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DOMINION MEDICAL MONTHLY

AND ONTARIO MEDICAL JOURNAL

VOL. XIX.

TORONTO, DECEMBER, 1902.

No. 6.

Original Articles

PRESIDENT'S ADDRESS—BRITISH COLUMBIA MEDICAL ASSOCIATION.*

BY R. E. WALKER, M.D., NEW WESTMINSTER, B.C.

Gentlemen,—It affords me the utmost pleasure to extend to you, one and all, a hearty welcome to this the third annual meeting of the British Columbia Medical Association, and to express the hope that the meeting will be associated with both profit and pleasure to all present.

I have to thank you for the honor you have bestowed upon me in electing me to fill the important position of President of the Association, but while you have conferred an honor, you have at the same time imposed a responsibility, a responsibility not unassociated with difficulties, for having acted as President for the past year, and Vice-President for the two years preceding, I can tell you with some authority that it is no easy task to keep this Association a "going concern," and to make our meetings even a very moderate success.

As most of you know, at our first meeting, held just two years ago in this city, we were particularly fortunate in being honored by the presence of Sir Michael Foster, of Cambridge University, Dr. Michael Foster, of London, and Prof. Adami, of McGill. The presence of those distinguished members of our profession added a lustre to our first meeting, which promised well for the

* Delivered at the Annual Meeting in Vancouver, B.C., August 29th, 1902.

future of the Association; but we cannot, however, always hope to have present at our meetings such men as favored us on that occasion, and we must be prepared to depend more upon our own efforts than on assistance from outside to make the British Columbia Medical Association a thriving and progressive one.

We are separated by long distances from the great centres of medical and scientific research, our membership is small, and our financial resources limited, so that it is at all times a difficult matter to enlist the sympathy of some great mind to come to our assistance and aid us by words of counsel and wisdom. It is, therefore, necessary, gentlemen, that every member of the profession in British Columbia should become a member of our Association, even although he may not be able to attend our meetings, and thus in a practical form give it his support and endorsement.

Ever since the practice of medicine and surgery has been established upon a scientific basis, the union of those practising our art has been found necessary and beneficial, and we find to-day in every country a national medical society, in every province or state a provincial or state society, and in every town or city local societies, where the members of our profession meet together for the discussion of subjects of common interest and for the mutual interchange of ideas. In fact, so much is this the case that a country's or city's importance as a medical centre can almost be measured by the numerical strength of its medical societies.

After mentally reviewing the various subjects upon which to address you to-day, I have thought it expedient to leave the scientific part of the meeting to the gentlemen who have so kindly prepared papers to be read before you at this meeting, and I have endeavored briefly to review the legislative enactments relative to the practice of medicine and surgery which have, from time to time, been enacted in this Province for the governance of our profession and the protection of the public from the impositions of quacks and charlatans.

On looking over the various ordinances and acts of the Local Legislature, I find that in all eleven acts respecting the practice of medicine and surgery have been passed between 1867, when the first ordinance was enacted, and the present date. Of these three stand out prominently as marking distinct steps in the medical history of the Province. They are the ordinance of 1867, the Act of 1886, and the Act of 1898, the other acts being merely in the nature of amendments or additions to the existing law.

The first Act to be passed in British Columbia respecting the practice of medicine is entitled, "An Ordinance Respecting Practitioners in Medicine and Surgery." It is dated as having passed the Legislative Council on April 1st, 1867, and assented to in Her

Majesty's name upon April 2nd, 1867, by Frederick Seymour, Governor, at New Westminster, B.C. The Act is a short one, and the preamble is not by any means the least important clause. It runs: "Whereas it is expedient that persons requiring medical aid should be enabled to distinguish qualified from unqualified persons, therefore be it enacted." This clause shows that the idea in the minds of the early legislators of this Province, when they passed our first Medical Act, was that it was more for the protection of the public from incompetent practitioners that such a law was necessary, than, as is so often stated at the present day, to create the members practising our profession into a closed corporation. It then provided for the appointment of a Registrar by the Governor. Under the Act of 1867 the Deputy Provincial Secretary for the time being acted in this capacity. The qualifications necessary to enable a medical practitioner to register were on the broadest lines, a three years' course of study being practically the only requisite, provided, of course, that the applicant had graduated at the College to which he belonged. The Act provided for the registration upon application of any person possessing a diploma or license from any school, college, society, or faculty of medicine or surgery in the United Kingdom, or a foreign country, provided such school or college required a compulsory course of study extending over not less than three years. The fee for registration was \$10. Under this ordinance, it was unlawful for any one to assume the title of physician or surgeon, or doctor of medicine, unless he was registered, and those doing so without registering were liable to a fine not exceeding \$100. Nor could any unregistered person collect fees for services rendered in any court of law; but so long as he did not assume any of the titles enumerated, there does not seem to have been any obstruction to his practising without registering. A copy of the register was ordered to be published yearly in the *B. C. Gazette*. After a careful search I am forced to the conclusion that for some years, at any rate, the Act was more or less of a dead letter, few, if any, medical men taking the trouble to register. The *Gazette* of December 16th, 1869, published at Victoria, contained the following:

"VICTORIA, B.C., Dec. 10th, 1869.—In compliance with section 5 of the Medical Ordinances, 1867, the register of the medical practitioners registered under that ordinance is herewith published for general information. No registration has taken place during the present year. (Signed)

CHARLES GOOD, Registrar.

“Register of Medical Practitioners: Dickson, James, Government Street, Victoria. Application received 10th March, 1868. Diplomas registered, 11th March, 1868, as follows: A license to practise surgery and midwifery in Upper Canada, dated Toronto, 12th November, 1850, from Governor Sir Edmund Head. A diploma from Harvard College, Massachusetts, United States of America, as doctor of medicine, dated March 6th, 1857; a diploma from Victoria College, Canada, as a doctor of medicine and Surgery, dated 27th May, 1857.

CHARLES GOOD, *Registrar.*”

The next Medical Register published in the *Gazette* is dated April 10th, 1871, and contains but two names, those of John Sebastian Helmcken, registered December 24th, 1869, and John C. Davey, Victoria, registered March 8th, 1870. The name of James Dickson is erased from the register, he having left the Province.

More enthusiasm in the study of practical anatomy must have been displayed by the early medical men resident in this Province than by those of the present day, for it appears to have been necessary on March 11th, 1869, to pass an ordinance respecting the practice of surgery and for the encouragement of the study of anatomy. This ordinance was to enable medical men to get bodies for dissection. How far medical men availed themselves of this privilege does not appear. It is still incorporated in our Medical Act, but is, I fancy, not often of practical use. It had been discovered that the ordinance of 1867 was at variance with the Imperial Act. Therefore, in 1870, an amendment was passed providing for the registration upon application of any person registered in Great Britain. Through an oversight, this ordinance was not repealed when the Medical Act of 1886 was enacted, and when the statutes were consolidated in 1888 it was incorporated in the Medical Act, and under it for several years after 1886 any practitioner registered in Great Britain was enabled to register in this Province without examination, until, by an Act in April, 1890, it was finally repealed.

From 1870 to 1886 no Act respecting the practice of medicine and surgery seems to have been passed, but in this latter year the first comprehensive Medical Act was passed, and by it the Medical Council of British Columbia was established. The necessity for a new Act will be evident to anyone who may take the time and trouble to read over the old ordinance of 1867, the omissions in it being too numerous to mention. I have further been informed by Dr. Milne, who was one of those instrumental in obtaining the

passage of the Act of 1886, and who for ten years afterward acted as Registrar, that one of the most glaring evils, and one which worked most harm to the public and loss of dignity to our profession, was the fact that owing to the ease with which registration could be effected, many itinerate medical men came to British Columbia as a mere matter of speculation, stayed a short time, doing a cash business only, and advertising in the most objectionable manner, and would then leave the country. Often these individuals fraudulently made use of the card and name of some well-known specialist of San Francisco or elsewhere, representing that they were the men themselves, or their partners. That the medical practitioners of Victoria were chiefly instrumental in passing and introducing this Act can be gathered from the minutes of the British Columbia Medical Society (the first Medical Society in the Province), which sprang into existence just before the passing of this Act, but which, after a short but active life, during which it held six record meetings within the short space of three weeks, seems to have ceased to exist. A few extracts from the minutes of this pioneer society, I think, will be interesting. The first meeting was held in Victoria on January 15th, 1885; present Drs. Davie, Mathews, Rowbothom, Jackson, Milne, Dearden, Harrison, Taylor, J. D. Helmcken, Ash, Praeger and Powell. The Hon. J. S. Helmcken was elected President; Dr. Rowbothom, Vice-President; Dr. J. D. Helmcken, Secretary-Treasurer.

That the primary object of the Society was medical legislation may be inferred from the fact that the second motion carried (the first being one giving the society a name), was one to elect a committee, composed of Drs. Davie, Harrison, and Milne, to frame a constitution for the Society and draft an Act to regulate the law governing the medical profession in British Columbia. This Committee acted promptly, for at a meeting held on the 22nd of January, just seven days later, the following resolution was carried: "That the Act as amended be accepted by the Society," and that the Committee, who had it in hand, be asked to lay it before the Attorney-General. At this meeting letters were also read from Drs. Bentley, Trew, and Masters, of New Westminster; and Drs. Walkem, Cluness, and Jones, of Nanaimo, asking to be enrolled as members of the Society. The last recorded meeting of this Society took place on February 4th, 1885, when a discussion took place on amendments proposed by members from New Westminster. The chief features of the new Act, which finally passed the Legislature on April 6th, 1886, were: (1st) Registration of all persons already registered under the old Act, and further, the registration of all persons upon application

and after passing an examination, holding a diploma from any school or college requiring three years' course of instruction; (2nd) election of a Medical Council by the practitioners of the Province; (3rd) the infliction of a penalty on all persons practising without registering.

The first Council election was held on April, 27th, 1886, when Drs. Trew, Powell, Davie, Cluness, Milne, Tunstall, and T. R. McInnes were elected members. They held their first meeting three days later at Dr. Powell's office, when the following were elected officers: Dr. I. W. Powell, Victoria, President; Dr. C. N. Trew, New Westminster, Vice-President; Dr. J. C. Davie, Victoria, Treasurer; Dr. G. L. Milne, Victoria, Registrar and Secretary.

On August 3rd, 1886, Dr. Cluness resigned on account of ill-health, and Dr. Harrison, of Victoria, was elected in his place. The first examination was held on November 3rd, 1886, when Dr. W. A. De Wolf Smith, of New Westminster, presented himself, and, after passing a satisfactory examination, was registered.

Almost immediately both a defect and an omission were noticed in the new Act. The fact that the Council had to be elected annually was both inconvenient and expensive, and the fact that no provision was made in the Act for imposing any annual dues upon those registered and in practice, left the Council without sufficient funds to carry on its work. Amendments were passed in 1887 making the election triennial, and imposing an annual fee of \$10 upon all practitioners. The fee for registration had been fixed at \$100.00.

The second Council was elected on April 30th, 1887, when Dr. Hannington replaced Dr. Harrison, and Dr. McGuigan replaced Dr. T. R. McInnes. In 1888 Dr. C. N. Trew died, and Dr. W. A. De Wolf Smith was elected in his stead. It would be tedious, and I think unnecessary to enumerate those who have successively occupied positions on the Medical Council. Sufficient will be said when I state that Dr. G. L. Milne was registrar from 1886 to 1896, and Dr. Fagan, who succeeded him, still holds that office. At almost every session of the Local Legislature amendments to the Medical Act, covering the very widest field, have been introduced, some of them at the instigation of private individuals to further some private end or to remedy some imaginary wrong, which they claim is being caused by the Act. Fortunately for the public and the profession, all these do not pass. As I have already stated, amendments were introduced in 1887, at the request of the Medical Council, but in 1889 two amendments were introduced, much against the wish of the Council and profession, relative to homeopathic practitioners, thereby en-

abling them to register on application, upon producing a diploma from a college of school requiring a three years' course, and without examination. This Act was so obviously unfair to the other medical practitioners that the Medical Council was able, in 1890, to have it repealed, and to have a clause inserted whereby homeopathic practitioners, holding a diploma from a college requiring a three years' course, should register after passing an examination in anatomy, physiology, pathology, chemistry, obstetrics, and surgery.

In 1890, the ordinance of 1870, whereby all persons registered in Great Britain could register in British Columbia, was also repealed. The repeal of this Act, however, led to considerable litigation in the immediate future, for it was claimed, and the claim was eventually held by the Courts to be a valid one, that practitioners registered under the Imperial Medical Act, 1858, in Great Britain, previous to 1887, were entitled to registration without examination in British Columbia; and the Medical Council, when it had the amendment in question passed, was exceeding its power. After the question had been finally settled in the Courts, it was necessary in 1893 to further amend the Act so as to make provision for the registration in British Columbia without examination of those persons who were registered in Great Britain previous to June 30th, 1887.

As time advanced, the necessity for a more comprehensive Act than that of 1886 became more apparent, and with this idea in view the Act of 1898 (our present Act) was prepared. The Act provides for the incorporation of the members of the profession into a body corporate, styled the "College of Physicians and Surgeons of British Columbia." It further provides for the registration of all persons as in the preceding Acts with amendments, but the minimum period of study is raised to four years. It gives the Council of the College wider powers to make by-laws governing its proceedings. It provides for the enforced payment of annual dues, and for the removal from the register of the names of persons who are adjudged guilty of infamous or unprofessional conduct. A slight amendment was passed in 1899 to provide for the issuing of an interim certificate of registration to any person who might receive an appointment in any branch of the Provincial Public Service, such certificates to hold good until the next examination, but no longer.

This, gentlemen, is a brief resume of the medical legislation in our Province up to the present time. Gradually, from a very small beginning, the law has been extended as necessities arose, and, while I do not mean to say that the present Act is by any means perfect, I do say that we have a good workable Act which

is able to carry out the purposes for which it is intended, and which affords a reasonable protection with regards to irregular medical practitioners, both to the public and to the profession. Our standard of examination is a high one, and as a result I believe we have in British Columbia to-day a body of well educated, progressive physicians, who will compare favorably with those of any province or country. While we have so far been considering the medical legislation of the past, at the present time a measure affecting the immediate future also confronts us. At the last session of the Dominion Parliament, an Act, familiarly termed "Dr. Roddick's Bill" passed its third reading. The Act is officially styled "An Act to provide for the establishment of a Medical Council in Canada," and to make it operative legislation by each and every Provincial Legislature will be necessary. It behooves us, therefore, at this meeting of our Provincial Medical Society to weigh well this Bill, and to understand fully what it means to the profession in Canada at large, and to us in British Columbia in particular. The objects of the Canadian Medical Act, as stated in the Act itself, are several. Chiefly, it aims at establishing a qualification which will enable its holder to practise in any part of the Dominion, and the qualification is to be of such a high standard as to ensure recognition and registration for its holder in the United Kingdom, and such other colonies and foreign countries as may agree upon reciprocity. The Council, to whom is entrusted the administration of the Act, will be composed of about thirty members, one from each Province to be nominated by the Governor-in-Council, one to be elected by each Provincial Medical Council, one from each school or university actually engaged in teaching medicine, and the balance to be elected by the profession of each Province. Before the members of the Council can be nominated, all the Provinces must legislate in favor of Dominion registration, and until all do so the Act is inoperative. This may become a serious obstacle to the Council ever actually coming into existence. The Act provides for the holding of examinations, but it also gives the Council discretionary powers to exempt candidates wholly or partially from these examinations. It is also specified that the course of study required by the Council, and the standard of examination will not be lower than the highest required for registration in any Province of the Dominion. Examinations are to be held only in places where there is a medical school actually engaged in teaching medicine, and where there are hospital facilities of not less than one hundred beds. British Columbia is in this way practically debarred from having examinations held within its limits. Three classes of persons may register under this Act: (1st) Those by examina-

tion; (2nd) all persons who, at the time this Act becomes operative, have been in actual practice for six years preceding in any Province of the Dominion; (3rd) British, Colonial, or foreign practitioners, resident in any country or colony which may adopt a scheme of reciprocity with Canada under this Act. The Act also provides for the removal from the register of the name of any person convicted of infamous or disgraceful conduct in a professional respect.

Dominion registration is in theory a thing so much to be desired that a criticism of any scheme for its practical attainment is always a delicate task. Doubtless the various interests involved rendered it extremely difficult to get even the present Bill through Parliament. Still, in several respects, the Act is disappointing. I can see that it must be extremely difficult in an Act to specify exactly the standard to be required of intending graduates. Still, I think that we should have a more definite assurance than the Act gives us, that the standard will always be maintained sufficiently high. To my mind the holder of a Dominion diploma should bear to the holder of a Provincial diploma somewhat the same relationship that an F. R. C. S. bears to an M. R. C. S. One of the aims of Dominion registration is ultimately to obtain reciprocity with Great Britain. Will this be an unmixed blessing? The trend of emigration is from the Mother Country to the colonies, and for the occasional Canadian who may wish to try his future in the Old Country, we will certainly get many British graduates who will be glad of the opportunity of practising in Canada. To some extent the same argument holds good with regard to British Columbia and the Eastern Provinces. We have no medical school here to counterbalance those of Eastern Canada, and we certainly may expect a large influx of men from the East, while we will be sending none back. One cannot help having a lurking doubt that under the broad cloak of Dominion registration we are being asked to endorse a measure, the real aim of which is to obtain a wider field of action for the too numerous graduates of the many medical schools which exist in Eastern Canada.

The fact that we in British Columbia cannot hope to have more than three members on the Council for, at any rate, many years to come, is also a point worthy of careful consideration. All the members must be residents of the Province they represent; the great distance which separates us from Eastern Canada makes it extremely unlikely that all our representatives will be able always to attend meetings. The Provinces of Ontario and Quebec, owing to their great population and to the number of their representatives from the numerous medical schools, will always

have a majority on the board, so that in matters which we may deem of vital importance to ourselves, we will be entirely dependent upon the moral influence of our representatives and the good-will of the members from the above-mentioned Provinces. This should be considered before we relinquish our present rights. I hope I will not be misunderstood in making the above criticisms; they are in no way made in a spirit of fault-finding, but purely in the interests of the profession, so that we may the more fully understand what the Act means in all its bearings before we pledge ourselves to endorse it.

I will now ask you to pay attention to the various gentlemen who have so kindly prepared papers for this meeting. At the present time we have the pleasure of welcoming to our Society Professor Dudley, of the North-Western University, Chicago. Most of us have derived benefit from a perusal of the Doctor's well-known text-book on Gynecology, and the pleasure of hearing an address from him to-day is, if anything, intensified by the fact that it was until yesterday unexpected. We are also fortunate in having a most interesting list of subjects, which will be ably handled by gentlemen prominent in the profession of this our own Province.

**PRESIDENTIAL ADDRESS—EXECUTIVE HEALTH
OFFICERS' ASSOCIATION OF ONTARIO.**

BY DR. E. E. KITCHEN, ST. GEORGE.

Gentlemen,—It is with pleasure that I meet the members of the Ontario Association of Executive Health Officers, at this seventeenth annual meeting. I hope that before many years every Health Board of this fair Province will be represented by her Medical Health Officer, besides one or more members of the Board.

In presenting to you the President's address, it occurred to me, that as this was the twentieth anniversary of the establishment of the Provincial Board of Health, it would be opportune if I should take a cursory retrospect of the work done since its establishment. Before proceeding to this pleasant duty, I would like to call your attention for a short time to the condition of sanitation at that period, and what had been done, during the century, since Canada became an organized country.

Early after the formation of a governing colony, and as early as 1815, this country had established a Medical Board for examin-

ing and licensing practitioners of medicine in Upper Canada. But it was not until 1832, when this country was first visited by cholera, that the first Sanitary Commission was established, and a few months later a Board of Health was organized, which adopted some quarantine and other regulations. At the second visitation of cholera, in 1849, and again in 1854 and 1866, a Central Board of Health was established, which issued regulations, some of which were: The cleaning of premises, houses to be aired, and personal cleanliness by bathing, flannel next to the skin, light and nourishing diet, burning and boiling of clothes, use of chloride of lime, and many other regulations of a similar nature. Under these old Acts provision was made whereby the Municipal Council of every city, town, village, and township, shall be, *de jure*, health officers, while these might delegate their powers to a committee of their own number, or to such persons as the Council thought best. In those early days it was thought that cholera was not contagious, but they stated the belief that, "there is no doubt that it is true, that when one person takes the cholera another may take it—the atmospheric conditions which produce the one case may produce the other. But as to any direct communicability of air from one person to another, it is no more likely in the case of cholera than in a case of a broken leg." Such was the condition of governmental sanitation until the Ontario Government, in 1832, established the present Provincial Board of Health in May of that year. The work of this new Board was for a time mostly of an advisory character. During the first two years circulars were sent out to municipal bodies, requiring them to inform it whether such committees of health as were provided for under this Act existed, and if not, urging them to make such appointments. The first Annual Report of the Board says, in regard to this: "We regret to say that the replies were not as numerous as they should have been. This seems to have been due in some cases to neglect on the part of the clerks to present the documents to the Council." By the end of 1883, by continued urging, there were established local Boards to the number of fifty in forty counties. There were twelve counties without Boards, fifteen counties with one Board, six counties with two Boards, three counties with three Boards, one county with four Boards, two counties with five Boards; two Boards with Sanitary Inspector or Health Officer, one of whom received a salary, while there were only four Medical Health Officers in all these counties.

So you will see that the first two years were not very encouraging, and the Board felt that if their services were to be of any practical value in the interests of the public health, compulsory legislation was urgently needed. So that, if the first two years

were void of legislative utility, still much valuable knowledge had been spread over the province, of the need of public health work, and of creating on the part of very many, a demand for some more organized methods, by which the central boards could require the establishment of local Boards, and to some extent insist on their performing public health work, so that in 1885 the Public Health Act was prepared and approved by the Government, and after being discussed in the Legislature and by the press, the Bill was passed, with sundry amendments. By this law, the formation of local Boards of Health, by the appointment of a definite number of ratepayers, became compulsory on the part of the Council, or in case they failed to do so, on the part of the Provincial Board of Health. That Public Health work received a great impetus may be gathered from the fact that during the half year of 1885, after the Act came in force, 184 local Boards of Health were established in 447 townships, 180 in 203 cities, towns and villages; 25 Medical Health Officers were appointed in the townships, and 19 Sanitary Inspectors, while 17 Boards appointed both. Of the city, town and village Boards, 155 appointed either a Medical Health Officer or Sanitary Inspector, 65 having Medical Health Officers and 92 Sanitary Inspectors, while 44 Boards appointed both. The Act was only nicely in force when its usefulness was well exemplified by an outbreak, in 1885, in Eastern Ontario, of smallpox, then before the knowledge of the nature of the disease had been recognized, 150 persons had become infected, and although this large number had been stricken, still it was so sharply and effectively dealt with, that only some 200 cases in all had contracted the disease. Soon after cholera appeared on the Mediterranean, and fears that it might reach America called forth an amendment to the Act, giving the Provincial Board power to require local Boards to appoint Medical Officers in five days after request, in cases where there was reason to fear the advent of formidable contagious diseases.

The Provincial Board had surrounded itself with an actively trained organization of Medical Officers throughout the Province, ready at a moment's notice to set the whole Public Health machinery in motion.

During the same year the Vaccination Act was so amended that local Boards were empowered to carry out the powers given to Municipal Councils in case, after a month's notice, the Council has neglected to put in force the provisions of the Act. This amendment goes further, and provides for compulsory vaccination of persons every seven years, in case the existence of smallpox in any municipality makes the same necessary, in the opinion

of the Provincial or Local Board. Also trustees may require children to present certificates of successful vaccination before admittance to the schools of this Province. It is a matter of extreme regret that this matter is nearly wholly passed over in the rural schools, and were it sensibly enforced, there would be no greater assistance to the banishment of this dread disease.

The year 1886 saw the number of local Boards increased to 610, while in the same year the Board was pleased to see an order in Council issued at Ottawa, containing regulations providing for efficient protection against the introduction of contagious diseases *via* the St. Lawrence; in fact, re-establishing the quarantine system which had become inactive. That year was likewise noted for the establishing of this Association of Medical Health Officers, which has been of the greatest advantage in unifying and consolidating Public Health work. The year 1887 might be called the year of Municipal Sanitation.

During this and the preceding year, large decimations had been made by the ravages of diphtheria, which were much larger than by smallpox, and the Board had its attention engrossed for some time, is how to control this fatal malady. The result was that the Board had regulations *re* diphtheria drafted and submitted to the Government for their approval.

The same year this and kindred diseases were further dealt with by enactments intended to control the spread of such diseases in the schools of the Province. Special legislation was enacted likewise for the regulation of ice supplies, inspection of slaughter-houses, dairies, cheese-factories, and creameries. If a local Board neglected to do its duty, power was given any complainant under the Public Health Act, for removal of the nuisance complained of. The Board likewise drew up a series of regulations, by which local Boards could regulate by license, dairymen and milkvendors, so as to improve the milk supply, likewise suggesting a common standard for the quality of milk. The matter of destruction of town refuse was likewise dealt with.

In 1888, owing to the spread of smallpox at Buffalo, an order-in-council was passed, "That every local Board and its Medical Officer shall at once notify the Provincial Board of all and every case of smallpox and cholera, and such other outbreaks of diphtheria and scarlet fever, as shall occur within the limits and jurisdiction of the local Board." This same year, owing to the outbreak of diphtheria in the unorganized districts, a law was passed giving the stipendiary magistrates the power of Medical Health Officers, while the Provincial Board may appoint Sanitary Inspectors, with power, and constables may act likewise as Sanitary Inspectors.

The Factory Acts were passed in 1887 and 1889, dealing specially with the health of the employees, as regards prevention of accidents and improvement in ventilating, and other sanitary appliance.

The Board had the assistance of a Biological Laboratory in the year 1890, for the first time, the work of which has greatly increased from year to year. As the work of local Boards increased, many evils but little understood have come into prominence, and attempts to deal with them have been made. More especially does this refer to diseases of animals. Tuberculosis in cattle, antinomycosis, anthrax, and hog cholera—these diseases so detrimental to man and animals have been dealt with in an amendment to the Consolidated Act, which provides that any Medical Health Officer may cause to be seized any animals known to be affected with any of these diseases, whilst at the same time, the parties having them in possession are liable to prosecution.

During 1891 the Consolidated Act of 1887 was amended, with a view of combining local sanitary areas, now under local Boards, as townships, under a single Medical Health Officer, to be known as the County Medical Health Officer.

This provision, had it ever come into activity, would have given him the power now laid on any Health Officer. Thus, by having a whole county under him, and having a biological and chemical training, he could have devoted his whole attention to sanitary matters, and being thus free from general practice, and having a proper salary, his services could be much more efficient than they otherwise could possibly be. It is hoped that even yet, before the lapse of many more years, this important step may be gained. The Secretary of the Board was now made Deputy Registrar-General, with one office and one staff, which not only simplified matters, but decreased very largely the expenses.

During the following years, attention was paid to the improvement of existing laws and regulations. In 1893 the local Boards of Health might require, on resolution, physicians attending any contagious disease to affix the placard within twenty-four hours. Likewise orders-in-council were passed improving inspection and control of ice supplies, and making regulations for the control of Asiatic cholera. In 1895 powers were given to Municipal Councils to appoint members of the local Boards of Health for three years. This has proved a very wise and judicious step, which was soon seen in the improved condition of the membership of these Boards. At the same period extension of the powers of the Provincial Board was made in the matters of the control of public waterworks and systems of sewerage, whereby no contract could be given in either case, until examined by them

and permission was received. The importance of the prohibition of offal feeding to hogs, except after being boiled and then only when fresh, was considered, and power granted accordingly, as well as the extension of power to inspect nuisances, beyond the limits of any municipality. In the following year the extension of power of Sanitary Inspector to the Chief Ranger of Algonquin Park, and an Act to inspect all meat by establishment of Municipal Abattoirs, and to inspect and test milch cows by the tuberculin test, were made. The Act for the regulation and inspection of bakeshops, and compulsory provision requiring the Division Registrar of every municipality to send to the Secretary of the Provincial Board of Health, the return of the number of deaths from each of the several contagious diseases for the preceding month. During the later years of the Board a great deal of time has been taken up in combatting contagious diseases, not only in organized but in unorganized territories, as well as in assisting in obtaining a proper water supply and efficient sewerage systems for our cities and towns. The management of contagious disease under our municipal system has been very successful.

Twenty years ago hardly anybody existed for the control of these troubles, and with all the work of the first two years of the Board, only fifty local Boards had existence, while last year there were 754 Boards of Health established, the secretaries of over 600 of them actually made returns. There are over 3,000 members of these Boards, and these, with 500 Medical Health Officers and a still greater number of Sanitary Inspectors, really constitute an army of health, of which this young Province may well feel proud. The profession has such an up-to-date knowledge of contagious diseases, that the Board finds a great deal of the up-hill work of their early days lessened. Now diphtheria is not looked upon with the dread of a few years ago, for the isolation and disinfection, combined with the use of antitoxin, has reduced the mortality to a very low rate, from 60 per 1,000 to the low figure of 10 in a 1,000; while the mortality of scarlet fever and measles have largely diminished. The grand climax of all these is that frequently through care and attention, by isolation and disinfection, these diseases do not spread from the first case. Even tuberculosis is being looked upon with less horror, and no doubt the day is not far distant when, with our isolation and modern views of the disease. or nay, perhaps even before another quinquennium, we may record the fact that its large mortality is much lessened. Our municipal system of water supply and waterworks are very carefully looked after by the Board. Not only is the location of the supply carefully examined, but a biological examination of

the water is necessary before the work can be proceeded with. The rapid rate at which water supplies and sewage systems have grown is very gratifying.

In 1882, only twelve public water supplies were in existence, while now there are 110, at a cost of \$11,000,000. These are yearly rapidly increasing. In 1882, there were only seven systems of sewerage; now there are 48. In 1882, there were seven separate street sewers; now they have increased to fifty; showing that municipalities are recognizing the great improvement of having the sewage separate from surface water.

These, gentlemen, are a resume of the labors of the Provincial Board since its inception, and I cannot better close than by referring to its personnel. The Board consists of seven members, and when first formed the following gentlemen constituted its membership—Drs. Covernton, Yeomans, Rae, Galbraith, Oldright, Cassidy, and Bryce. Drs. Covernton, Yeomans, and Rae, after doing good service for their country, have gone to join the silent majority. Drs. Cassidy, Oldright, and Bryce, are the only present members who were with the Board at its inception, Dr. Bryce becoming Secretary a month after its formation, and has given services to this Province that cannot be valued in gold. I am sure that my prophecy will become true when I say that it is not possible, but that the near future will reveal to every intelligent sanitarian, as well as the country at large, the grand work and the successful work which our respected and faithful Secretary has done for our beloved land. Nor must I forget the names of the late Drs. McDonald and McKay, who did their work on the Board for many years so honestly and fearlessly, but who a few years ago, after spending lives of activity and usefulness, joined their predecessors who had "Crossed the Bar."

EXCISION OF SHOULDER FOR MYELOID SARCOMA.*

BY G. SILVERTHORN, M.D., TORONTO.

The case I wish to present to-night is one of excision of the upper end of the humerus for myeloid sarcoma, performed five months ago, in a child of eleven years of age. The history of the case is as follows:

A. L., female, eleven years of age; father and mother alive and well; one brother drowned, one sister died of bronchitis, aged six months, one brother and four sisters alive and well. Patient had diseases of childhood, otherwise well up to July, 1901, when

* Read at Toronto Clinical Society, October 8th, 1902.

she slipped and fell on the floor, striking with her right arm outstretched on the floor. She immediately suffered from pain in the region of the shoulder joint, but this condition lasted only a few hours, and was not accompanied by any swelling or bruising. Next day no disability of the arm remained, and she had no trouble with it until the end of the following September, a period of about three months. She seems then to have had pain in the shoulder joint, especially if she "moved in some ways." About the middle of October Dr. McC—— saw her, and could not make out anything definite, and shortly afterwards the hand seemed to have lost some of its strength. In the latter part of November the hand was weak, with some pain in the elbow and shoulder, some tenderness at the front and back of the shoulder joint, but she could still move the arm freely in any direction.

Present condition.—Well nourished and healthy appearance, complains of difficulty in right arm. On examination, the right arm is held firmly fixed at the shoulder joint, and any attempt to move it in any direction is resisted, and the patient complains bitterly of the pain. The hand and forearm are normal except for a slight amount of atrophy. On examining the arm, it is seen that the upper end of the humerus is much enlarged and that it begins about the junction of the middle and upper thirds and extends as high up as can be felt, as a thickening of the bone in all directions, but above it appears that the swelling is more marked on the inner side of the bone than on the outer; that is, that it projects markedly into the axilla. Tenderness on pressure is very marked over the whole of this enlargement. No fluctuation or egg-shell crackling and no enlargement of lymphatic glands are to be made out. The color of the skin over the swelling is normal, and no large vessels are to be seen. Her general condition is good and appetite fair. No cough, and organs apparently healthy. Temperature on admission was slightly elevated.

The patient was admitted to St. Michael's Hospital, and kept under observation for several days in order, if possible, to establish a diagnosis. From a clinical standpoint, the chief interest in this case centres around the question of diagnosis, and perhaps you will pardon me if I go somewhat deeply into it, as the case presented some difficulties, as is evidenced by the fact that while she was there many of the surgeons on the staff saw her, and they were about equally divided as to the condition present.

As you will no doubt readily gather from the history, the diagnosis lay between sarcoma of the upper end of the humerus and tubercular disease of the bone and joint. The age, history of a fall, and enlargement of the bone, would be compatible with

either condition. Those who considered the condition one of tubercular disease were no doubt largely influenced by the pain and tenderness of the part, and this seemed difficult of explanation on the theory of sarcoma.



I show you here a skiagraph of the arm, which unfortunately did not enlighten us much, but it does show very plainly the enlargement of the bone, its greater prominence on the inner side, as well as the greater density of the bone on the outer side. It is not possible, however, to make out the extreme upper end of

the bone. The diagnosis then was not definite, but it was considered advisable under the circumstances to explore the enlargement under an anesthetic, and the plan that I had mapped out for myself was about as follows:

To chisel an opening into the enlargement through the thick outer plate of bone, scoop out some of the contents, and decide from the character of the masses and from the amount of hemorrhage whether it was a sarcoma or tubercle, and further, if it should prove to be sarcoma to then be guided as to further action by the character of the sarcoma, that is, if a giant-celled sarcoma to do only an excision, but if round or spindle-celled, then to do an interscapulo-thoracic amputation; in case of its being tubercular, either to simply scoop out or excise, as would seem best at the time.

Dr. C. J. Wagner kindly consented to do the microscopical part of the work, and I wish to here express my thanks to him for the same.

Operation (May 8th, 1902).—The usual incision for excision was made, and the wound deepened, when it was at once seen that there was a spontaneous fracture of the humerus about two inches below the joint and through the large mass. Here, then, was the reason for extreme pain and tenderness. After making an opening into the mass to the inner side of the bone, it was found that it consisted of a soft, reddish material which broke down readily and was easily scooped out, and contained small masses of cartilage, but nevertheless there was no hemorrhage from the cavity of any moment whatever, and this fact seemed to negative the idea of sarcoma.

Dr. Wagner examined the fresh scrapings, and reported that there were giant cells in abundance, and this settled the diagnosis of myeloid sarcoma. We then proceeded to an excision of the upper end of the humerus, keeping as widely as possible from the bone and carefully avoiding the periosteum, and severing the tendons some distance from their attachments to the bone. We were fortunately able to leave the lowest fibres of the pectoralis major undisturbed. The bone was divided well below the growth as you will see from the specimen, and all infected tissue removed, laying bare the large vessels, especially in the upper angle of the wound. No tourniquet was used, and the amount of hemorrhage was not more than one is accustomed to see in an ordinary excision. Healing took place by first intention. I now show you the patient, who looks well and is without the first sign of recurrence, and five months have already elapsed since operation.

Owing to the fact that recurrence may take place, and to the fact that there have been very favorable reports as to the effect

of X-ray treatment in sarcoma, Dr. C. R. Dickson, at my request, has given this patient three treatments per week, beginning about the fourth week after operation.

The points I would wish to emphasize are, first of all, the possibility of spontaneous fracture as a cause of pain and tenderness, secondly that there are sarcomas that do not bleed furiously on being disturbed; thirdly, that myeloid sarcoma is the least malignant of all the sarcomata, and some authors go so far as to say that myeloid sarcoma never gives rise to secondary deposits, either in lymphatic glands or viscera.

As you will see, the patient has a fair amount of control of the arm, fixation of the shoulder being obtained largely through the few remaining fibres of the pectoralis major and the deltoid. I herewith present for your inspection the excised portion of bone and microscopical sections from the same.

I wish further to express my thanks to our President, Dr. E. E. King, for his kindness in assisting at the operation, in addition to his generosity in supplying the skiagraph.

CASE OF FIBRO-CYSTIC TUMOR OF THE UTERUS FILLING LEFT BROAD LIGAMENT; REMOVAL, RECOVERY.

BY A. LAPHORN SMITH, M.D.,

Professor Gynecology in the University of Vermont and Professor of Clinical Gynecology
Bishop's University, Montreal.

Miss R., aged 37, was sent to me at the Western Hospital by Dr. Cowley, of Granby. She began to menstruate at the age of fourteen, and her periods had always been regular. Her occupation in a rubber factory had for many years required her to stand all day. About one year ago she began to suffer from pain in her left side, and she noticed her corsets getting tighter and her abdomen enlarged. Then her stomach began to be irritable, but the vomiting was not worse in the morning than at any other time; and her general health began to fail, until at the present time she is very anemic looking, and has a haggard appearance.

On making an examination, the abdomen was found to be enlarged owing to the presence of a pear-shaped mass extending half way between the umbilicus and ensiform cartilage; in other words, as big as a seven months' pregnancy. There was distinct fluctuation, but the liquid appeared to be under great tension, and in parts it almost seemed solid. It projected somewhat down into the left vaginal vault, which was against pregnancy. There was dulness on percussion over the tumor, but the flanks and all

the rest of the abdomen were resonant, showing that there was no ascites. The cervix was long and conical, but very soft, and the vagina was soft. I also had Dr. Cowley's assurance that the patient's character was above reproach, and that she had her last period only twelve days before coming in. My diagnosis was a fibro-cystic tumor of the uterus, and I was prepared to do an abdominal section, when a consultation of the staff of the hospital was called as usual for all major operations, and several of my colleagues diagnosed pregnancy, some even claiming that they felt uterine contraction. As the majority took this view, I agreed to postpone the operation for a week, and in the meantime to further communicate with Dr. Cowley and the patient. They both maintained that pregnancy was out of the question, and the poor woman was very indignant with me for harboring such an unjust suspicion. A few days later she was again anesthetized and the abdomen was opened. The tumor was found to be a fibro-cystic one of the uterus, completely filling the left broad ligament and pushing the uterus over to the right. It would have been an exceedingly difficult operation by the old method, but by the new one of Howard Kelly's nothing could have been more easy than it was for me to tie the right ovarian artery, the right round ligament, and the right uterine artery. The uterus was then cut across at the level of the internal os, after the bladder had been separated in front and the peritoneum behind. The large fibro-cystic tumor, as large as a man's head, rolled out quite easily, the uterine artery, round ligament, and ovarian artery, being caught in turn and tied as they made their appearance as the tumor was rolled out of the abdomen from right to left. Of course there was a great, gaping raw surface represented by its empty bed, but this was quickly closed up simply by sewing together with running catgut the arteries and posterior layers, with stitches that caught up the cellular tissue as well, so as to avoid leaving a large pocket. The cervix, which was hollowed out, required a few stitches to bring the two flaps together before closing the peritoneum over it. This method has another great advantage in that it is almost impossible to injure the ureter, as the tumor, in being shelled out, is being lifted away from the delicate tube, which was so often injured by the old method of operating. *This patient was practically well three days later.* She was sitting up in three weeks, and went home by train to Granby four weeks after the operation, her pulse and temperature having been normal throughout. The patient was one of a series of twenty-five abdominal hysterectomies for fibroids with one death (and that was in a woman of sixty-five, who was paralyzed when she came out of the anesthetic, due to rupture of a cerebral blood vessel, from which she died four or five days later).

PERFORATING ULCER OF THE DUODENUM—REPORT OF A CASE.

BY GEORGE ELLIOTT, M.D., TORONTO.

G. S., belt-stripper, aged fifty-eight years (Previous history) : Had been employed at this work for the past ten months. Prior to that time, was in England for two or three years. The patient himself, as well as two sisters, state that he was never sick to any great degree in his life, although letters to his friends here while he was in England, seem to point that he was not in the best of health while abroad. He was a steady and a heavy drinker.

Present illness.—About three o'clock on the afternoon of Monday, the 13th of October, whilst at his work, which he had resumed that morning after a drinking-bout of three or four days' duration, he was taken, according to the statement of his assistant, with cramps in his stomach, meaning his abdomen. That was the first time he had complained of being sick that day, but he had made some complaint to a fellow-workman on leaving the shop on the night of Monday, the 6th, that he had pains all over his abdomen, and that there was a lump in his side just below the ribs, or more particularly just below the right costal cartilages. He was working away at 3 o'clock, when all of a sudden he quit work and sat down and turned as white as a sheet, and the sweat started to boil out of him. A fellow-workman got him a drink of water. There was no vomiting. He stayed in the workshop about three-quarters of an hour after he first took sick. Then a fellow-workman walked home with him, a distance of about half a mile, to his boarding house. When they reached King Street, at the corner of Yonge, probably an eighth of a mile from his work, he sat down on the steps at the bank about two minutes. He was in a saloon on his way up, and had a drink. He walked slowly all the way going home, did not talk any, and therefore did not complain of any pain while walking home. He appeared quite weak to his companion.

I was called to attend him about a quarter after five that evening. On entering the room, he was observed to have an anxious expression of countenance; he was not particularly pale and was not perspiring. On his abdomen being bared, and being asked to indicate his pain, from which he was suffering very intensely, he passed his hand over his stomach, and down about two inches below his umbilicus, when he withdrew it. The breathing was mostly thoracic. The temperature was 97 and 4-5; the pulse 75, of good volume, neither irregular nor intermittent. The

radial artery was noticed to be slightly sclerosed. The tongue was clean and moist. Slight pressure was applied at the outer edge of the right rectus abdominis on a line with the umbilicus and anterior superior spinous process. This seemed to be quite painful to him. The right abdomen was very tense; the left not nearly so. Three or four times pressure was applied over McBurney's point, each time the patient complaining of the pain. On commencing light percussion, he begged for something to relieve him, so I desisted, and administered a hypodermic of a half-grain of morphia, with the usual amount of atropia. On questioning him as to his condition of health during the past week or ten days, he stated he had felt quite well, but a second interrogation elicited that there had been some indefinite pains in his abdomen, which he thought had been low down on the right side. He stated he had not vomited, that he had not had a movement of the bowels that day, but had had the previous day, and that his breakfast had been light that morning, consisting chiefly of warm milk. It was his custom to have liquor of some kind at his mid-day meal, and he had probably confined his meal that day largely to drink. He was left with some morphine pills of 1-8 gr., with instructions that one was to be administered about seven o'clock if he was not relieved before that time. I saw him again about 3.45 p.m. He had not been relieved from his pain, even after taking the 1-8 gr. pill by the mouth. He had had some warm milk, and had vomited a small portion of it. He was then perspiring very profusely. His pulse was now 88 and temperature same as before. I did not at that time examine his abdomen, but sent him into the General Hospital, and asked Dr. Bingham to see him the first thing in the morning.

At the consultation in the morning he had general peritonitis, and pulse that could not be counted. However, it was decided that an operation might offer some chance of recovery. This was done in the usual way for appendiceal abscess. There was very little distension of the abdomen. When the peritoneum was incised, a slight amount of gas and much bile-stained fluid was evacuated. Gauze drainage in the region of the gall bladder was put in, and patient returned to bed. Death occurred six hours after operation, about twenty-five hours after first onset of symptoms.

Dr. H. B. Anderson performed an autopsy. The appendix was normal, but extensive general peritonitis was present. In the posterior part of first portion of the duodenum, a large perforation, which would admit the index finger, was found. This was oval, with the long axis with the bowel, clean cut, and presenting evidences at lower end of commencing cicatrization. At

the pyloric end of the stomach, many cicatrices were present. Points of interest in this case are the marked pain over McBurney's point, simulating appendicitis, the low pulse-rate, and the unusually large size of the perforation.

Reports of Societies

TORONTO CLINICAL SOCIETY.

The first regular meeting of the Toronto Clinical Society for the season 1902-3, was held in St. George's Hall, Elm Street, on the evening of the 8th of October. Dr. Edmund E. King, the President, occupied the chair.

On the meeting being called to order, Dr. King delivered the annual presidential address. He made a feeling reference to the loss the Society and profession generally had sustained through the recent death of one of the members, Dr. Bertram Spencer, whose jovial and kindly nature would be indeed greatly missed. He then proceeded to discuss and outline the work of the Society for the current year, appealing for the hearty co-operation of the members in this respect. After this introduction, Dr. King took up the consideration of the prostate gland, its affections, and treatment therefor, presenting in an exhaustive and able manner a detailed review of the whole subject of prostatic surgery. At the conclusion of his very instructing address, the President was accorded a hearty vote of thanks, moved by Dr. Oldright, and seconded by Dr. Grasett.

EXCISION OF THE UPPER END OF THE HUMERUS FOR MYELOID SARCOMA.

Dr. G. Silverthorn presented this patient, a child of eleven years of age, and read notes on the history of the case. This girl, who was of a well-nourished and healthy appearance, came to him complaining of difficulty in the right arm. An examination of the arm showed that it was held firmly fixed at the shoulder joint, with resistance on any attempt being made to move it in any direction. The upper end of the humerus was very much enlarged, which was well shown by a skiagraph. No fluctuation or egg-shell crackling was to be made out. The diagnosis lay between sarcoma and tubercular disease. In the excision, the lowest fibres of the pectoralis major were left; and a good result has been obtained. The wound healed by first intention. The girl has now a fair amount of control over the extremity.

This case was discussed by Drs. Grasett, Oldright, Anderson, Bruce, and the President.

NOSE BUILDING WITH PARAFFIN.

Dr. D. J. Gibb-Wishart reported this case. After referring to the work which had been done in connection with this subject, Dr. Wishart reported his case. The patient was a young girl about seventeen years of age. He used a mixture of paraffin and vaseline at a temperature of 112 degrees. His object in using high temperature was to avoid any possible molding of the paraffin. At least 110 should be used in these cases. It was injected by a large hypodermic needle with an ordinary piston syringe, and was injected from above downward. The injection was not attended by any rise of temperature. Cocaine was not used, and no amount of congestion followed.

Drs. Ryerson, Boyd, Fenton, and Silverthorn discussed this case.

PATHOLOGICAL SPECIMENS.

Dr. Grasett presented the sac of a femoral hernia, which he had removed from an elderly lady that day.

Dr. H. B. Anderson presented two specimens. The first was a traumatic rupture of the ileum about twelve inches from the ileo-cecal valve, occurring in a man who had been scuffling. The second was secured from a case of gonorrhoeal endocarditis.

Dr. H. A. Bruce showed double pus tubes operated on that day.

GEORGE ELLIOTT, *Recording Secretary.*

Regular Meeting, Nov. 5th, 1902.

The President, Dr. E. E. King, in the chair. Dr. D. King Smith was elected a Fellow. Drs. Ainslie P. Ardagh, Orillia, and C. F. McGillivray, Whitby, were elected non-resident Fellows.

ESOPHAGOTOMY FOR FOREIGN BODY (WITH PATIENT),

Dr. E. E. King. This was the case of a girl of about eighteen years of age, who on a Sunday in September five weeks ago swallowed a peach-stone which lodged in the esophagus. Esophagotomy was performed, and the foreign body extracted with very little difficulty. Dr. King stated as regards the X-ray, that it was impossible to take photographs of stones of fruits.

TWO CASES OF EYE AFFECTION IN THE TOXEMIA OF PREGNANCY.

Notes of these cases were given by Dr. K. McIlwraith. The first case occurred in May, 1901. This patient had been suffering from loss of vision ever since the third month of her pregnancy, which was most marked in the right eye. There was a pretty large precipitate of albumen in the urine. She was confined in May; and her sight gradually and slowly improved until the first week in

September, when she was able to see practically as well as she could before the conception took place. At that time she still had the precipitate of albumen in the urine. The second case was one which Dr. McIlwraith had confined for Dr. Wright in August last. When this patient was first seen by Dr. McIlwraith, she was suffering from tremor of the body and limbs. There was a heavy precipitate of albumen in the urine. She had a very difficult labor, but made a good recovery. On the second day she had convulsions, and was treated with salines and a hypodermic of 1-2 grain of morphia. When she came to after the convulsion her eyesight was gone. Had the power to distinguish light but not objects. On the fourteenth day of pregnancy the eyes were examined by an oculist, and there were hemorrhages extending over the whole retina. In both these cases the eyesight has returned almost completely.

PERFORATING ULCER OF DUODENUM.

Dr. George Elliott read the medical notes on this case, which occurred in a man of fifty-eight years of age, who all his life had been a considerable drinker. Two hours after he was seized with acute abdominal pain he was seen by the physician. He had a pulse-rate of 75 and a temperature of 97 and 4-5. There was marked rigidity of the right abdominal wall, and pain in the right iliac fossa. There was, and had been no vomiting. When seen by the surgeon some twelve hours later there was present general peritonitis and the pulse rate could not then be counted. The usual incision was made for appendicitis, when on the peritoneum being opened, a small quantity of gas, and much bile-stained fluid escaped. Drainage was inserted towards the gall bladder, and the patient returned to bed. Death occurred six hours after. Dr. H. B. Anderson made a post mortem examination, and described the result of his findings. There was a perforation in the posterior wall of the first portion of the duodenum that would admit the index finger, probably the largest perforation which has been reported. The appendix was normal.

MULTIPLE CYSTIC COLLOID ADENOMA OF OVARY.

Dr. H. A. Bruce reported this case, and showed the pathological specimen. Twenty days before operation the patient, a married woman of twenty-nine years of age, was practically normal, there being no enlargement whatever of the abdomen. Just before the operation she was as large as a woman at nine months' pregnancy. When the abdomen commenced to enlarge, it had enlarged very rapidly. At the operation about three pints of fluid were withdrawn from the cyst.

GEORGE ELLIOTT, *Recording Secretary.*

Desiring to make a practical, useful journal for the General Practitioner,
the Editors respectfully solicit Clinical Reports from subscribers and others."

DOMINION MEDICAL MONTHLY

AND ONTARIO MEDICAL JOURNAL

EDITORS:

GRAHAM CHAMBERS, B.A., M.B. WALTER McKEOWN, B.A., M.D.

ASSOCIATE EDITOR:

GEORGE ELLIOTT, M.D.

Address all communications to the Publishers, *THE NESBITT PUBLISHING COMPANY, Limited,*
44 Adelaide Street West, Toronto, Canada.

VOL. XIX.

TORONTO, DECEMBER, 1902.

No. 6.

THE TORONTO ASYLUM FOR THE INSANE.

Dr. Daniel Clark, the medical superintendent of the Toronto Asylum for the Insane, has a letter in the *Mail and Empire* of recent date replying to strictures passed upon the governance of the institution over which he has charge and is the responsible head, that certain of the attendants and nurses have been guilty of cruelty to some of their patients. For twenty-seven years Dr. Clark has been the able administrator and much-respected head of this institution; and it is quite certain that he will not allow the prestige of his superintendency to be detracted from by any general statements that may be made in the society columns of a daily paper, penned by a well-known writer, herself the wife of a medical man. The medical profession generally throughout the Province has great confidence in the medical superintendent, and his able assistants in this asylum. That they would permit or connive at any mean treatment of the unfortunate wards under their charge, no medical man who knows their characters would for a moment believe. The stigma which hangs round and is associated with habitation in an asylum should be removed

from the minds of the people; and there is no better way to do this than by changing the name of asylum to hospital. Persons who have their mental faculties alienated should, above all others, merit the most intelligent care and the most pronounced comfort; and because a person's brain is diseased, any more than his heart or lungs, should give no cause for people of a spiteful and vindictive imagination to sneer at and deride the friends of those who have been less fortunate than their fellow-men in retaining their properly balanced mental calibre. The writer referred to by Dr. Clark, if she has any specific charges to make, should immediately prefer them: and she should take up the challenge of Dr. Clark, who courts the freest and fullest inquiry.

BARBER-SHOP HYGIENIC METHODS.

It will be a most fortunate outcome to the conference which was held between the members of the Ontario Board of Health, at their last regular quarterly meeting, and representatives from the Barbers' Association of Toronto if hygienic methods be introduced into the shops of Toronto. Once the thin edge of the wedge enters in this city, other cities throughout the Province will be sure to follow suit. The diseases liable to be spread to patrons of the tonsorial parlors through contamination at the hands of the operator are numerous, and they are well known to physicians. The public, on the other hand, does not seem to be properly alive to the importance of this step, else they would long since have demanded legislation to regulate these establishments. One of the most vicious habits consists in the application of the time-honored lump of alum as a styptic to a bleeding cut or a beheaded acne or ringworm pustule. A fresh customer "next" appears in the chair; and the hands of the barber as well as his ever-ready hemostat deftly plants the infection in the new soil. The Barbers' Association of Toronto will be rendering signal service to the community if they co-operate with the Board of Health in this matter. Let us hope that we may soon see a distinct advance made in barber-shop hygiene.

Editorial Note

THE DOCTOR'S FRIEND.

Few doctors care to collect their own accounts; they cannot afford the time even if they had the inclination for the work. We beg to call the attention of the profession in the city and throughout the country to the card of Richard Tew & Co., 23 Scott Street, Toronto, which appears in our advertising columns. Having employed Mr. Tew, we can speak very favorably indeed of his splendid capacity as a collector, and his methods of doing business. To prove this, you have only to give him some accounts for collection. As soon as he receives or collects any moneys, you are sent his cheque and a statement of the collections. If the profession once realizes how admirably fitted this firm is for this collecting business, Mr. Tew will soon come to be called "The Doctor's Friend."

News Items

THE death is announced of Dr. Stanley Cornell, who enjoyed a very extensive practice at Athens, Ontario.

CIGARETTES to the extent of 134,236,034 were consumed in Canada for the fiscal year ending 30th of June, as against 121,383,584 for the previous year.

DR. P. H. BRYCE, Secretary of the Canadian Board of Health, recommends that the old Vaccination Act of 1863 should be repealed, and a new and more simple one substituted.

DR. A. P. CROCKETT, of Fredericton, N.B., has returned home and resumed practice after taking a post-graduate course in Britain and on the continent during the past year.

A LARGELY attended public meeting was recently held in Montreal, at which Lord Minto was present and delivered an address, to devise ways and means for preventing the spread of tuberculosis in that city.

THE death of Dr. Norman Ross, of Detroit, is announced at the early age of twenty-seven years. Dr. Ross was well known in Toronto, being a son of the late Dr. A. Milton Ross, who practised on Simcoe Street. Death was accidental, and not suicidal, as stated through the daily press. It was due to the self-administration of strychnine by mistake.

THE barbers of Toronto are liable to adopt in the near future hygienic methods in their work, as outlined in an address before the recent quarterly meeting of the Board of Health, by Dr. J. J. Cassidy, of this city, a member of the Board.

DR. ROBERT WILSON, Professor of Pharmacology and Therapeutics in the University of Bishop's College, Montreal, who is enjoying a much-needed rest in the White Mountains, will return and resume his professorial duties in three weeks.

LINDSAY, Ontario, has been presented with a fine new hospital by Mr. James Ross, of Montreal. It will be known as the Ross Memorial Hospital, and will perpetuate the memory of Mr. Ross's mother, who for many years was a resident of Lindsay.

CONGRATULATIONS to Dr. Walter B. Moorhouse, London, Ont., President of the Canadian Medical Association and Dean of the Medical Faculty of the Western University, upon his marriage on the evening of the 6th of December to Miss Mary Butler, of that city.

DR. PATRICK B. HANDYSIDE, who has been for five years in charge of the naval hospital at Esquimalt, B.C., has been replaced by Dr. Homer, who, with his family, is now en route from England. Dr. Handyside will be greatly missed by his many friends in Esquimalt and Victoria.

CONGRATULATIONS to Dr. Charles B. Shuttleworth, of the Anatomy Department of Trinity Medical College, Toronto, on having been admitted by examination F.R.C.S., England, and to Dr. George W. Badgerow, also of Toronto, on having passed his examination for M.R.C.S.

DR. FREDERICK MONTIZAMBERT, Director-General of Public Health, Ottawa, has received an invitation to be present at a conference of health authorities and other sanitarians in New Orleans in the latter part of the month to discuss the best means of ridding San Francisco of the bubonic plague.

TRINITY Medical College held its annual banquet at McConkey's on the evening of the 3rd of December. Mr. J. H. Kidd was the President. Dr. T. S. Harrison, of Selkirk, Ont., was present, and delivered a very interesting address on the medical practitioner's life in Ontario fifty years ago.

THE Medical Faculty of Toronto University and students held their annual banquet in the Gymnasium on the evening of the 3rd of December. Mr. R. F. Foster was the President. Prof. Barker, of the University of Chicago, was present, and delivered an able address on the tendency of medical science.

Physicians' Library

Practical Gynecology, Obstetrics, and the Menopause. By A. H. P. LEUF, M.D., Philadelphia. Three parts, complete in one volume of 326 pages. Price, cloth, \$2.50. Published by *The Medical Council*, 4105 Walnut Street, Philadelphia, Pa., U.S.A.

The true key to this work may be found in the following extract from the preface: "A treatise upon any subject should be more than a mere dictionary of terms and methods; it should teach principles and their application; should indicate lines of thought; should stimulate investigation."

Part I. *The General Practitioner his Own Gynecologist.*—In the "Foreword" to this department the author plainly shows the great value to the family physician, both professionally and financially, of a thorough knowledge of the science, and competent skill in the art, of gynecology (properly pronounced jin-e-col-o-gy, not guy-ne-col-o-gy). The doctor should do all he can safely and correctly of his own work in diseases of women, rather than refer his patients to specialists for minor work which he could often do even better himself.

The author then takes up examinations, diagnosis and treatment of diseases of women in proper sequence, not going into controversial matters, but giving only the practice which in his own hands has been most successful. It can be used as a working guide to the physician in his daily practice. The language is direct, plain, concise, using the fewest possible words to plainly express the meaning. The great value of this part of the book can best be shown by quoting a letter from a physician: "Dr. Leuf's book has helped me to do better work every day in my gynecologic practice, and to properly treat many cases that I formerly sent to the specialist."

Part II. *Common Sense in Obstetric Practice.*—In the "Foreword" to this department the author shows vividly the extreme importance of the doctor's being so thoroughly prepared in the technique of obstetrics that he will be able to meet the various emergencies that arise in which prompt, skilful work may save one or both lives, and the possession of which skill alone distinguishes the physician from the ordinary midwife, and justifies the public in employing him at a greater cost. It also decries the too common burlesque often prevailing in the lying-in room.

Part III. *The Change of Life in Women.*—The great object of the author in this part is to relieve this much-misunderstood

subject of the mystery with which it is invested in the minds of both the laity and a large part of the profession, and to show the plain physiologic laws by which all its supposedly mysterious manifestations are easily explained, leading naturally up to the logical, and in the vast majority of cases successful, treatment. Not only is this work intensely interesting as a profound study of the human system in its most capricious period, but its mastery will enable the physician to guide the most of these cases safely and pleasantly through his most trying epoch to the final establishment of even better health than they have for years previously enjoyed, thus justly earning his fees and winning the confidence, gratitude and moral support of these most influential members of the community.

These three subjects are most appropriately grouped together in one volume as a desk companion to the physician in his treatment of female patients in all the conditions and emergencies peculiar to the sex.

Schmidt on Venereal Diseases—Lea's Series of Medical Epitomes. A Manual of Genito-Urinary and Venereal Diseases for the Use of Students and Practitioners. By LOUIS E. SCHMIDT, M.D., of the Chicago Polyclinic. In one handy 12mo volume of 250 pages, with 21 illustrations. Cloth, \$1.00 net. Philadelphia and New York: Lea Brothers & Co., Publishers. 1902.

Dr. Schmidt's little work, the first volume of Lea's Series of Medical Epitomes, furnishes an excellent example of what a useful epitome should be. He has furnished a compendious treatise written in clear, intelligible language, and covering the essentials of his important subject in its most modern development. The book treats in sufficient detail of venereal and genito-urinary diseases, together with their direct and remote complications. The first portion of the book is devoted to syphilis and chancroid, while all of the other diseases are described under the heading of genito-urinary affections. In this latter section a very valuable feature is the description of the general complications of all urinary diseases, whether directly or remotely associated with syphilis, chancroid, or gonorrhoea. Throughout the work all questions of diagnosis have been made especially clear, for the reason that in the treatment of all affections of the genito-urinary tract, the element of diagnosis is most important and the real foundation for success.

Dr. Schmidt has adapted the work especially to the needs of medical students, but it will be found peculiarly convenient as a

ready reference work for the physician who wishes to refresh his memory or to post himself on the most recent knowledge on the subject. For the convenience of students who desire to form quiz classes, a series of questions is appended to each chapter. Illustrations are used whenever they can serve to clarify the text.

Medical Jurisprudence and Toxicology. By JOHN A. REESE, M.D., Late Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania. Sixth Edition. Revised by HENRY LEFFMAN, A.M., M.D., Professor of Chemistry and Toxicology in the Woman's Medical College of Pennsylvania. Price, \$3.00. Philadelphia: P. Blakiston's Son & Co. Canadian Agents: Chandler & Massey, Toronto.

Reese's Hand-Book on Medical Jurisprudence and Toxicology for many years has been a popular text-book. That it is deservedly held in high esteem by students of medicine is a recognized fact. No other work on the subject now enjoys such a high position of Reese's in the medical curriculum. This is largely owing to its terse, practical style, and its clear enunciation of the different subjects handled. Since the last edition some years ago, there have been considerable advances made in toxicology; and the reviser has brought the work up to date in the modern treatment of poisoning. Two examples may be cited. The employment of stomach washings of alcohol in the common poisoning by carbolic acid, and the use of pot. permang. in morphine poisoning, is also included. The Canadian student of medicine needs no recommendation to buy Reese, for scarcely one among our two thousand medical students ever thinks of obtaining any other. The new edition is entirely welcome.

Physiology (Blakiston's Quiz Compend). By ALBERT P. BRUBAKER, A.M., M.D., Adjunct Professor of Physiology and Hygiene in the Jefferson Medical College. Price, 80 cents. Philadelphia: P. Blakiston's Son & Co. Canadian Agents: Chandler & Massey, Toronto.

This compend of human physiology, which is especially adapted for the use of medical students, is now presented in the eleventh edition, revised and enlarged. It is not intended that it should take the place of any text-book on the subject of physiology, and therefore it can be recommended as a valuable

assistant to the student in freshening up his knowledge on the eve of examination. With the extensive medical curriculum to be grasped in four years, we believe there is a field for such books as Blakiston's Quiz Compendis.

Manual of Gynecology. By HENRY T. BYFORD, Professor of Gynecology and Clinical Gynecology in the College of Physicians and Surgeons of Chicago; Professor of Gynecology in the Post-Graduate Medical School of Chicago, and in the Chicago Clinical School, etc. Third Revised Edition, containing 363 illustrations, many of which are original. Price, \$3.00. Philadelphia: P. Blakiston's Son & Co. Canadian Agents: Chandler & Massey, Toronto.

This very practical gynecology was first issued in 1895. The third edition comes to us with much new matter added. It will make an excellent text-book for students, while to the busy general practitioner it will be found as complete for his purpose as desirable. In a practical work of this character, anatomy and physiology might very well be eliminated. Very few will find time to peruse those pages. Otherwise the book can be very cordially recommended.

The Public and the Doctor.

This is a little book of 149 pages, written and published by Dr. B. E. Hadra, Dallas, Texas. It is designed to educate the public how to treat the doctor while he treats their sick. Should the work find its way into the hands of the laity, it may do some good; but the author is up against a hard proposition. Dr. Hadra treats his subject in a simple, easy style, and in a sensible manner.

The Physicians' Visiting List for 1903. Philadelphia: P. Blakiston's Son & Co. Canadian Agents: Chandler & Massey, Toronto.

The fact that this is the fifty-second year of the publication of this visiting list proves the value of it to the medical profession. The price is only \$1.00. Its real worth cannot be measured by any such sum.

Special Selection

**WILLIAM BEAUMONT.—A PIONEER AMERICAN
PHYSIOLOGIST.***

BY WILLIAM OSLER, M.D., BALTIMORE.
Professor of Medicine, Johns Hopkins University.

Come with me for a few moments on a lovely June day in 1822, to what were then far-off northern wilds, to the island of Michilimacinac, where the waters of Lake Michigan and Lake Huron unite, and where stands Fort Mackinac, rich in the memories of Indian and voyageur, one of the four important posts of the upper lakes in the days when the rose and the fleur-de-lys strove for the mastery of the Western world. Here the noble Marquette labored for his Lord, and here beneath the chapel of St. Ignace they laid his bones to rest. Here the intrepid La Salle, the brave Tonty, and the resolute Du Luht had halted in their wild wanderings. Its palisades and block-houses had echoed the war-whoops of Ojibways and Ottawas, or Hurons and Iroquois, and the old fort had been the scene of bloody massacres and hard-fought fights, but at the conclusion of the War of 1812, after two centuries of struggle, peace settled at last on the island. The fort was occupied by United States troops, who kept the Indians in check and did general police duty on the frontier, and the place had become a rendezvous for Indians and voyageurs in the employ of the American Fur Company. On the bright spring morning the village presented an animated scene. The annual return tide to the trading post was in full course, and the beach was thronged with canoes and batteaux laden with the pelts of the winter's hunt. Voyageurs and Indians, men, women, and children, with here and there a few soldiers, made up a motley crowd. Suddenly from the company's store there is a loud report of a gun, and amid the confusion and excitement the rumor spreads of an accident, and there is the hurrying of messengers to the barracks for a doctor. In a few minutes (Beaumont says twenty-five or thirty, an eye-witness says three) an alert-looking man in the uniform of a U. S. Army surgeon made his way through the crowd, and was at the side of a young French Canadian who had been wounded by the discharge of a gun, and with a composure bred of an exceptional experience of such injuries, prepared to make the examination. Though youthful in appear-

* An Address before the St. Louis Medical Society, Oct. 4, 1902.

ance, Surgeon Beaumont had seen much service, and at the capture of York and at the investment of Plattsburgh he had shown a coolness and bravery under fire which had won high praise from his superior officers. The man and the opportunity had met—the outcome is my story of this evening.

I. THE OPPORTUNITY—ALEXIS ST. MARTIN.

On the morning of June 6th a young French Canadian, Alexis St. Martin, was standing in the company's store, "where one of the party was holding a shotgun (not a musket), which was accidentally discharged, the whole charge entering St. Martin's body. The muzzle was not over three feet from him—I think not more than two. The wadding entered, as well as pieces of his clothing; his shirt took fire; he fell, as we supposed, dead."

"Doctor Beaumont, the surgeon of the fort, was immediately sent for, and reached the wounded man in a very short time, probably three minutes. We had just gotten him on a cot, and were taking off some of his clothing. After the doctor had extracted part of the shot, together with pieces of clothing, and dressed his wound carefully, Robert Stuart and others assisting, he left him, remarking: 'The man cannot live thirty-six hours; I will come and see him by and by.' In two or three hours he visited him again, expressing surprise at finding him doing better than he had anticipated. The next day, after getting out more shot and clothing, and cutting off ragged edges of the wound, he informed Mr. Stuart, in my presence, that he thought he would recover."*

The description of the wound has been so often quoted as reported in Beaumont's work that I give here the interesting summary which I find in a "Memorial" presented to the Senate and House of Representatives by Beaumont. "The wound was received just under the left breast, and supposed, at the time, to have been mortal. A large portion of the side was blown off, the ribs fractured, and openings made into the cavities of the chest and abdomen, through which protruded portions of the lungs and stomach, much lacerated and burnt, exhibiting altogether an appalling and hopeless case. The diaphragm was lacerated and a perforation made directly into the cavity of the stomach, through which food was escaping at the time your

* Statement of G. G. Hubbard, an officer of the company, who was present when St. Martin was shot, quoted by Dr. J. R. Baily, of Mackinac Island, in his address on the occasion of the Beaumont Memorial Exercises, Mackinac Island, July 10, 1900. *The Physician and Surgeon*, December, 1900.

memorialist was called to his relief. His life was at first wholly despaired of, but he very unexpectedly survived the immediate effects of the wound, and necessarily continued a long time under the constant professional care and treatment of your memorialist, and, by the blessing of God, finally recovered his health and strength.

“At the end of about ten mouths the wound was partially healed, but he was still an object altogether miserable and helpless. In this situation he was declared ‘a common pauper’ by the civil authorities of the county, and it was resolved by them that they were not able nor required to provide for or support and finally declined taking care of him, and, in pursuance of what they probably believed to be their public duty, authorized by the laws of the territory, were about to transport him, in this condition, to the place of his nativity in Lower Canada, a distance of more than fifteen hundred miles.

“Believing the life of St. Martin must inevitably be sacrificed if such an attempt to remove him should be carried into execution at that time, your memorialist, after earnest, repeated, but unavailing remonstrances against such a course of proceedings, resolved, as the only way to rescue St. Martin from impending misery and death, to arrest the process of transportation and prevent the consequent suffering, by taking him into his own private family, where all the care and attention were bestowed that his condition required.

“St. Martin was, at this time, as before intimated, altogether helpless, and suffering under the debilitating effects of his wounds—naked and destitute of everything. In this situation your memorialist received, kept, nursed, medically and surgically treated and sustained him, at much inconvenience and expense, for nearly two years, dressing his wounds daily, and for considerable part of the time twice a day; nursed him, fed him, clothed him, lodged him, and furnished him with such necessaries and comforts as his condition and suffering required.

“At the end of these two years he had become able to walk and help himself a little, though unable to provide for his own necessities. In this situation your memorialist retained St. Martin in his family for the special purpose of making physiological experiments.”

In the month of May, 1825, Beaumont began the experiments. In June he was ordered to Fort Niagara, where, taking the man with him, he continued the experiments until August. He then took him to Burlington and to Plattsburg. From the latter place St. Martin returned to Canada, without obtaining Beaumont's consent. He remained in Canada four years, worked as a voy-

ageur, married, and had two children. In 1829 Beaumont succeeded in getting back to St. Martin, and the American Fur Company engaged him and transported him to Fort Crawford, on the Upper Mississippi. The side and wound were in same condition as in 1825. Experiments were continued uninterruptedly until March, 1831, when circumstances made it expedient that he should return with his family to Lower Canada. The "circumstances," as we gather from letters, were the discontent and homesickness of his wife. As illustrating the mode of travel, Beaumont states that St. Martin took his family in an open canoe "via the Mississippi, passing by St. Louis, ascended the Ohio river, then crossed the State of Ohio to the lakes, and descended the Erie and Ontario and the River St. Lawrence to Montreal, where they arrived in June." Dr. Beaumont often lays stress on the physical vigor of St. Martin as showing how completely he had recovered from the wound. In November, 1832, he again engaged himself to submit to another series of experiments in Plattsburg and Washington. The last recorded experiment is in November, 1833.

Among the Beaumont papers, for an examination of which I am much indebted to his daughter, Mrs. Keim (Appendix A), there is a large mass of correspondence relating to St. Martin, extending from 1827, two years after he had left the doctor's employ, to October, 1852. Alexis was in Dr. Beaumont's employ in the periods already specified. In 1833 he was enrolled in the United States Army at Washington as Sergeant Alexis St. Martin, of a detachment of orderlies stationed at the War Department. He was then 28 years of age, and was five feet five inches in height.

Among the papers there are two articles of agreement, both signed by the contracting parties, one dated October 19th, 1833, and the other November 7 of the same year. In the former he bound himself for a term of one year, to "serve, abide, and continue with the said William Beaumont, wherever he shall go or travel or reside in any part of the world, his covenant servant, and diligently and faithfully, etc. . . . that he, the said Alexis, will at all times during said term, when thereto directed or required by said William, submit to assist and promote by all means in his power such philosophical or medical experiments as the said William shall direct or cause to be made on or in the stomach of him, the said Alexis, either through and by means of the aperture or opening thereto in the side of him, the said Alexis, or otherwise, and will obey, suffer, and comply with all reasonable and proper orders of or experiments of the said William in relation thereto and in relation to the exhibiting and

showing of his said stomach and the powers and properties there- to and of the appurtenances and the powers, properties and situ- ation and state of the contents thereof." The agreement was that he should be paid his board and lodging and \$150 for the year. In the other agreement it is for two years, and the re- muneratation \$400. He was paid a certain amount of the money down.

There are some letters from Alexis himself, all written for him and signed with his mark. In June, 1834, he writes that his wife was not willing to let him go, and thinks that he can do a great deal better to stay at home. From this time on Alexis was never again in Dr. Beaumont's employ.

There is a most interesting and protracted correspondence in the years 1836, 1837, 1838, 1839, 1840, 1842, 1846, 1851 and 1852, all relating to attempts to induce Alexis to come to St. Louis. For the greater part of this time he was in Berthier, in the dis- trict of Montreal, and the correspondence was chiefly conducted with a Mr. William Morrison, who had been in the North-West fur trade, and who took the greatest interest in Alexis and tried to induce him to go to St. Louis. (See Appendix B.)

In 1846 Beaumont sent his son Israel for Alexis, and in a letter dated Aug. 9, 1846, his son writes from Troy: "I have just returned from Montreal, but without Alexis. Upon arriv- ing at Berthier I found that he owned and lived on a farm about fifteen miles south-west of the village." Nothing would induce him to go.

The correspondence with Mr. Morrison in 1851 and 1852 is most voluminous, and Dr. Beaumont offered Alexis \$500 for the year, with comfortable support for his family. He agreed at one time to go, but it was too late in the winter, and he could not get away.

The last letter of this series is dated Oct. 15, 1852, and is from Dr. Beaumont to Alexis, whom he addresses as *Mon Ami*. Two sentences in this are worth quoting: "Without reference to past efforts and disappointments—or expectation of ever obtaining your services again for the purposes of experiments, etc., upon the proposals and conditions heretofore made and suggested, I now proffer to you in faith and sincerity, new, and I hope satis- factory, terms and conditions to ensure your prompt and faith- ful compliance with my most fervent desire to have you again with me—not only for my own individual gratification, and the benefits of medical science, but also for your own and family's present good and future welfare." He concludes with, "I can say no more, Alexis—you know what I *have* done for you many years since—what I have been *trying*, and am still anxious and

wishing to do with and for you—what efforts, anxieties, anticipations and disappointments I have suffered from your non-fulfilment of my expectations. Don't disappoint me more nor forfeit the bounties and blessings reserved for you."

So much interest was excited by the report of the experiments that it was suggested to Beaumont that he should take Alexis to Europe and submit him there to a more extended series of observations by skilled physiologists. Writing June 10, 1833, he says: "I shall engage him for five or six years if he will agree, of which I expect there is no doubt. He has always been pleased with the idea of going to France. I feel much gratified at the expression of Mr. Livingstone's desire that we should visit Paris, and shall duly consider the interest he takes in the subject and make the best arrangements I can to meet his views and yours." Mr. Livingstone, the American minister, wrote from Paris, March 18, 1834, saying that he had submitted the work to Orfila and the Academy of Sciences, which had appointed a committee to determine if additional experiments were necessary, and whether it was advisable to send to America for Alexis. Nothing, I believe, ever came of this, nor, so far as I can find, did Alexis visit Paris. Other attempts were made to secure him for purposes of study. In 1840 a student of Dr. Beaumont's, George Johnson, then at the University of Pennsylvania, wrote saying that Dr. Jackson had told him of efforts made to get Alexis to London, and Dr. Gibson informed him that the Medical Society of London had raised £300 or £400 to induce St. Martin to come, and that he, Dr. Gibson, had been trying to find St. Martin for his London friends. There are letters in the same year from Dr. R. D. Thomson, of London, to Professor Silliman urging him to arrange that Dr. Beaumont and Alexis should visit London. In 1856 St. Martin was under the observation of Dr. Francis Gurney Smith, in Philadelphia, who reported a brief series of experiments, so far as I know, the only other report made on him.*

St. Martin had to stand a good deal of chaffing about the hole in his side. His comrades called him "the man with a lid on his stomach." In his memorial address, Mr. C. S. Osborne, of Sault Ste. Marie states that Miss Catherwood tells a story of Etienne St. Martin fighting with Charlie Charette because Charlie ridiculed his brother. Etienne stabbed him severely, and swore that he would kill the whole brigade if they did not stop deriding his brother's stomach.

At one time St. Martin travelled about exhibiting the wound

*Medical Examiner, 1856, and Experiments on Digestion, Phila., 1856.

to physicians, medical students, and before medical societies. In a copy of Beaumont's work, formerly belonging to Austin Flint, Jr., and now in the possession of a physician of St. Louis, there is a photograph of Alexis sent to Dr. Flint. There are statements made that he went to Europe, but of such a visit I can find no record.

My interest in St. Martin was of quite the general character of a teacher of physiology, who every session referred to his remarkable wound, and showed Beaumont's book with the illustration. In the spring of 1880, while still a resident of Montreal, I saw a notice in the newspapers of his death at St. Thomas. I immediately wrote to a physician and to the parish priest, urging them to secure me the privilege of an autopsy and offering to pay a fair sum for the stomach, which I agreed to place in the Army Medical Museum in Washington, but without avail. Subsequently, through the kindness of the Hon. Mr. Justice Baby, I obtained the following details of St. Martin's later life, and the picture here given, which was taken the year before his death so as to show the wound, which I here show you. Judge Baby writes to his friend, Prof. D. C. MacCallum, of Montreal, as follows: "I have much pleasure to-day in placing in your hands such information about St. Martin as Revd. Mr. Chicoine, Cure of St. Thomas, has just handed over to me. Alexis Bidigan, *dit* St. Martin, died at St. Thomas de Joliette on the 24th of June, 1880, and was buried in the cemetery of the parish on the 28th of the same month. The last sacraments of the Catholic Church were ministered to him by the Rev. Cure Chicoine, who also attended at his burial service. The body was then in such an advanced state of decomposition that it could not be admitted into the church, but had to be left outside during the funeral service. The family resisted all requests—most pressing as they were—on the part of the members of the medical profession for an autopsy, and also kept the body at home much longer than usual, and during a hot spell of weather, so as to allow decomposition to set in and baffle, as they thought, the doctors of the surrounding country and others. They had also the grave dug eight feet below the surface of the ground in order to prevent any attempt at a resurrection. When he died St. Martin was 83 years of age, and left a widow, whose maiden name was Marie Joly. She survived him by nearly seven years, dying at St. Thomas on the 20th of April, 1887, at the very old age of 90 years. They left four children still alive—Alexis, Charles, Henriette, and Marie.

"Now I may add the following details for myself. When I came to know St. Martin it must have been a few years before

his death. A law suit brought him to my office here in Joliette. I was seized with his interests; he came to my office a good many times, during which visits he spoke to me at great length of his former life, how his wound had been caused, his peregrinations through Europe and the United States, etc. He showed me his wound. He complained bitterly of some doctors who had awfully misused him, and had kind words for others. He had made considerable money during his tours, but had expended and thrown it all away in a frolicsome way, especially in the old country. When I came across him he was rather poor, living on a small, scanty farm in St. Thomas, and very much addicted to drink, almost a drunkard one might say. He was a tall, lean man, with a very dark complexion, and appeared to me then of a morose disposition."

II. THE BOOK.

In the four periods in which Alexis had been under the care and study of Beaumont a large series of observations had been recorded, amounting in all to 238. A preliminary account of the case and of the first group of observations appeared in the *Philadelphia Medical Recorder* in January, 1825. During the stay in Washington in 1832 the great importance of the observations had become impressed on the Surgeon-General, Dr. Lovell, who seems to have acted in a most generous and kindly spirit. Beaumont tried to induce him to undertake the arrangement of the observations, but Lovell insisted that he should do the work himself. In the spring of 1833 Alexis was taken to New York and there shown to the prominent members of the profession, and careful drawings and colored sketches were made of the wound by Mr. King. A prospectus of the work was issued and was distributed by the Surgeon-General, who speaks in a letter of sending them to Dr. Franklin Bache and to Dr. Stewart of Philadelphia, and in a letter from Dr. Bache to Dr. Beaumont acknowledging the receipt of a bottle of gastric juice, Bache states that he has placed the prospectus in Mr. Judah Debson's store and has asked for subscribers. Beaumont did not find New York a very congenial place. He complained of the difficulty of doing the work owing to the vexatious social intercourse. He applied for permission to go to Plattsburg, in order to complete the book. After having made inquiries in New York and Philadelphia about terms of publication, he decided, as the work had to be issued at his own expense, that it could be as well and much more cheaply printed at Plattsburgh, where he would also have the advice and help of his cousin, Dr. Samuel Beaumont. In a letter to the Surgeon-General, dated June 10, 1833, he acknowledges the per-

mission to go to Plattsburgh, and says: "I shall make my arrangements to leave here for Pl. in about a week to *rush* the execution of the book as fast as possible. I am now having the drawings taken by Mr. King engraved here."

The summer was occupied in making a fresh series of experiments and getting the work in type. On December 3 he writes the Surgeon-General that the book will be ready for distribution in a few days, and that 1,000 copies will be printed.

The work is an octavo volume of 280 pages, entitled, "Experiments and Observations on the Gastric Juice and the Physiology of Digestion," by William Beaumont, M.D., Surgeon in the United States Army. Plattsburgh. Printed by F. P. Allen, 1833. While it is well and carefully printed, the paper and type are not of the best, and one cannot but regret that Beaumont did not take the advice of Dr. Franklin Bache, who urged him strongly not to have the work printed at Plattsburgh, but in Philadelphia, where it could be done in very much better style. The dedication of the work to Joseph Lovell, M.D., Surgeon-General of the United States Army, acknowledges in somewhat laudatory terms the debt which Beaumont felt he owed to his chief, who very gratefully acknowledges the compliment and the kindly feeling, but characterizes the dedication as "somewhat apocryphal."

The work is divided into two main portions; first, the preliminary observations on the general physiology of digestion in seven sections: Section I., of Ailment; Section II., of Hunger and Thirst; Section III., of Satisfaction and Satiety; Section IV., of Mastication, Insalivation and Deglutition; Section V., of Digestion by the Gastric Juice; Section VI., of the Appearance of the Villous Coat, and of the Motions of the Stomach; Section VII., of Chylification and uses of the Bile and Pancreatic Juice. The greater part of the book is occupied by the larger section of the detailed account of the four series of experiments and observations. The work concludes with a series of 51 inferences from the foregoing experiments and observations.

The subsequent history of the book itself is of interest, and may be dealt with here. In 1834 copies of the Plattsburgh edition, printed by F. P. Allen, were issued by Lilly, Wait & Co., of Boston.

In the Beaumont correspondence there are many letters from a Dr. McCall, in Utica, N.Y., who was an intimate friend of a Mr. Wm. Combe, a brother of the well-known physiologist and popular writer, Dr. Andrew Combe, of Edinburgh. Doubtless it was through this connection that in 1838 Dr. Combe issued an

edition in Scotland, with numerous notes and comments. (Appendix C.)

The second edition was issued from Burlington, Vt., in 1847, with the same title page, but after Second Edition there are the words, "Corrected by Samuel Beaumont, M.D., who was Dr. William Beaumont's cousin." In the preface to this edition, the statement is made that the first edition, though a large one of 3,000 copies, had been exhausted. This does not agree with the statement made in a letter of December 3, 1833, to the Surgeon-General, stating that the edition was to be 1,000 copies. Of course more may have been printed before the type was distributed. While it is stated to be a new and improved edition, so far as I can gather it is a verbatim reprint, with no additional observations, but with a good many minor corrections. In an appendix (D) I give an interesting letter from Dr. Samuel Beaumont with reference to the issue of this edition.

A German edition was issued in 1834 with the following title: "Neue Versuche und Beobachtungen ueber den Magensaft und die Physiologie der Verdauung, auf eine hochst merkwuendige Weise waehrend einer Reihe von 7 Jahren, an einen und demselben Subject angestellt." Beaumont's earlier paper, already referred to, was abstracted in the *Magazin der auslaendischen Litteratur der gesammten Heilkunde*, Hamburg, 1826, and also in the *Archives generales de Medecine*, Paris, 1828, I cannot find that there was a French edition of the work.

The "Experiments and Observations" attracted universal attention, both at home and abroad. The journals of the period contained very full accounts of the work, and within a few years the valuable additions to our knowledge filtered into the text-books of physiology, which to-day in certain descriptions of the gastric juice and of the phenomena of digestion even the very language of the work is copied.

III. THE VALUE OF BEAUMONT'S OBSERVATIONS.

There had been other instances of artificial gastric fistula in man which had been made the subject of experimental study, but the case of St. Martin stands out from all others on account of the ability and care with which the experiments were conducted. As Dr. Combe says, the value of these experiments consists partly in the admirable opportunities for observation which Beaumont enjoyed, and partly in the candid and truth-seeking spirit in which all his inquiries seem to have been conducted. "It would be difficult to point out any observer who excels him in devotion to truth and freedom from the trammels of theory or prejudice. He tells plainly what he saw and leaves every one to draw his

own inferences, or where he lays down conclusions he does so with a degree of modesty and fairness of which few perhaps in his circumstances would have been capable."

To appreciate the value of Beaumont's studies it is necessary to refer for a few moments to our knowledge of the physiology of digestion in the year 1832, the date of the publication. Take, for example, "The Work on Human Physiology" (published in the very year of the appearance of Beaumont's book), by Duglison, a man of wide learning and thoroughly informed in the literature of the subject. The five or six old theories of stomach digestion, concoction, putrefaction, trituration, fermentation, and maceration, are all discussed, and Wm. Hunter's pithy remark is quoted, "some physiologists will have it that the stomach is a mill, others that it is a fermenting vat, others, again, that it is a stew-pan; but, in my view of the matter, it is neither a mill, a fermenting vat nor a stew-pan; but a stomach, gentlemen, a stomach."

The theory of chemical solution is accepted. This had been placed on a sound basis by the experiments of Reaumur, Spallanzani, and Stevens, while the studies of Tiedemann and Gmelin and of Prout had done much to solve the problems of the chemistry of the juice. But very much uncertainty existed as to the phenomena occurring during digestion in the stomach, the precise mode of action of the juice, the nature of the juice itself, and its action outside the body. On all these points the observations of Beaumont brought clearness and light where there had been previously the greatest obscurity.

The following may be regarded as the most important of the results of Beaumont's observations: First, the accuracy and completeness of description of the gastric juice itself. You will all recognize the following quotation, which has entered into the text-books and passes current to-day. "Pure gastric juice, when taken directly out of the stomach of a healthy adult, unmixed with any other fluid, save a portion of the mucous of the stomach with which it is most commonly and perhaps always combined, is a clear, transparent fluid; inodorous; a little saltish, and very perceptibly acid. Its taste, when applied to the tongue, is similar to this mucilaginous water slightly acidulated with muriatic acid. It is readily diffusible in water, wine, or spirits; slightly effervesces with alkalies; and is an effectual solvent of the *materia alimentaria*. It possesses the property of coagulating albumen, in an eminent degree; is powerfully antiseptic, checking the putrefaction of meat; and effectually restorative of healthy action, when applied to old, fetid sores, and foul, ulcerating surfaces."

Secondly, the confirmation of the observation of Prout that

the important acid of the gastric juice was the muriatic or hydrochloric. An analysis of St. Martin's gastric juice was made by Dunglison, at that time a professor in the University of Virginia, and by Benjamin Silliman, of Yale, both of whom determined the presence of free hydrochloric acid. A specimen was sent to the distinguished Swedish chemist, Berzelius, whose report did not arrive in time to be included in the work. In a letter dated July 19, 1834, he writes to Professor Silliman that he had not been able to make a satisfactory analysis of the juice. The letter is published in *Silliman's Journal*, Vol. 27, July, 1835.

Thirdly, the recognition of the fact that the essential elements of the gastric juice and the mucus were separate secretions.

Fourthly, the establishment by direct observation of the profound influence on the secretion of the gastric juice and on digestion of mental disturbances.

Fifthly, a more accurate and fuller comparative study of the digestion in the stomach with digestion outside the body, confirming in a most elaborate series of experiments the older observations of Spallanzani and Stevens.

Sixthly, the refutation of many erroneous opinions relating to gastric digestion and the establishment of a number of minor points of great importance, such as, for instance, the rapid disappearance of water from the stomach through the pylorus, a point brought out by recent experiments, but insisted on and amply proven by Beaumont.

Seventhly, the first comprehensive and thorough study of the motions of the stomach, observations on which, indeed, are based the most of our present knowledge.

And lastly, a study of the digestibility of different articles of diet in the stomach, which remains to-day one of the most important contributions ever made to practical dietetics.

The greater rapidity with which solid food is digested, the injurious effects on the stomach of tea and coffee, when taken in excess, the pernicious influence of alcoholic drinks on the digestion, are constantly referred to. An all-important practical point insisted on by Beaumont needs emphatic reiteration to this generation: "The system requires much less than is generally supplied to it. The stomach disposes of a definite quantity. If more be taken than the actual wants of the economy require, the residue remains in the stomach and becomes a source of irritation and produces a consequent aberration of function, or passes into the lower bowel in an undigested state, and extends to them its deleterious influence. Dyspepsia is oftener the effect of over-eating and over-drinking than of any other cause."

One is much impressed, too, in going over the experiments,

to note with what modesty Beaumont refers to his own work. He speaks of himself as a humble "inquirer after truth, and a simple experimenter." "Honest objection, no doubt, are entertained against the doctrine of digestion by the gastric juice. That they are so entertained by these gentlemen I have no doubt. And I cheerfully concede to them the merit of great ingenuity, talents, and learning, in raising objections to the commonly received hypothesis, as well as ability in maintaining their peculiar opinions. But we ought not to allow ourselves to be seduced by the ingenuity of argument or the blandishments of style. Truth, like beauty, when 'unadorned is adorned the most'; and in prosecuting these experiments and inquiries, I believe I have been guided by its light. Facts are more persuasive than arguments, however ingeniously made, and by their eloquence I hope I have been able to plead for the support and maintenance of those doctrines which have had for their advocates such men as Sydenham, Hunter, Spallanzari, Richerand, Abernethy, Broussais, Philip, Paris, Bostock, the Heidelberg and Paris professors, Dunglison, and a host of other luminaries in the science of physiology."

In reality Beaumont anticipated some of the most recent studies in the physiology of digestion. Doubtless many of you have heard of Professor Pawlow's, of St. Petersburg, new work on the subject. It has been translated into German, and I see that an English edition is advertised. He has studied the gastric juice in an isolated pouch, ingeniously made at the fundus of the stomach of a dog, from which the juice could be obtained in a pure state. One of his results is the very first announced by Beaumont, and confirmed by scores of observations on St. Martin, viz., that, as he says, "the gastric juice never appears to be accumulated in the cavity of the stomach while fasting." Pawlow has shown very clearly that there is a relation between the amount of food taken and the quantity of gastric juice secreted. Beaumont came to the same conclusion: "When aliment is received, the juice is given in exact proportion to its requirements for solution." A third point on which Pawlow lays stress is the curve of secretion of the gastric juice, the manner in which it is poured out during digestion. The greatest secretion, he has shown, takes place in the earlier hours. On this point hear Beaumont: "It (the gastric juice) then begins to exude from the proper vessels, and increases in proportion to the quantity of aliment naturally required and received." And again: "When a due and moderate supply of food has been received it is probable that the whole quantity of gastric juice for its complete solution is secreted and mixed with it in a short time." A fourth point,

worked out beautifully by Pawlow, is the adaptation of the juice to the nature of the food, on which I do not see any reference by Beaumont, but there are no experiments more full than those in which he deals with the influence of exercise, weather, and the emotions on the quantity of the juice secreted.

IV. MAN AND DOCTOR.

Sketches of Dr. Beaumont's life have appeared from time to time. There is a worthy memoir by Dr. T. Reyburn in the *St. Louis Medical and Surgical Journal*, 1854, and Dr. A. J. Steele, at the first annual commencement of the Beaumont Medical College, 1887, told well and graphically the story of his life. A few years ago Dr. Frank J. Lutz, of this city, sketched his life for the memorial meeting of the Michigan State Medical Society, on the occasion of the dedication of a Beaumont monument.

Among the papers kindly sent to me by his daughter, Mrs. Keim, are many autobiographical materials, particularly relating to his early studies and to his work as a surgeon in the War of 1812. There is an excellent paper in the handwriting, it is said, of his son, giving a summary of the earlier period of his life. So far as I know this has not been published, and I give it in full:

Dr. William Beaumont was born in the town of Lebanon, Conn., on the 21st day of November, A.D. 1785. His father was a thriving farmer and an active politician of the proud old Jeffersonian school, whose highest boast was his firm support and strict adherence to the honest principles he advocated. William was his third son, who, in the winter of 1806-7, in the 22nd year of his age, prompted by a spirit of independence and adventure, left the paternal roof to seek a fortune and a name. His outfit consisted of a horse and cutter, a barrel of cider, and one hundred dollars of hard-earned money. With this he started, laying his course northwardly, without any particular destination—Honor his rule of action, Truth his only landmark, and trust placed implicitly in Heaven. Traversing the western part of Massachusetts and Vermont in the spring of 1807, he arrived at the little village of Champlain, N.Y., on the Canada frontier—an utter stranger, friendless and alone. But honesty of purpose and true energy invariably work good results. He soon gained the people's confidence and was entrusted with their village school, which he conducted about three years, devoting his leisure hours to the study of medical works from the library of Dr. Seth Pomeroy, his first patron. He then went over to St. Albans, Vt., where he entered the office of Dr. Benjamin Chandler and commenced a regular course of medical reading, which he followed for two years, gaining the utmost confidence and esteem of his

kind preceptor and friends. About this time the War of 1812 commenced, and he applied for an appointment in the U. S. Army successfully. He was appointed assistant surgeon to the Sixth Infantry, and joined his regiment at Plattsburgh, N.Y., on the 13th of September, 1812. On the 19th of March, 1813, he marched from Plattsburg with the First Brigade, for Sackett's Harbor, where they arrived on the 27th inst. Here he remained in camp till the 22nd of April, when he embarked with the troops on Lake Ontario. His journal will best tell this portion of his history:

"April 22nd, 1813.—Embarked with Captain Humphreys, Walworth, and Muhlenburg, and companies on board the Schooner *Julia*. The rest of the brigade, and the Second, with Foresith's Rifle Regiment and the Eighth Artillery, on board a ship, brig and schooner—remain in the harbor till next morning.

23rd (11 o'clock a.m.).—Weighs anchor and put out under the impression we were going to Kingston. Got out fifteen or twenty miles—encountered a storm—wind ahead, and the fleet returned to harbor.

"24th (6 o'clock a.m.).—Put out with a fair wind—mild and pleasant—the fleet sailing in fine order.

"26th.—Wind pretty strong—increasing—waves run high, tossing our vessels roughly. At half past four pass the mouth of Niagara river. This circumstance baffles imagination as to where we are going—first impressed with the idea of Kingston—then to Niagara—but now our destination must be 'Little York.' At sunset came in view of York Town and the Fort, where we lay off some three or four leagues for the night.

"27th.—Sailed into harbor and came to anchor a little below the British garrison. Filled the boats and effected a landing, though not without difficulty and the loss of some men. The British marched their troops down the beach to cut us off at landing, and, though they had every advantage, they could not effect their design. A hot engagement ensued, in which the enemy lost nearly a third of their men and were soon compelled to quit the field, leaving their dead and wounded strewn in every direction. They retired to the garrison, but from the loss sustained in the engagement, the undaunted courage of our men, and the brisk firing from our fleet, with the 12 and 32 pounders, they were soon obliged to evacuate it and retreat with all possible speed. Driven to this alternative, they devised the inhuman project of blowing up their magazine, containing 300 pounds of powder, the explosion of which had well-nigh destroyed our army. Over 300 were wounded and about 60 killed on the spot by stones of all dimensions falling, like a shower of hail, in the

midst of our ranks. A most distressing scene ensues in the hospital. Nothing is heard but the agonizing groans and supplications of the wounded and the dying. The surgeons waded in blood, cutting off arms and legs and trepanning heads, while the poor sufferers cry, 'O my God! Doctor, relieve me from this misery! I cannot live!' 'Twas enough to touch the veriest heart of steel and move the most relentless savage. Imagine the shocking scene, where fellow-beings lie mashed and mangled—legs and arms broken and sundered—heads and bodies bruised and mutilated to disfigurement! My deepest sympathies were aroused—I cut and slashed for 36 hours without food or sleep.

"29th.—Dressed upwards of fifty patients—from simple contusions to the worst of compound fractures—more than half the latter. Performed two cases of amputation and one of trepanning. At 12 p.m. retired to rest my fatigued body and mind."

One month after the taking of York he witnessed the storming of Fort George. The troops were transported from York to "Four-Mile Creek" (in the vicinity of Fort George), where they encamped from the 10th of May to the 27th, when they advanced to the attack. His journal runs thus:

"May 27 (1813).—Embarked at break of day—Col. Scott with 800 men, for the advanced guard, supported by the First Brigade, commanded by General Boyd, moved in concert with the shipping to the enemy's shore and landed under their battery and in front of their fire with surprising success, not losing more than 30 men in the engagement, though the enemy's whole force was placed in the most advantageous situation possible. We routed them from their chosen spot—drove them from the country, and took possession of the town and garrison."

On the 11th of September, 1814, he was at the Battle of Plattsburgh, still serving as assistant surgeon, though doing all the duty of a full surgeon. At the close of the war, in 1815, when the Army was cut down, he was retained in service, but resigned soon after, deeming himself unjustly treated by the government in having others, younger and less experienced, promoted over him.

In 1816 he settled in Plattsburgh and remained there four years in successful practice. In the meantime his army friends had persuaded him to join the service again, and, having applied, he was reappointed, in 1820, and ordered to Fort Mackinac as post surgeon. At the end of the first year he obtained leave of absence, returned to Plattsburgh, and married one of the most amiable and interesting ladies of that place. (She still survives her honored husband, and in her green old age is loved devotedly by all who know her.) He returned to Mackinac the same year, and in 1822 came in possession of Alexis St. Martin, the subject

of his "Experiments on the Gastric Juice." By the accidental discharge of his gun, while hunting, St. Martin had dangerously wounded himself in the abdomen, and came under the treatment of Dr. Beaumont, who healed the wound (in itself a triumph of skill almost unequalled), and in 1825 commenced a series of experiments, the results of which have a world-wide publication. These experiments were continued, with various interruptions, for eight years, during which time he was ordered from post to post—now at Niagara, N.Y., anon at Green Bay, Mich., and finally at Fort Crawford, on the Mississippi. In 1834 he was ordered to St. Louis, where he remained in service till 1839, when he resigned. He then commenced service with the citizens of St. Louis, and from that time till the period of his last illness, enjoyed an extensive and distinguished practice, interrupted only by the base attacks of a few disgraceful and malicious knaves (self-deemed members of the medical profession) who sought to destroy a reputation which they could not share. They gained nothing except some little unenviable notoriety, and they have skulked away like famished wolves, to die in their hiding-places.

The dates of Beaumont's commissions in the army are as follows: Surgeon's Mate, Sixth Regiment of Infantry, Dec. 2, 1812; Cavalry, March 27, 1819; Post Surgeon, Dec. 4, 1819; Surgeon First Regiment and Surgeon, Nov. 6, 1826.

From the biographical sketches of Reyburn, Steele, and Lutz, and from the personal reminiscences of his friends, Drs. J. B. Johnson, S. Pollock, and Wm. McPheeters, who fortunately remains with you, full of years and honors, we gather a clearly defined picture of the latter years of his life. It is that of a faithful, honest, hard-working practitioner, doing his duty to his patients, and working with zeal and ability for the best interests of the profession. The strong common sense which he exhibited in his experimental work made him a good physician and a trusty adviser in cases of surgery. Among his letters there are some interesting pictures of his life, particularly in his letters to his cousin, Dr. Samuel Beaumont. Writing him on April 4, 1846, he says:

I have a laborious, lucrative, and increasing practice, more than I can possibly attend to, though I have an assistant, Dr. Johnson, a young man who was a pupil of mine from 1835 to 1840. He then went to Philadelphia a year or two to attend lectures, and graduated, and returned here again in 1842, and has been very busy ever since and is so now, but notwithstanding I decline more practice daily than half the doctors in the city get in a week. You thought when you were here before that there was too much competition for you ever to think of succeeding in

business here—there is ten times as much now and the better I succeed and prosper for it. You must come with a different feeling from your former—with a determination to follow in my wake and stem the current that I will break for you. I am now in the grand climacteric of life, three-score years and over, with equal or more zeal and ability to do good and contribute to professional service than at forty-five, and I now look forward with pleasing anticipation of success and greater usefulness—have ample competence for ourselves and children, and no doleful or dreaded aspect of the future—to be sure I have to wrestle with some adverse circumstances of life, and more particularly to defend myself against the envious, mean, and professional jealousies and the consequent prejudices of some men, but I triumph over them all and go ahead in defiance of them.*

His professional work increased enormously with the rapid growth of the city, but he felt, even in his old age, that delicious exhilaration which it is your pleasure and privilege to enjoy here in the west in a degree rarely experienced by our eastern confreres. Here is a cheery paragraph from a letter dated Oct. 28, 1852: "Domestic affairs are easy, peaceable, and pleasant. Health of community good—no severe epidemic diseases prevalent—weather remarkably pleasant—business of all kinds increasing—product of the earth abundant—money plenty—railroads progressing with almost telegraphic speed—I expect to come to Plattsburgh next summer all the way by rail."

But work was becoming more burdensome to a man nearing threescore years and ten, and he expresses it in another letter when he says: "There is an immense professional practice in this city. I get tired of it, and have been trying hard to withdraw from it altogether, but the more I try the tighter I seem to be held to it by the people. I am actually persecuted, worried, and almost worn out with valetudinarian importunities and hypochondriacal groans, repinings, and lamentations.—Amen."

He continued at work until March, 1853, when he had an accident—a fall while descending some steps. A few weeks later a carbuncle appeared on the neck, and proved fatal April 25. One who knew him well wrote the following estimate (quoted by Dr. F. J. Lutz in his sketch of Beaumont):

"He was gifted with strong natural powers, which, working upon an extensive experience in life, resulted in a species of natural sagacity, which, as I suppose, was something peculiar in him, and not to be attained by any course of study. His tempera-

* He had evidently hopes that when his cousin and son arrived with Alexis they would arrange and plan for another series of experiments, and in another year or two make another book, better than the old one.

ment was ardent, but never got the better of his instructed and disciplined judgment, and whenever or however employed, he ever adopted the most judicious means for attaining ends that were always honorable. In the sick room, he was a model of patience and kindness, his intuitive perceptions, guiding a pure benevolence, never failed to inspire confidence, and thus he belonged to that class of physicians whose very presence affords Nature a sensible relief."

You do well, citizens of St. Louis, and members of our profession, to cherish the memory of William Beaumont. Alive, you honored and rewarded him, and there is no reproach against you of neglected merit and talents unrecognized. The profession of the northern part of the State of Michigan has honored itself in erecting a monument to his memory near the scene of his disinterested labors in the cause of humanity and science. His name is linked with one of your educational institutions, and joined with that of a distinguished laborer in another field of practice. But he has a far higher honor than any you can give him here—the honor that can only come when the man and the opportunity meet—and match. Beaumont is the pioneer physiologist of this country, the first to make an important and enduring contribution to this science. His work remains a model of patient, persevering investigation, experiment, and research, and the highest praise we can give him is to say that he lived up to and fulfilled the ideals with which he set out and which he expressed when he said: "Truth, like beauty, when 'unadorned, is adorned the most,' and, in prosecuting these experiments and enquiries, I believe I have been guided by its light."

APPENDIX A.

The Beaumont papers in the possession of his daughter, Mrs. Keim, of St. Louis, consist of (1) interesting certificates from his preceptors, Dr. Pomeroy and Dr. Chandler, the license from the Third Medical Society of Vermont, the commissions in the U. S. Army, several certificates of honorary membership in societies, and the parchment of the M.D. degree conferred upon him, *honoris causa*, by the Columbian University of Washington, 1833; (2) a journal containing his experiences in the War of 1812, from which I give an extract, a journal of his trip to Fort Mackinac; a journal containing the reports of many cases, among them that of St. Martin (in addition there is a protocol of the case in loose folio sheets); a journal of the experiments, and a commonplace book of receipts and jottings; (3) an extensive correspondence relating to St. Martin and the book, and many rough drafts of sections of the book; (4) a large mass of personal cor-

respondence, much of it of interest as relating to conditions of practice in St. Louis.

The picture reproduced here in his army uniform is from a miniature; the picture which has been previously reproduced is of an older man from a daguerreotype. It is satisfactory to know that the ultimate destination of this most valuable collection of papers is the Surgeon-General's Library of the United States Army, of which Dr. Beaumont was so distinguished an ornament.

APPENDIX B.

On October 20, 1853, he writes to his cousin Dr. Samuel Beaumont, on the subject of "that old, fistulous Alexis," as he calls him. "Alexis' answer to yours is the very fac-simile or stereotype of all his Jesuitical letters to me for the last fifteen years. His object seems only to be to get a heavy bonus and undue advance from me, and then disappoint and deceive me, or to palm and impose himself and whole family upon me for support for life.

"I have evaded his designs so far; but I verily fear that the strong and increasing impulse of conscious conviction of the great benefits and important usefulness of further and more accurate physiological investigation of the subject will compel me to still further efforts and sacrifices to obtain him. Physiological authors and most able writers on dietetics and gastric functions generally demand it of me in trumpet tones.

"I must have him at all hazards, and obtain the necessary assistance to my individual and private efforts, or transfer him to some competent scientific institution for thorough investigation and report—I must retrieve my past ignorance, imbecility, and professional remissness of a quarter of a century, or more, by double diligence, intense study and untiring application of soul and body to the subject before I die:

Should posthumous Time retain my name,
Let historic truths declare my fame.

"Simultaneous with this I write to Mr. Morrison and Alexis my last and final letters—perhaps, proposing to *him*, as bribe to his cupidity, to give him \$500 to come to me *without* his family, for one year—\$300 of them for his salary, and \$200 for the support and contentment of his family to remain in Canada in the meantime—with the privilege of bringing them on here another year, upon my former proposition of \$300 a year, at his own expense and responsibility and support them himself after they get here out of his \$300 salary—I think he will take the bait and come on this fall, and when I get him alone again into

my keeping and engagement, I will take good care to control him as I please."

APPENDIX C.

Letter from Dr. Andrew Combe, May 1, 1838:

"My Dear Sir,—May I beg your acceptance of the accompanying volumes as a small expression of my respect for your character and scientific labors. I need not detain you by repeating in this note the high estimation in which I hold you. The volumes herewith sent will, I trust, convince you of the fact, and that it will not be my fault if you do not receive the credit justly due to your valuable and disinterested services. I remain, My Dear Sir,

Very respectfully yours,

"ANDW. COMBE."

APPENDIX D.

Letter from Dr. Samuel Beaumont, March 6, 1846:

"Your letter of the 1st of February arrived here in the course of mail, and I have attended to the business which you authorized me to do. I am afraid, however, that you will be disappointed, and perhaps dissatisfied with the arrangement. Mr. Goodrich came here some five or six days after I received your letter, and made his proposal, which was to give you every tenth copy for the privilege of publishing an edition. The number he proposed to publish was fifteen hundred, which would give you 150 copies. I did not like to close the bargain on this condition, and he was not disposed to give any more. This was in the evening. I told him to give me time till the next morning, and I would make up my mind. In the morning, after consultation, I concluded to offer him the copyright for the unexpired time (only one year) for two hundred copies. After some demurring, we closed the bargain. I then thought, and I still think, it was not enough; but it was all I could get. In making up my mind the following considerations presented themselves: First, that the copyright would expire in one year, and he would then have the right to print it without consulting the author; second, that it would be somewhat mortifying to the author not to have his work republished, even if no greater pecuniary benefit was to be obtained by such a republication; and it appeared to me to be quite certain that a new edition would not be soon printed, if I let this opportunity slip; third, I have been long anxious, as I presume you have been, to see the work gotten up in a better dress than it originally had, and in a way which will give it a general credit and more notoriety among all classes of the reading public than it has heretofore possessed, in fact, make it a standard work;

fourth, it has given us a chance to give it a thorough correction, a thing which was very desirable. The work, you recollect, was got up in a great hurry, and a great many errors escaped our notice. You may also recollect that the Philadelphia reviewer spoke of the inaccuracies in the work. And he had reason enough for it. In looking over the work critically with a view of correction, I have been perfectly astonished at the errors that occur on almost every page. And although we understood perfectly what we meant to say, the reader would find it somewhat difficult to decipher our meaning. In the first 140 pages I made nearly 300 corrections. These are practically merely verbal alterations or change of phrases or sentences, so as to make them more accurate or perspicuous. I have in no case so changed the text as to give it a different meaning. I flatter myself that it will now be more worthy the public patronage; and if for no other, this chance for correction I consider alone almost a sufficient remuneration for the brief limits of the copyright. I have also written a preface for the second edition, making quotations from American and European authorities in praise of the merits of the work. From delicacy I have written this as from the publisher. I think it is pretty well done. The work will probably be published in the course of about a month, and those designed for you will be delivered to me, when I shall send them to you. He guarantees not to sell in the State of Missouri or the states south and west of that state. But that, of course, is all gammon. The book will be thrown into market, and he cannot control the direction in which it will go."—*Jour. Amer. Med. Asso.*