrent articular rheumatism, but with endocarditis in the course of chorea.

The eruption of subcutaneous nodules is associated with grave progressive endocarditis as closely as with progressive pericarditis. The inflammatory process in the valves appears to be identical with that met with in nodules, viz.: nuclear proliferation, cell infiltration, spindle cells in process of transformation into fibrous tissue, wavy bands of fibres and vessels. (Microscopical specimens of valves were shown). The chief change—the greatest and most important—that which causes the thickening and rigidity—is the proliferation of fibrous tissue, which is the leading feature of the morbid process seen in the subcutaneous nodule. “This correlation of nodules and valvulitis gives the appearance of the former great clinical significance, as probably indicative of a similar change going on in endocardium or pericardium or both.”

Ulcerative endocarditis is most rare in the rheumatism of children, since it is met with chiefly in patients broken down by drink and disease.

It was formerly taught that mitral stenosis is less often rheumatic than any other valvular affection. As a matter of fact, this form of heart disease—in children at any rate—is especially rheumatic. It is the special product of the slight, subacute, slow, recurrent, rheumatic endocarditis which is characteristic of childhood. The stenosis does not usually reach the degree when it is proclaimed by the loud, vibrating presystolic murmur, until a few years have passed.

*Hypertrophy and dilatation.*—These secondary changes occur more rapidly in children than in adults. Compensation is usually for a time exceptionally complete; and as a further result of this effective compensation, great enlargement of the liver and spleen, pulmonary apoplexy and extreme dropsy are rare in the younger children, becoming more common as age

advances. It is an unusual thing to see a little child, blue, turgid and waterlogged, as in adults. Instead of engorged liver and lungs, with blueness, extreme dyspnœa and general dropsy, there is rapid wasting, progressive anæmia, feebleness, and death from asthenia rather than from the direct injury to the mechanism of circulation, unless it be the strangling grip of pericardial exudation and adhesion.

*Scarlatinal rheumatism.*—Articular inflammation appears now and again in the course of scarlet fever which can in no way be distinguished from that of acute rheumatism. It is often accompanied by endocarditis or pericarditis and sometimes by chorea. This scarlatinal rheumatism, although it may come late, in most cases arises early and does not appear to be due either to uræmia or to septicæmia. The special liability of girls to acute articular rheumatism extends to this scarlatinal form.

*Treatment.*—Minimize the danger of cardiac complication by being constantly on guard against an insidious attack of endocarditis or pericarditis. "It is essential then to examine the heart carefully in every case of the slightest articular effusion, even a stiff neck or a stiff knee; and in chorea, in tonsillitis, in erythema, in an evolution of nodules, and indeed, in every pyrexial condition of every form. Enforce absolute rest in bed whenever there is suspicion of rheumatic inflammation. Heroic treatment by salicylate of soda is rarely called for in childhood, for the salicylates appear to exert no favorable influence upon any rheumatic phase, except only arthritis and tonsillitis. Salicin is less depressing and may be given with alkalis."

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## NASAL OBSTRUCTION IN ITS RELATION TO THE ADMINISTRATION OF ANÆSTHETICS.

By J. FREDK. W. SILK, M.D. (Lond.), &c.,

Anæsthetist to the Great Northern Central Hospital: to Guy's Hospital (Dental School): and to the National Epileptic (Queen's Square).

There are but few morbid conditions which have received of late years more careful attention than that of nasal obstruction, and it has frequently been shown that the condition is by no means one which concerns the specialist alone, but, on the contrary, that the patency or the mere or less complete closure

of the naso-pharyngeal airway may greatly influence the general health. The production of artificial anesthesia by inhalation is so frequently resorted to that I hardly need to offer any excuse for attempting to point out how important are the bearings of such obstruction upon the process of administration. Unless the indications to the contrary are very obvious, the administrator naturally concludes that the anæsthetic vapor reaches the lungs by the usual channels, *i.e.*, the nose and mouth, and mainly the former. If, however, nasal obstruction exists, this double-barrelled or oro-nasal airway is converted into a single or oral one in direct proportion to the degree of obstruction. In this connection I would point out—

1. That such anæsthetics as ether, and, in a lesser degree, nitrous oxide, by increasing the turgescence of the mucous membranes, tend to accentuate any slight obstruction that may already exist, or may convert what was originally a partial, and maybe unnoticed, obstruction into a complete one.

2. That with all anæsthetics, extreme degrees of relaxation likewise accentuate pre-existing nasal obstruction by permitting of the falling of the velum palati towards the posterior wall of the pharynx. The proper explanation to give of the apparent superiority of chloroform for children appears to me to be that partial nasal obstruction is then of very frequent occurrence, and that such obstruction, on account of the depressing action of the chloroform, is somewhat less likely to be rendered absolute than with ether; but I think that when the condition in question is fully recognized by those administering anæsthetics, and precautions taken to obviate any possible difficulty which may arise from this cause, one, at any rate, of the most serious objections to the use of ether in the young will be removed.

The conversion of an oro-nasal into an oral airway should not, of course, under ordinary circumstances, give rise to the slightest anxiety or trouble; difficulties may, however, then arise under the following circumstances, *viz.*:—

1. During the stage of induction, on account of the swelling of the tongue, which then tends to fill up the only remaining, or oral, airway. This condition is often aggravated by the abundant secretion of mucus and saliva, and by the spasmodic closure of the jaws and mouth, as a result of the action of the

anæsthetic employed; not only is the inhalation prevented under these circumstances, but a certain degree of asphyxia is also developed;

2. During the maintenance of the narcosis. Short of absolute occlusion of the glottis by the base, mere contact of the tongue (even if not swollen) with the roof of the mouth, by obstructing the *oral* airway, is sufficient to add materially to our difficulties. Spasmodic closure of the mouth and jaws likewise ensues in these cases, but rather as a result of the partial asphyxia than as a cause of that condition.

If the true nature of these difficulties is recognized at the outset, it is comparatively easy to prevent their occurrence or to overcome them when developed. In the first place, then, if nasal obstruction is known, or is suspected to exist, it is always wisest to place a prop between the teeth before commencing the inhalation. Not only is it then easier, subsequently, to insert a gag or mouth-opener, if necessary, but the mouth will be held sufficiently open to enable us to seize the tongue should it be desirable to do so.

In the second place, the frequency of more or less complete nasal obstruction, and its tendency to be accentuated under an anæsthetic, should be borne in mind, especially in administering to children. If no prop has been inserted, and if asphyxial troubles arise which do not yield readily to simple measures, *e.g.*, pushing forward the lower jaw, we should endeavor to secure a proper oral airway by the use of the mouth-opener or gags. I am inclined to place the importance of opening the mouth second only to compression of the chest or artificial respiration. With the mouth open, we are rendered independent of the nasal passages; we can clear away mucus, etc., and pull forward the base of the tongue; we can command the glottis, and, if need be, proceed to intubate the larynx.

I have been led to devote a good deal of attention to the subject, because of the occasional occurrence, in my own practice, of cases of which the following is almost a typical example, *viz.*:—

The patient was a lad aged 10; chloroform was administered by means of a Skinner's frame, and he passed fully and quietly under the influence of the anæsthetic in four minutes, half a drachm being used. The narcosis was maintained subsequently



for about ten minutes, towards the end of which time the breathing became slow and shallow, but with nothing approaching stertor; lividity of the lips then appeared, deepened, and extended to the nose and cheeks, but the pulse remained good, became almost bounding in character, and the pupils did not dilate; obviously the danger was due to asphyxia and not to syncope. Dr. Howard's paper upon apnoea had just then appeared, and this case seemed one in which good might be expected to result from the procedure therein advocated. The child's head was accordingly brought over the edge of the bed, the shoulders raised, and the neck extended to the very utmost limit, but without appreciable result. I then endeavored to open the mouth, but the spasm was by that time extreme, and I could only succeed in introducing my forceps just sufficiently to seize hold of the tip of the tongue and draw it forward. Momentary relief was thus afforded, but, unfortunately, the jaws were not sufficiently wide apart, the tongue became jammed between the teeth, and the last condition of that boy was decidedly worse than the first. It was not until the jaws were widely opened and the full extent of the oral airway was established that the patient could be considered out of danger.

As I say, this case is but typical of others that have occurred to me and, I doubt not, to other anæsthetists. The usual explanations given of the phenomena (*e.g.*, arytaeno-epiglottidean relaxation) did not appear to me to be quite satisfactory, and it was not until some little time after, that the possibility of nasal obstruction being at the bottom of the mischief impressed itself upon my mind. If my views upon the subject are correct, it might be useful in similar cases—*i.e.*, when oral supervenes upon nasal obstruction—to pass into the pharynx *via* the nostrils a good-sized gum-elastic catheter, in order to furnish means for the passage of air beyond the oral obstruction; at any rate, the manœuvre is worth trying. Such a catheter might well be added to the armamentarium of the anæsthetist, for it is quite possible to intubate the larynx with such an instrument should that proceeding be necessary.

If the naso-pharynx itself is the region involved in the operation, additional elements of difficulty in administering are introduced, such as:—

- (1) The manipulations of the surgeon. When the post-nasal

airway is blocked, and the finger, or an instrument, is thrust into the only channel by which the anæsthetic can be administered, it is hardly surprising that the patient tends to asphyxiate, or that, at best, the narcosis is fitful and uncertain;

(2) The profuse hemorrhage attendant upon most operations in this region. Apart from the possibilities of syncope (*e.g.*, in so-called bleeders") and complete asphyxia, an accumulation of blood, mucus, etc., in the pharynx and upper parts of the larynx may act in other ways, not the less dangerous because insidious. Thus the glottis being partly occluded, the actual amount of air passing into the lungs is sensibly diminished, and as the vapor of the anæsthetic employed is, as a rule, heavier than air, the diminution takes place (especially in the supine position) mainly at the expense of the latter; the vapor, in fact, from sheer force of gravity, gradually tends to displace the air, and to accumulate in the upper part of the larynx. This accumulation explains, I believe, in great measure, how it is that the cases we are considering are particularly prone to the sudden development of what I have termed elsewhere "Toxicological apnœa."

Further, with a diminution of inhalatory power is of necessity associated diminished expiratory function and pulmonary elimination, and consequent accumulation of anæsthetic vapor in the lungs and blood. Hence it is not uncommon for attacks of apnœa and syncope to occur some little time *after* the administration has been discontinued.

Finally, although I have happily had no experience myself in the matter, it is usually taught, and seems quite possible, that blood may be inhaled in such quantities as to give rise subsequently to atelectasis, pneumonia, and other troubles.—*Journal of Laryngology and Rhinology.*

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**Death from Hydrophobia.**—The following particulars of a case of death from hydrophobia in Birmingham have been forwarded to us by Dr. Richard Drury. The sufferer, a lad aged 15, who had lately resided in Ceylon, arrived three weeks ago in Birmingham. In November, 1888, he and his brother (a baby) were bitten by a stray dog. As a precautionary measure, the wounds were sucked and cauterized. It is not known that the dog was rabid, as before that fact could

be ascertained it was drowned. On July 13th the elder lad complained of not feeling well. The following day he kept the house and had a slight shivering fit. On July 17th Dr. Drury was summoned. He was told there was difficulty in swallowing, and that the patient seemed in danger of being choked. He found a very well-developed young fellow in bed, who had a sullen and apprehensive aspect, and was very reticent. To test his vocalisation he was asked his name, which was not clearly heard until he had repeated it several times. No redness or swelling of the fauces was perceptible, and nothing abnormal was revealed to the touch. On the right side there was a slightly swollen submaxillary gland. A cup of water was then handed him to drink to try his powers of deglutition, and here the first suspicion was aroused, for the moment he saw the water he was seized with spasm of the pharynx, and it was only on pressing him to drink after much protestation on his part that he managed to take two or three gulps. There was no headache, no heat of skin, and the pulse was calm. As the pharyngeal spasms kept constantly recurring chloroform inhalations were ordered. During the day he had short intervals of sleep, and took some solid food. His condition at night did not seem worse. He passed a bad night, but took nourishment freely; and in the morning he stated he had drunk easily two cups of tea, and said if he could only get "this lump" out of his throat he would "feel as happy as a bird." He made frequent attempts to vomit and to eject the viscid mucus from his fauces. His mind was perfectly clear. Receiving a hurried message saying that the lad was worse, Dr. Drury, on his arrival, found the patient struggling for breath. The spasms of the throat had greatly increased. He was vainly attempting to get rid of the glairy mucus that kept constantly filling his throat, which could not be removed by any effort on his part, and had to be wiped away from time to time with a handkerchief. Later on Mr. Bennett May saw the case in conjunction with Dr. Drury, when the lad was found to be in great anguish and distress, excessively restless, at times struggling with maniacal frenzy, but lucid at intervals, recognizing those surrounding him, and able to articulate clearly. His features were of a dusky leaden hue and the pupils widely dilated. The spasms commencing in the pha-

ryngeal muscles affected also those of respiration. The muscles of the trunk and limbs were flaccid. There was no trismus. The tenacious mucus became excessively copious and deeply stained with a coffee-ground-looking material. Gradually the pulse began to fail, the extremities became cold, and in a few hours death ended a most painful scene.—*Brit. Med. Journal.*

**Hæmatoma Oris, a Sign of Spinal Injury.**—Dr. B. Lee, in the *University Medical Magazine* for February, gives an interesting record bearing on this point in the case of a child eight months old who fell four feet, striking on the head and thigh. Examination later revealed what seemed to be hip-joint trouble on the right side, which was treated by various mechanical devices for three weeks. At that time the mother noticed a slight swelling of the gum above the right central incisor in the upper jaw. This gradually increased, and as it did so, became of a livid purple color. It had no tendency to ulceration, nor did it seem painful, except at times when it would cause the child to refuse her bottle for a few hours. After a time it showed itself on the inner side of the jaw as well, and extended laterally in both directions; and bulging down over the teeth, completely hid them. Occasionally there would be a slight hemorrhage from it, which was followed by a reduction in size. By the 1st of December both hips had improved most encouragingly, and permission was given for the child to sit up. This was followed in a few days by most serious results. The attacks of screaming were renewed, sleep was much disturbed, appetite lost, and a certain amount of febrile action set up. It was evident that the upright posture caused her great pain, and it was also observed that the movement of the right arm was painful to her. A day or two later the power of motion in this arm became impaired. It was then remembered that occasionally, all along through her illness, movement of this arm had been painful. On the 18th of December, a careful examination demonstrated that there was disease very high up in the cervical spine, possibly between the atlas and the skull. The shoulder soon became slightly elevated and the left arm also began to lose power. Every attempt to place her in the erect position for the purpose of adjusting mechanical support in-

duced paroxysms, threatening convulsions, in which the face became livid and the respiration difficult. She was kept flat on the back, with the head slightly lower than the shoulders, extension being made upon the occiput horizontally, sometimes including the chin. This was maintained continuously, and manifestly added much to her comfort. Emaciation now progressed rapidly, and her face became excessively pallid and lips colorless. The tumor of the gums steadily increased and hemorrhage became more frequent. Toward the middle of January a slight purple discoloration manifested itself below the left eye; later under the right eye. A few days later the eye began to protrude, and it was evident that there was a hæmatoma of the orbit. Loss of power in the lower extremities was now very apparent. In order to employ more efficient extension a padded steel collar was now applied, acting upon the occiput and chin. This was not well borne, however, and it was soon removed. Symptoms of meningeal inflammation, slight convulsive movements, alternating with stupor, and constant vomiting now supervened. As a last resort, another effort was made to apply the spinal splint with an attachment for head extension. In order to do this the child was placed face downward upon the knees and kept in that position for possibly five minutes. At the end of that time it seemed as if all the blood in the brain had rushed into the face. It was streaming from the mouth. The turgescence of the gums was excessive. Both eyes were prominent, the left frightfully so. It seemed as though all inhibitory power over the circulation had ceased, and the blood flowed simply in obedience to gravity. After this time the excessive restlessness abated, and there was little suffering, but the patient steadily sank and death ensued within twenty-four hours.—*Alienist and Neurologist.*

**Enormous Hydatid Cyst of Right Kidney; Autopsy.** (By Dr. A. L. Stavelly.)—A Russian Pole, aged 43, was admitted to the Reading Hospital, Penn., March 3, 1889, with a temperature of 101.5°F., pulse 88, respirations 24, and suffering intense lancinating pain anteriorly, just below the thorax and extending round to the back. About two months before admission he first became conscious of something wrong from severe pain that he experienced whenever

he would attempt to work. The patient was quite well preserved, though his eyes were sunken and the face indicative of suffering. Inspection revealed a very marked prominence of the lower part of the thorax and the upper part of the abdomen, with labored inspirations and pulsation below the ensiform cartilage. On palpation, a large, firm mass could be felt, extending about four inches below the margin of the ribs. Percussion gave the following results: Over the sternal region the line of dulness was seven inches, the lower limit being from two to three inches above the ensiform cartilage. The length in the right nipple line was ten inches, dulness beginning at the nipple. In the right mid-axillary region dulness extended seven inches, beginning at the eighth intercostal space. Posteriorly, on the right side, decided dulness began at tenth rib, the lower boundary being obscure. Dulness extended over to the left mid-axillary line, where it began at the seventh intercostal space and extended to the edge of the thorax. Auscultation demonstrated encroachment of the mass upon the right lung. The pain continued after admission, and had to be relieved by hypodermics of morphine and atropine. The stools, with one or two exceptions, were loose, varied from light to dark green in color, and were about normal as to frequency. His urine was slightly darker than normal, and contained no albumin nor anything else that could be of assistance in making a diagnosis. There was no jaundice nor anything but the stools which would indicate any hepatic disturbance. The pulse varied from 72 to 100, the respirations from 19 to 30, the temperature averaging about 99°F. On April 11th he complained of excruciating pain, and frequent resort was made to the hypodermic syringe. On the morning of the 12th he went to the bath-room for a wash, and was there only a minute when he came rushing out, and, dropping on the floor by his bed, expired.

On opening the abdomen a large, tense, fibrous sac was seen, and, by manipulation, was found to have liquid contents. All the organs were found to be displaced by it. On feeling for the right kidney, it was discovered that its position was occupied by this enormous body, and the kidney was not to be found. In trying to remove the cyst the manipulator's finger forced its way through a weak spot and over nine pints of a

clear, odorless, serous-like fluid escaped, and floating in the fluid was found a solitary daughter-cyst about half an inch in diameter. After great difficulty the cyst was removed, and was found to contain a thick, white, membranous mass floating in some liquid. The membrane, or more properly the cyst-wall, was distinctly laminated, and looked something like boiled albumin. One surface was slightly roughened, and had on it here and there aggregated nodular masses, which proved to be echinococci buds. The other surface of the cyst-wall was smoother, and had on it thin layers of a jelly-like consistence, which were easily detached, and which seemed to be of more recent formation. Examination of the sac that contained the hydatid cyst demonstrated the fact that it was nothing but a dilated kidney, the ureter of which had become entirely occluded, and the lateral halves of which were imbedded in the walls of the sac at about two inches distance from each other, and feeling like masses of muscular tissue. The walls were composed of bands of fibrous tissue running regularly in every direction, being thinner in one place than another. The inside of the sac, or what presumably corresponds to the pelvis of the kidney, was smooth. Microscopic examination of the cystic fluid revealed a number of echinococci hooklets, and crystals of chloride of sodium were discovered on evaporation. The fluid was somewhat acid and gave a slight albuminous reaction. The left kidney was much enlarged, weighing over 12 ounces. There was no degeneration as yet, and the hypertrophy was due entirely to vicarious action. The spleen weighed 12½ ozs., was very brittle in consistence, and deeply congested. The heart was somewhat dilated, and there was some fibrinous deposit about the mitral and aortic semilunar valves. No apparent lesion of any other organ was recognizable.—*The Epitome.*

**Chronic Poisoning by Arsenic.**—In a recent communication to the Académie de Médecine of Paris, Professor Brouardel gave the results of a very careful inquiry into the symptoms of chronic poisoning by arsenic, basing his investigations mainly on an outbreak of arsenical poisoning which recently occurred at Hyères, owing to the accidental poisoning of some wine with arsenic. Professor Brouardel

lays great stress on the fact that the symptoms of chronic poisoning are precisely the same as those of the acute form, only more spread out, as it were; and the symptoms are remarkably uniform, no matter what the cause or mode of entry of the poison into the body may be. Every medical man is alive to the fact that wall-paper is a common source of chronic arsenical poisoning, though probably all are not equally cognisant of the fact that the colour of the paper is no criterion as to whether it contains arsenic, for the notorious green colour is due the presence of copper, not of arsenic; other sources of arsenical poisoning are quite common, witness the cases at Loughton, in Essex, a few years ago, where violet powder containing arsenic gave rise to rapidly fatal symptoms, various coloured sweetmeats, the papers used for wrapping them in, cretonnes and various articles of millinery have in numerous instances been the cause of symptoms of poisoning. In the latter instances it is generally the people engaged in making up the dresses and so forth who suffer; how the wearers fare we often do not learn, their ailments presumably go completely unrecognised.

The symptoms will at the outset depend somewhat on the cause; in criminal cases they will be less gradual than in those of accidental origin, and they will be found to bear a definite relation, if a sufficiently close inquiry be made, either to the taking of certain articles of food or medicine, or to the times of attendance of a particular person. A simple *malaise*, with slight indications of gastric disturbance, perhaps trivial, perhaps accompanied with symptoms suggestive of typhoid fever, will usually be the first indication. The vomiting is more or less spontaneous; at any rate, it is independent of, and unaccompanied by, pain in the stomach; it is generally copious, and, when accompanied by diarrhoea, and especially if the stools should be tinged with blood, we have a condition which in the adult should at once suggest the possibility of arsenical poisoning. The co-existence of vomiting and diarrhoea, with or without febrile symptoms, is in an adult indicative of poisoning, rather than disease; in a child such a combination of symptoms would not have this import. Constipation is, however, in the early stages more common than diarrhoea. In the second period catarrh of the respiratory tract generally makes



its appearance; there is a certain amount of mucus expectoration, and the patient has symptoms of laryngitis. Coryza, more or less lachrymation and injection of the conjunctiva will probably also be present, with swelling of the eyelids. Patches of erythema, a vesicular eruption, urticaria, and a branny desquamation are amongst the manifestations that may be expected at this stage, as also the tendency to pigmentation to which attention has frequently been drawn in this country in the case of choreic children treated by arsenic. A persistent headache, numbness in the legs and feet, and sometimes cramps in the legs will also be generally found; the special senses are unaffected. Up to this period it is more than probable that the case will have been misinterpreted, but when, in addition to the above phenomena, paralytic symptoms are developed, the true nature of the case should at once suggest itself to the careful observer.

At this stage the patient is easily tired, has a difficulty in going upstairs, and gradually loses all power in his legs, so as to be unable to stand without assistance. The group of muscles on the front and outer side of the leg are the ones principally affected, and after a time they waste, their faradic excitability in advanced stages is lost, and the response to galvanism is diminished. The muscles of the arms are also affected, but to a less extent; the muscles of the face and the sphincters always escape. The tendon reflexes are absent, and the plantar reflexion diminished. Even when the condition is recognised it does not always follow that recovery will take place, death sometimes occurring suddenly from heart failure when the patient appeared to be doing well. Cases in which paralysis has supervened are always tedious. The paralytic symptoms have been shown to be due to peripheral neuritis.

In a doubtful case, examination of the vomited matters or the motions might, of course, reveal the presence of poison, but in a criminal case it might not be possible to obtain these, or we might not wish our suspicions to be known. The examination of the urine is quite as efficacious as the examination of the vomit, as arsenic is sure to be present in it if the case is one of arsenical poisoning. Arsenic has been found in the urine a few minutes after its ingestion, and Professor Brouardel states that in one case he found arsenic in the urine forty

days after its administration had been stopped. He also recommends that the hair should be cut and examined; in one case in 100 grammes of hair he found 1 milligramme of arsenic. As regards the discovery of arsenic in the tissues after death, authorities have been by no means agreed. Scolosoboff and others have asserted that arsenic accumulates to the greatest extent in the brain and spinal cord. Ludwig found that it was most persistent in the liver; the bones, according to him, might retain the poison for some time, but not so long as the liver. Professor Brouardel, however, finds that when the poison has been taken into the body slowly in small repeated doses it is apt to be deposited in the spongy tissue of the flat bones, for example, of the cranium, vertebræ, and scapula, and that it is eliminated from these very slowly indeed; in the more rapid cases it is found in the bones rich in compact tissue, that is, the femur, and this fact no doubt explains the apparent discrepancy between his results and those of Ludwig.—*British Medical Journal*.

### **Spontaneous Rupture of the Heart.**—

Dr. Mallet of Paris described before the Société Anatomique of that city a case of this accident which occurred last May in the Hôpital Tenon. The patient was a man aged 79, with pulmonary disease. He died suddenly after rising to micturate. A rent, almost vertical and over two inches long, was discovered in the anterior aspect of the wall of the left ventricle. The pericardium was full of blood, the aorta atheromatous, and the left coronary artery nearly obliterated. All the valves were normal. Dr. Mallet quotes Odriozola's statistics of spontaneous rupture of the heart. That observer could only collect 176 authentic cases. In many instances the patient was old, being between 60 and 70 in thirty-six, and between 70 and 80 in forty-five. The accident appears most frequent in women. As a rule, the escape of blood into the pericardium is considerable. The rent in the wall was unusually large in Dr. Mallet's case. In nearly every instance in Odriozola's statistics, the rupture was in the anterior part of the left ventricle. The original report of the case deserves study. The rupture apparently took place fifty-three hours before death, when the patient was seized with dyspnoea and

epileptiform convulsions marked in the upper extremities; his face turned pale. The exertion of rising to micturate caused immediate death, probably by sudden escape of blood into the pericardium. A similar history has been recorded in other cases of spontaneous rupture of the heart.—*Brit. Med. Journal.*

**New Skin Remedies.**—Schwimmer has lately, in the *Wiener Medizinische Wochenschrift*, published the results he has obtained in certain skin diseases by the use of salol, oxynaphthoic acid, salicylate of mercury, and anthrarobin. Salol mixed with starch in the proportion of two to one he finds a very effective remedy in all forms of venereal sores and in the buboes resulting from them. Iodoform seems to have a more rapid action, but salol has the superiority of possessing no smell. The drug also appears useful in conditions of the mucous membrane of the bladder, when given internally in doses of forty-five to ninety grains distributed through the day. Oxynaphthoic acid did not give good results in venereal cases, acting as an irritant. In scabies, however, it did not irritate, and was an effective remedy. It may be mixed with chalk and soft soap, each 10 per cent., with lard. It acted well also in the secondary eczema of scabies, and allayed itching in prurigo. Salicylate of mercury possesses no superiority over the ordinary remedies used in gonorrhoea and venereal sores. Given internally in doses of one and a half to two grains, it was an effective anti-syphilitic drug, although apt to cause irritation of the intestine and stomatitis. Anthrarobin was found to have no beneficial effect in psoriasis, but in herpes tonsurans, eczema marginatum, and pityriasis versicolor it acted well, being mixed with collodion in the strength of one in ten.—*Brit. Med. Jour.*

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**TREATMENT OF CORNS.**—The following is an extract from a standard English surgical text-book, which is much in use in England and America, but especially well-known in the neighborhood of Guy's Hospital: "Soft corns are best treated by taking away pressure by means of the introduction of *cotton wool*—that directly off the *sheep* being the best—between the toes, and the use of some dry powder, etc., etc."

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**THE MORTALITY OF ACUTE LOBAR PNEUMONIA.**

Within the last twelve months or so attention has been drawn to the mortality rate of pneumonia, and several essays have been published mainly with the aim of demonstrating that the mortality for the last fifty years was steadily on the increase, and one of the writers attempted to prove that the present plan of treatment was mainly to blame. Hartshorne's figures were so arranged as to show an increase in the mortality from 6.25 per cent. in 1845-1847 to 31 per cent. in 1884-1886. The statistics of Osler collected from the Montreal General Hospital, as well as from others, show a different result, viz, in 1848-1850 a mortality of 37.9, and in 1878-1880 a mortality of 32 per cent. More recently Drs. Townsend and Coolidge of Boston have examined the records of the Massachusetts General Hospital from 1822 to the present date, making out a mortality for the whole number of cases taken of 25 per cent., but showing that the mortality has gradually risen from 10 per cent. in the first decade to 28 per cent. in the present. They argue that this increase is deceptive, and for the following reasons, all of which were shown to be a cause of a large mortality: (a) The average age of the patients has been increasing from the first to the last decade. (b) The relative number of complicated and delicate cases has increased. (c) The relative number of intemperate cases has increased. (d) The relative number of foreigners has increased.

We may add to the above considerations some others which suggest themselves to us. Improved methods of diagnosis have enabled us to exclude other diseases producing symptoms re-

sembling those of pneumonia, such as bronchitis and pleurisy, of which many cases in pre-stethoscopic days were probably counted in as cases of pneumonia, and so have reduced the mortality. The clinical thermometer has drawn the line between typhoid fevers of rapid onset and pneumonia. Some cases of typhoid fever with high temperature and cough bear a strong resemblance to pneumonia, and without a thermometer or a stethoscope a mistake might easily be made. Added to these, there are a number of cases of pneumonia met with in hospital practice, secondary to other morbid conditions, usually fatal ones, which now-a-days are recognized, while they may formerly have been classed as "shock," "blood-poisoning," "purulent infection," and the like. The only true method of comparing the results of treatment in different decades would be to select a number of cases of the same age, same sex, cases where there was no history of alcohol and no complication, and to exclude from this list all cases where the diagnosis had not been verified by post-mortem examination.

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### THE CREOSOTE TREATMENT OF PULMONARY TUBERCULOSIS.

At the present time the creosote treatment of pulmonary tuberculosis is attracting considerable attention. It is no new treatment, for it has been alternately used and discarded for more than a century as a remedy in pulmonary consumption. Some of the recent statements made as to its action by most authorities are of such a character that we consider it to be our duty to place them before our readers. Prof. Sommerbrodt of Breslau, in the current number of the *Therapeutische Monatshefte*, gives the result of his experience of the treatment of upwards of five thousand cases of pulmonary tuberculosis with creosote. Sommerbrodt advances very extraordinary claims for this drug. He says it not only is of marked value as a symptomatic agent, but that it actually is truly and directly curative. He claims that it so influences the diseased epithelial structures that they no longer are adapted for the proper nourishment of the tubercle bacilli; that, in other words, creosote is an indirect

as well as direct poison to the cause of the tuberculosis. The appetite improves, the expectoration lessens, and the cough becomes less troublesome are the results by the use of creosote. Guttmann maintains, from the result of experiments, that in order to bring about a directly poisonous action on the tubercle bacilli it is necessary to introduce into the blood a quantity of creosote that will bear the following proportion : creosote, 1 part ; blood, 4,000 parts. In an ordinary-sized adult this would require at least one gramme to be in the blood. Sommerbrodt claims that he is able to introduce into the blood that quantity of creosote. Details of a case are given where 5,400 creosote capsules, each containing 0.05. were taken between the 1st of September, 1888, and the 1st of June, 1889. In a period of eight months 270 grammes of creosote were used. The result was very marked. The author insists on the administration of large doses, for, in his experience, he finds little good from small ones.

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#### CANADIAN MEDICAL ASSOCIATION.

The following papers are promised for the meeting of this Association at Banff, N.W.T., August 12th to 14th :—

- (1) The Endemic Fever of the North-West Territories (Mountain Fever)—Dr. A. Jukes, Regina.
- (2) The Climate of South Alberta, with special reference to its advantages for Patients with Pulmonary Complaints—Dr. G. A. Kennedy, McLeod, N.W.T.
- (3) Traumatic Inflammations of the Eye and their Proper Treatment—Dr. John F. Fulton, St. Paul, Min.
- (4) Hæmatonia of the Vagina and Vulva—Dr. A. H. Wright, Toronto
- (5) A Case of Empyema Successfully Treated by Free Incisions—Dr. James Ross, Toronto,
- (6) The Early Recognition and Treatment of Epithelioma—Dr. L. Duncan Bulkley, New York City.
- (7) The Relief of Pain in Eye and Ear Affections—Dr. R. A. Keen, Toronto.
- (8) Sulphonal—Dr. James Stewart, Montreal.
- (9) Nephro-Lithotomy—Dr. F. J. Shepherd, Montreal.
- (10) Vertigo, an Eye and Ear Symptom—Dr. J. W. Stirling, Montreal.
- (11) A Resumé of a few Surgical Cases—Dr. E. A. Proeger, Nanaimo, B.C.
- (12) Varicella—Dr. Whitaker, Cincinnati.
- (13) Renal and Vesical Coliculi in the Museum of McGill University—Dr. Fenwick, Montreal.

## THE CHAIR OF ANATOMY AT ABERDEEN.

The following names have already been mentioned as probable candidates for this chair, now rendered vacant by the resignation of Dr. Struthers: Dr. R. W. Reid, of St. Thomas's Hospital; Mr. Arthur Thomson, M.B., of Oxford; Dr. Symington and Mr. J. Macdonald Brown, of Edinburgh. We feel certain that were the profession in Canada allowed to vote, Dr. Reid would be the successful candidate. Successive generations of Canadian students who have attended the classes at St. Thomas's Hospital Medical School have found in Dr. Reid a sound anatomist, a good teacher, and a kind friend. The governors of the University of Aberdeen in appointing Dr. Reid will not only select an anatomist and teacher of the very first rank, but they will have the satisfaction of being able to fill this important chair from amongst their own alumni.

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**A GOOD MOVE.**—The medical department of the University of Buffalo now demands a matriculation examination. True, it is not a very searching ordeal, but it represents, such as it is, the beginning of a movement to advance the general education of the profession in the United States. Students who join in the coming session will be required to pass an examination in arithmetic, geography, the elements of natural philosophy, and in English composition, including orthography, penmanship and grammatical construction.

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### Medical Items.

#### REPORT OF THE AUSTRALIAN COMMISSION ON M. PASTEUR'S PROPOSALS.

The Melbourne correspondent of the *British Medical Journal* writes that the Commission on Pasteur's method for exterminating rabbits has forwarded its report. While rabbits are killed by the addition of the microbes of chicken cholera to their food, the disease does not spread freely from infected to healthy rabbits. The disease in rabbits differs widely in this respect from chicken cholera as seen amongst fowls, where it is virulently infective. Fowls thus infected

suffer not only from blood poisoning, but also from severe diarrhoea, and the droppings have power to spread the disease. On the contrary the infected rabbits with few exceptions, remain free from diarrhoea, and die of pure blood poisoning. The microbes are chiefly in the blood. If these microbes are to infect other rabbits in any number, the bodies of the rabbits dead from the disease must be broken up by decomposition or by the agency of carrion birds, etc., and the microbes so set free must contaminate the food of other rabbits. If the dead bodies lie in burrows, it will be remembered the rabbits do not feed there. If they lie open and the microbes are set free at a temperature of 125° or by the mere process of drying at a much lower temperature, it will suffice to destroy their virulence. Moreover, the experience of Dr. Katz indicated that while microbes retain their virulence for a time when mixed with putrifying matter, there is a limit to their power of survival. Generally, therefore, it appears that the destruction of rabbits on a large scale by the chicken cholera can be obtained only by feeding the rabbits with microbes of disease. Other poisons such as arsenic and phosphorus will kill the rabbits to which they are administered. The Commission cannot recommend that permission be given to disseminate broadcast through Australia a disease which has not yet been shown to exist in these colonies, and which in other countries prevails in disastrous epidemics among fowls, but which has never been known to prevail naturally among rabbits. The Commission has found no evidence to warrant the belief that any known disease can be so employed as to exterminate rabbits. Amongst other things the Commission found that chicken cholera will not affect domestic animals other than birds, and that wild birds are not so subject to it as fowls and rabbits. They are therefore not prepared to recommend the Government to forbid M. Pasteur to experiment with chicken cholera in an infested country, subject to certain restrictions. From this, however, Professor Allen dissents, as he objects to any such experiment.

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**TAR WATER.**—The ghost of Bishop Berkeley would be delighted to find that tar-water is once more receiving attention and being used as a remedial agent in many diseases.



Tar-water contains thirty grains of tar to a quart of water. Locally it is unirritating, and slightly astringent and stimulating. Recently it has been used as an anti-septic injection in the puerperal state, as well as in leucorrhœa, vaginitis, pruritus vulvæ, and in chronic cystitis. Dr. Murrell has been using tar in the treatment of chronic bronchitis, and speaks of it in the highest terms. At first he used two-grain pills, but has latterly prescribed the *syrupus picis liquidæ*, U. S. P., of which the dose is about a tablespoonful given frequently. "A mixture of two parts of syrup of tar and one part of syrup of Virginia prune is an ideal cough mixture. It has a sweet, agreeable taste, and patients as a rule like it. When the cough is very irritable and there is very little secretion, the addition of three minims of liquor morphiæ acetatis will be found most useful. I have used with some success aromatic oil of tar, which is apparently a solution of tar in old Jamaica rum. The results have been good, and the preparation is popular with patients. When a more decided expectorant action is required, I add a small dose of hydrochlorate of apomorphine about one-tenth of a grain."

DEATH UNDER CHLOROFORM.—A man aged 36, described as an actor, died last week at the Middlesex Hospital when under the influence of chloroform. The evidence given at the inquest by the horse-surgeon was that the deceased was first admitted in March last, when he remained in the hospital a month. Meanwhile chloroform was administered to him twice. On July 15th he again sought assistance. He was put to bed, and subsequently witness had administered about a drachm and a half of chloroform, when the deceased expired quite suddenly. Before he died he struggled violently. A post-mortem examination showed he had congenital malformation of the heart. Death was due to syncope while the deceased was under the influence of chloroform and suffering from a malformation of the heart and extensive kidney disease. The jury returned a verdict of "death from misadventure."—*Brit. Medical Journal*, July 27, 1889.