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EDITORIAL

SIR RICKMAN J. GODLEE'S VISIT.

Sir R. J. Godlee is president of the Royal College of Surgeons of England. This bespeaks for him a welcome wherever he may appear among surgeons. Sir Rickman is known to possess three admirable qualities: he is a perfect gentleman, a thorough scholar, and a master operator; and these qualities have placed him where he is to-day.

Under the auspices of the Toronto Academy of Medicine he gave a lucid address on the surgery of the lungs. This we shall publish at an early date. This address was received by a large gathering of Toronto's doctors. During the afternoon, Dr. H. J. Hamilton, president of the Academy, and Mrs. Hamilton, held a reception in the Academy building, which was well attended, and afforded many of Toronto's medical practitioners and their wives an opportunity of becoming acquainted with Sir Rickman and Lady Godlee.

Dr. W. A. and Mrs. Young gave a luncheon for Sir Rickman and Lady Godlee, and about fifty other guests at the Lambton Golf Club house. The event was a very successful and enjoyable one, and those who were present had nothing but words of praise for the care that Dr. and Mrs. Young had displayed for the comfort of all. The pleasant event will long be remembered. On this occasion Sir Rickman and Lady Godlee made many real friends by their very pleasing and kindly manner.

The University of Toronto availed itself of the opportunity of conferring upon Sir Rickman the degree of LL.D., *Honoris Causa*. Mr. I. H. Cameron introduced the distinguished recipient of the honor, in a most eloquent and witty speech. The ceremony of conferring the degree and signing the register being over, Sir Rickman gave a learned and interesting address on Listerism. He traced the growth of Lord Lister's

ideas on the subject, and drew a fine picture of that great man, as he toiled onwards and upwards *per dubitandum ad veritatem*. The story of Lister's work, like that of the Golden Fleece and the Grecian heroes, never grows old, as it divides surgery into ancient and the ever-present.

Sir Rickman has gone from amongst us, but not the memory of his visit. "This," as Holofernes said in *Love's Labor's Lost*, "is begot in the ventricles of memory, nourished in the womb of pia mater, and delivered upon the mellowing of occasion." For a long time to come the inspiration of Sir Rickman Godlee's visit will be felt, and given out "upon the mellowing of occasion."

THE MISCONDUCT OF STUDENTS.

It is much to be regretted that, when young men gather themselves together under the roof of some college, they cannot conduct themselves properly. There is no art or science in tearing each other's clothing, in throwing flour upon each other, in painting their faces with shoe blacking; and it is nothing above the level of common brutality to injure each other. Now, all these things have happened within the past few weeks in Toronto.

It does seem strange that students in the aggregate will do what students individually would not think of doing. This is due to the excitement of the crowd, or the spirit of bravado that is evoked by one year trying to outdo another year in acts of physical force. In all this there is nothing that improves the mind or strengthens the body.

We are loyal advocates of exercise in the open air. As a means of maintaining health nothing has yet been found to take its place. But the difference between such exercise in healthful games, and the misconduct and often brutal conduct of many students in an inter-year hustle, is as great as the difference between a game of cricket and a Paris riot.

If the students in the various colleges could only realize how much higher they would stand in the estimation of right-thinking people by omitting from their college life these manifestations of rowdyism, we feel sure they would soon make an end of them. We can all look back upon the Greek running contests with pleasure, but from the gladiatorial trials, that meant death to one of them, we turn away with a shudder. The feeling rises that while the Greeks were a great people, there was something of the barbarian left in him. It is time now to suppress that which is barbarous.

When one reads an item like this in the daily press, one would think that the sane student element among the student body of the college would show such a front against the behavior of some who claim to be "students" that this sort of thing would cease:

"The police were called out yesterday morning to quell a disturbance at the Ontario Veterinary College, Temperance Street, caused when the third and second year classes combined in a war on the first year students. The battle, which followed a trick the freshmen had played on the sophs and seniors, became so warm that Dr. Grange, the principal, was forced to phone for the police. When they arrived, however, the students had regained their equilibrium and no arrests were made."

In the Dental College there was an exhibition of brute force that should bring the color of shame to all who took part in it. A number pounced upon a student who had "offended" them, smeared him with blacking, encased his body in plaster, and then hustled him into a room where one of the professors was engaged instructing a class. How many were really proud of their conduct?

But this manifestation of barbarism is not confined to Toronto, for from Winnipeg comes the following that makes it quite clear that some of the spirit still lives that dwelt in the red Indian before the white man made his "trail" over the prairie:

"United College students will have a holiday to-morrow, and the joint faculty will sit in conclave to investigate what took place on Saturday evening in Manitoba College building at the initiation proceedings. It is stated that expulsion of some of the ringleaders in Saturday's ceremony may be the outcome, though nothing definite is yet known. The initiation proceedings on Saturday evening were much the same as in previous years, but the difference is that the regulations of the university and of the individual colleges are specially strict against indignity and personal violence being forced on any student."

But this state of affairs is quite pandemic, for we hear of it happening in other cities where there are colleges. Truly the modern college man is a combination of the search for culture and the resurrection of the methods of the savage.

THINGS THAT AFFECT THE RACE.

From time to time we hear and read about eugenics, or the science of bettering the human race. Sir Francis Galton said that eugenics was "the study of agencies under social control, that may improve or impair the racial qualities of future generations, either physically or mentally." This is a broad definition, and includes both heredity and

environments. Sir Francis Galton was too well an informed scientist to neglect heredity.

But a few days ago, General Bramwell Booth, of the Salvation Army, in discussing the subject of the degraded, the criminal, and the feeble-minded, took strong ground against the doctrine of heredity. He said among other things that "my remarks contradicted what is called the silly doctrine of heredity. Carried to the conclusion to which it is carried by some, it is all fudge. Some of the finest people I have known and some of the finest army officers have been the children of degraded and besotted parents." General Booth is an environist, and thinks that what makes for weal or woe in the history of the person is far more a matter of his companions, reading, and habits, than his ancestry. The science of environment has been called euthenics.

Dr. William Leland Holt, in a recent issue of *The Popular Science Monthly*, deals very fully with the environmental influences. Among these he mentions five as taking first place: The uncertainty of livelihood; the high cost of living; the ambition to afford children better opportunities; the competition of women in occupations and professions; and the demand for luxuries. These influences have a deterrent influence on the marriage and birth rates among the better middle classes; but do not so act on the lower classes. The birth-rate goes on as usual where the environments are at their worst. Dr. Holt, like Booth, accentuates those influences that are postnatal.

This makes the outlook all the brighter, as it is easier to deal with the evils of to-day than with those of bygone generations. While dealing with this aspect of the subject, we cannot but condemn the prison methods of the past, of which there remains with us still far too many glaring instances. We have had too much of the prison system that waste men's bodies and kill their souls.

THE HOSPITAL ASSOCIATION.

The Canadian Hospital Association has done good work. Its influences have been felt in several ways. It has brought hospitals together so as to compare notes and see in what way their methods could be improved. It has also united them in their efforts to induce the provinces and the municipalities to deal more generously with these institutions. The reading and discussing of papers in dietary, nursing, ventilation, etc., is spreading useful information.

THE TORONTO EMERGENCY ORDER.

There has not been witnessed in any city a more high-handed order than that of the Toronto Police Commissioners in ordering that emerg-

ency patients carried by the police ambulance should be taken to the General Hospital. This is unjust to the other hospitals, and it is unjust to the patients themselves. But we have had the matter looked into, and it is also unlawful. The Police Commissioners have no such powers as they assumed in this case.

It is true that the Mayor, in reply to a deputation, promised to have the order made to apply only to such emergency cases as would be city order patients. But it is no use making a promise that is not carried into effect. The driver of the ambulance goes on doing as he did when the order was first issued. And, further, it is impossible at first to determine whether an emergency patient will require a city order or not. In the meantime they are taken to the General.

BLINDNESS FROM WOOD ALCOHOL.

In the United States a number of cases of blindness have occurred from the use of wood alcohol. There have also been some reported in this country. With the object of lessening the frequency of this very distressing affliction, a committee in New York has taken up the matter with marked energy.

This committee is making a very determined effort to prevent the tragic cases of unnecessary blindness and death from wood alcohol poisoning such as are constantly being brought to its notice. Although a certain amount of legislation is necessary in the solution of this problem, the committee is convinced that education is the most important aspect of the work, and it has accordingly issued an illustrated folder on wood alcohol, in English, Yiddish and Italian, and numerous bulletins have appeared in English and foreign newspaper and in a variety of trade journals.

Communications regarding this subject should be addressed to Miss Carolyn C. Van Blarcom, Room 67, 105 East 22nd Street, New York. We would commend the work of this committee to our readers, and trust that any of them who may have met with instances of blindness from this cause, or who may know of places where wood alcohol is used, would correspond with the secretary of the committee, Miss Van Blarcom.

MARRIAGE, BIRTH AND DEATH RATES.

Cupid spent a busy 12 months in 1912, his efforts in Ontario bringing an increase of 3,038 marriages, or at the rate of 0.9 per thousand population; but in spite of this fact the provincial birth rate continues on the down grade. The report of the Registrar-General, which will shortly be issued, shows a birth rate of only 22.4, the lowest since 1903,

and two points below 1911.

The responsibility for Ontario's declining birth rate apparently rests with the cities and towns. The cities with a record of 22,929 marriages were able to report only 15,917 births, while the rural municipalities of the province, with but 10,910 marriages, had 32,028 births, or a considerably better percentage.

The total number of births in Ontario was 50,870, with 28,845 marriages.

The province is still making progress in the reduction of its death rate, and now has a rate lower than most of the leading countries of the world. During 1912 there were 32,150 deaths, a ratio of 12.4 per thousand, or .2 lower than in 1911.

The saddening part of the report, that dealing with illegitimate births, shows an increase of 168, bringing the rate up to 21.3 per thousand births. The cities of the province contributed 72 per cent. of the illegitimacy.

The records show less marrying between Protestants and Roman Catholics, 820 men and 1,096 women of the Catholic Church marrying outside their faith. Almost two-thirds of the marriages are contracted between the ages of 20 and 30. A number of unusual marriages were recorded, one man of 25 marrying a woman over 70. Three women under 30 years of age married men over 70.

The fight against the "white plague" is making steady headway, although the reduction in the death rate from this disease was less in 1912 than in several years previous. The death list was 2,250, a decrease of 103, and a reduction in ratio of .05 per cent. At the present time about seven per cent. of the deaths in Ontario are due to tuberculosis, and the heaviest toll is taken upon young people of between 20 and 30.

It will astonish some people to know that one out of every 10 children born in Ontario dies before reaching five years of age. In 1912 8,230 children under the age of five years died, 6,494 of them before completing the twelfth month, a rate of 110.3 per thousand births. There were 200 less deaths from diarrhoea than in 1911, the rate from this dangerous infant trouble being the lowest in six years, due largely to the greater interest taken in child welfare and in educating young mothers to take more intelligent care of their children.

THE TORONTO HOME FOR INCURABLES.

There was a large attendance at the annual meeting of the Toronto Hospital for Incurables, Dunn Avenue, held recently, the chair being taken by Sir Mortimer Clarke in the absence of the Mayor.

The medical report showed that there were 195 inmates, and that there had been less deaths than in the previous year. Miss E. Ross Greene, lady superintendent, in her report stated that the institution was founded in 1875, and was enlarged in 1879. Mrs. Cragie, at present an inmate, had described to her the institution's early struggles. It was opened by the then Governor-General, the Marquis of Lorne, who was accompanied by Princess Louise. They had then neither gas nor sewerage, but now they were thoroughly up-to-date. It had been decided to change the name from "Home" to "Hospital" in view of the city's recognition. They had now a nurses' home, and were able to give the nurses a two years' course. Miss Groat, secretary-treasurer, then read her report, which drew commendation.

Controller McCarthy, moving the adoption of the reports, said that there was perhaps no institution in the city to which one could turn with more tender solicitude. It was a credit to the busy professional men and women who cared for it. There were 195 patients, and 136 were patients upon the city's order, without friends. Some time ago the city allowed then 35 cents per patient per diem. Now it paid 50 cents, but his idea was that it should be 60 cents. Rev. Mr. McMillan seconded the adoption of the reports.

Sir John Gibson regretted the demise of Lady Clarke, a stalwart, whose care for the institution had been so steadfast. Although the name had been changed it was still a homely place. These grants which they got from Government and municipalities were intended to be by way of supplement to their own resources. It would be disastrous to its best interests were the hospital to be dependent upon grants, for the word "grant" seemed to be inconsistent with any degree of sympathy. Toronto, he said, possessed some good citizens, fulfilling their obligations to their fellow creatures. Rev. Prof. Law, of Knox College, also spoke.

Mr. Ambrose Kent, president, said they had had a busy year. A new elevator and other conveniences had been installed. There was now a diet kitchen and a dietician would commence her duties soon. For other improvements most of the money was in sight and they needed \$6,000. They need more probationer nurses, and if they could not get them they must get graduates and charge the cost to the city, for out of the total of the inmates 88 were entirely helpless.

This bequest, said Mr. Baird, at the president's request, is for \$10,000, to be invested in Government or other debentures in perpetuity. The income is to be used as the board thought fit, but the principal must not be touched. It was the gift of the late ex-Mayor Manning, a former president, and the ten years had lapsed for it to become negotiable.

ORIGINAL CONTRIBUTIONS

SCHOOL HYGIENE AND CHILD LIFE.

BY SIR JAMES GRANT, K.C.M.G., F.R.C.P., Lond.

Hon. Vice-President of the Congress, and President for Canada.

IN the first place, I desire to render my warmest thanks for the honor conferred, in my election to the Presidency, Canadian section, and as Hon. Vice-President, International Congress of Hygiene. To have assembled in Buffalo, a chief commercial centre, State of New York, is a well-merited compliment, as for many years it has taken a leading part in science. The world-renowned scenic beauty of Niagara Falls, near at hand, is an attraction of special interest. Why are we here at present, and with what object in view? As evidence of a deep and abiding interest in child life, and school hygiene, attractive problems of this twentieth century. Few subjects are calling forth wider or more diversified attention at present than hygiene, which aims to make growth more perfect, decay less rapid, and death more remote. It treats of the laws of health in the widest acceptation of the term, and includes a knowledge of the causes of ill-health, and disease generally, as well as its prevention, and the necessary means of preserving health, by strengthening the whole system. In health all the functions of the body are performed regularly and normally. On the other hand, manifestations of discomfort arouse suspicion that some organ is defective, the result of disease, and it is here our little friends require school inspection, to guard in time any irregularities in life's struggles. The gratitude of every lover of his country, is due to those of this Congress, who at much inconvenience assembled here to consider the vital problems of hygiene.

On fact, we have a drama before us, the fretful lives of a coming generation, for which protection is the order of the day. Observing carefully in its widest aspect, surprise and rejoicings are aroused at the practical outcome, since the first meeting of Congress in Nuremburg, 1904, as a foundation of national welfare, and prosperity, as well as good citizenship, to promote so far as possible healthy infancy, and the genuine principles of hygiene, as advocated by the progressive spirit of the present. Two exceedingly important problems are before us, the consideration of the child outside the school, and in the process of education within the school. As to the success of this Congress much really depends on the diversified lines of these investigations. To accomplish a good and lasting work, care and inspection of a coming generation

should include child life at home and in the school, as the close affinity of life action and life saving must be worked out in a practical and common-sense manner, to help on the present generation in the highest development of mental and physical power. In another direction the advice of this Congress is all important. We have not failed to observe the trend of the present generation, to migrate from country to city, and thus change the salubrity of country life, and air, excellent food supply, and pure water, for city life, dense population and frequently doubtful food supply, and all this from "the farm," the very cornerstone of national prosperity.

School life in the country, equipped with educational institutions, a perfect safety-valve for the rising generation, and as far as possible our influence should be exercised to counteract the rush, even in the school period, from country to city. Fully one-third of our entire population gain a living directly from the soil, and actually depend on it for their support.

Health in school life is what we most desire, and advice in this direction will undoubtedly lead to an increased social, educational and moral influence of national concern. City life, in an education sense, has prospered at the expense of the country, with hygienic conditions more difficult to control, and we earnestly desire there should be no clash between urban and rural welfare. What we want, and must have, are men and women of mental, as well as physical power, and the isolation of country life has produced many of our most gifted thinkers.

We earnestly desire that the principles of school hygiene should be imparted to our country friends to strengthen the blessings of country life by consolidated open schools, perfect in every particular, and churches as well, for the moral and spiritual guidance of our people. Teachers in country school service have a responsibility to perform in this direction, in all of which they will have the advice and counsel of the Congress.

Child life may be considered under three important aspects—the home, child diet, and intellectual development. The home stands first in importance, as the fundamental centre of society. Two exceedingly interesting and attractive duties of parents originate, and must be carried out here, first as to the child's food, and secondly as to its education. The home, whether in country or city, is alike in these particulars. All social movements relating to the welfare of our people are rooted in the home, which absorbs all socializing agencies, closely connected with the lives of our children. In the home what have children frequently to contend with—faulty houses, poorly furnished, and frequently a planning workshop, as a kitchen, no sink or provision for running water,

living rooms and bedrooms over crowded and small; defective air and light; kitchen waste standing near a door; back yards in foul condition, and flies in every direction. Sanitary bathrooms with modern conditions frequently wanting. Outside toilets repulsive in character and defective in sanitary precautions. Wells absorbing outside drainage, particularly in the country. Over-crowding is a serious problem, and most destructive to life, as seen in the *Tuberculous Rows* of New York City, now chiefly removed, by sanitary inspectors, greatly to the benefit of the living. In a pinary where trees are closely together they die rapidly, so with inhabitants in closely crowded habitations, dark and badly ventilated—certain death chambers of undoubted character. When children enter school from such quarters, hygiene has a difficult task to perform. The body not only starved for want of pure air, but frequently wanting in the supply of healthy, nourishing food. What can school hygiene accomplish under such trying circumstances? Children born and condemned to live in slums never have an opportunity of sowing the flower seeds, or watching the flowers grow. How little we actually know of the longings and fancies of such dear little circles, enduring the privations of life cheerfully, and contented with imperfect surroundings. How to lessen the waste and loss of life, the result of defects in living, is a sad problem that faces our generation. Thousands spent annually on live stock, and why not more spent on children, as to care and supervision so necessary for health, strength and education? How frequently the child attending school has the morning appetite destroyed by anti-hygienic surroundings. Robert Hunter (*Lit. Digest*, July, 1909) states 70,000 children were found in New York schools underfed, and a much more numerous class of children chronically underfed, from food insufficient in quantity, poor in quality, and lacking in nutriment. John Spargo in his "Bitter Cry of the Children," after careful investigation, states, that in New York, Philadelphia, Buffalo and Chicago, of 40,746 children, 12,121, or 34.65 per cent., had gone to school breakfastless, or nothing more than bread and tea or coffee, a poor outfit for a day's work in school life. Foreign nations, and the English in particular, have frequently debated on the underfed school child. In April, 1905, Sir John Gorst applied to the British Government the words of the Apostle, "They are ever learning, and never come to a knowledge of the truth." Poverty or actual want of food is not the real trouble, but domiciliary hygiene of the poorer classes, careless mothers, late retiring hours, unsuitable meals, and frequently empty digestive organs. Such faults are frequent, and should receive closer attention of parents and teachers. In the period of youth, the cornerstones of future strength, and constitutional development, are placed, to

build tissues, possessing the elements of vitality. Air and diet, plan an important part in holding together the brick and mortar of the system, especially in child life. . . . Great cities and manufacturing centres have a large child mortality. New York has 171 infant deaths per 1,000, and Fall River 260 per 1,000, and in Toronto, Montreal and Ottawa the death rate is high. The influence of mothers in the life-saving of children *is truly remarkable*. In Berlin, Germany, July, 1909, there were 913 deaths of children fed on cows' milk, and only 86 deaths of children breastfed. Of 300 babies recently admitted to the Children's Polyclinic, Dresden, 53 deaths of bottle-fed babies, and of 93 breast-fed babies, not one died. Medical Health Officers of Birmingham, England, reported recently on the deaths of 3,000 infants, and found only 24 deaths of breast-fed babies. Under such circumstances, we cannot fail to recognize the important fact that infant life depends greatly on the mother, whose care and watchfulness over the infant should be most zealously guarded, free from want and overwork. Annual horse shows exhibit fine animals, and what we desire, and hope for, is that yearly assemblies, country and city, the men and women of our land, should present a strong, vigorous and healthy turnout, the pride and pleasure of the people, life growing better and happier as years pass on.

Farmers' calves grow just as they are fed, by rich or poor milk. One a prize-winner at the fair, but the skim milk calf underfed, not a successful competitor. This rule applies directly to our own half-starved and imperfectly fed children. Good food makes good blood and flesh, from which springs good mental and physical power. Mothers' milk stands first for babies, and as the child advances in life, change and variety of food are necessary to produce strong tissue-building blood, to meet the wants of the system. The food of the child at school is second only in importance to that of the infant, and here rests greatly the home responsibility of mothers, as to the future of the child at school age.

Practical instructions of mothers on child diet would serve a good purpose and save many valuable lives. The necessity of a thorough knowledge of the diet of school children is gradually gaining ground, and school authorities are moving more actively in that direction, as tiny brains, phosphorescent and scintillating at every movement, cannot be too carefully nourished in the formative process of mental development. Nervous troubles and imperfect digestive conditions are closely associated. Penury is a mistaken idea in food supply. For children at school the noon lunch is most important to brighten, cheer and lessen brain strain, in the closing of a day's study, the very time when fresh blood is needed for brain cells to avoid excessive exhaustion. Our utmost endeavor should be most careful consideration of the best and

safest method of converting the dross of the market into the finest gold for the development of the highest human endeavor. Next in importance to physical development of the child in our schools is the acquirement of knowledge. Mental hygiene and physical hygiene are inseparably associated in the essential balance of mind and body. The educational system of the present day is gradually becoming more cumbersome and complicated; in fact, quite academic in character, and a serious test of strength to young brains in the plastic stage, budding forth to the period of practical usefulness. The mental and physical well-being of youth should advance equally, and one of the most difficult and trying problems is how to build the best brains out of the material at our disposal. Educated evolution is closely associated with the development of mental power. Each brain, like each blade of grass, is single in character and power, and must be studied on its merits, to fit it for the varied duties of life. Such course of action is difficult, but the outcome will subserve the best interests of a progressive age. The drawing-out process of education must be conducted with a thorough knowledge of the scientific principles involved, to build the best brains of the material at our disposal. To accomplish unity of purpose the brain must be in keeping with the strength of the body to accomplish the desired object. Dr. Maudsley, "Goulstonian Lectures, 1870," states: "The time has come when the immediate business which lies before anyone who would advance our knowledge of mind, unquestionably is, a clear and searching scrutiny of the bodily conditions, of its manifestations in health and disease; he must recognize how entirely the integrity of the mental faculties depend on the bodily organization; in fact, we must acknowledge the unity of mind and body. In child life we are dealing with crude and rudimentary cerebral pulp, soft and pliant in structure, requiring care, to avoid over mental strain, known to blight many a brilliant intellect and entire lifetime."

The pliant character of youthful brain tissue, in the formative process of thought, cannot be too carefully guarded. A Scotland Yard detective could not perform the duty. An expert of the highest character, thoroughly informed in physiological and psychological principles, should be at the educational helm to guard life and intellectual endowment. How true is the sentiment of Huxley, "Freshness and vigor of youth must be maintained in mind, as well as body." A question frequently asked, at what age should children be admitted to school? Between the fifth and sixth year, the brain grows rapidly, and its interior at this stage of life gives evidence of rapid growth. The receptive faculties come actively into operation, so education should be commenced slowly, gradually and cautiously. Great care should be

devoted to the budding evidence of intellectual power, to conserve brain usefulness, in after life, for as the tree is bent, so will it grow.

The general concensus of opinion is that the seventh year is the safest period for the commencement of school training, so much as possible of a playful character, to initiate brain attention without strain. It is remarkable how many go through life with their eyes shut as far as observation is concerned. Our own family of seven children, I first taught to observe, giving to each child a small wide-mouthed glass bottle, half filled with sawdust, saturated with alcohol. In playful hours every insect in view was bottled, much to their delight, and a fine collection the result. The acuteness of observation thus developed proved of marked educational importance. In the youthful period outside exercise strengthens the system and fortifies brain power. The special duty of life should be defined early, and education so directed as to achieve the best possible results, and in time good child power will become good man power. In the course of study an occasional day off is a desirable recreation, which keeps both body and mind in a normal state. The gymnasium has an important place in school days, for the growth of the body. The gymnastics of brain and body should not conflict with each other. Careful school inspection is fortunately becoming generally adopted. Ten years ago there was only one medical inspector of a school board, in the whole of Scotland, and at present not less than 105 such scientific experts, and in England and Wales, fully 443 inspectors. In Europe, Canada and the American Republic this progressive idea is very generally adopted.

In Edinburgh an impression is gaining ground that physical culture comes before the humanities, and hygiene, reckoned of greater importance than higher mathematics. Simple and inexpensive school buildings are now advocated, in preference to palatial, costly stone buildings, as if to last forever. Inexpensive school houses, well heated, well lighted and perfectly ventilated, will serve every purpose, and can be razed to the ground should necessity demand such. In conclusion, I wish to give a practical hint to mothers how to preserve child life. The skin is an index of functional activity, and there must be integrity in the living chain, of which the skin, nerve, capillaries and ganglionic centres are but links. The Sebaceous glands, choked with sebum, and the sweat glands, lymphatics and blood vessels all requiring rousing up. Friction to the skin by a flesh brush five minutes, dry at night, and wet in the morning, awake to a remarkable degree the reflexes of the cutaneous, vascular and nervous systems. For fully half a century I have adopted this practice, and now in advanced years enjoy quite a youthful experience, and muscles generally firm, healthy and vigorous.

The more sensitive the skin becomes, the more rapid are impressions received by the brain. Hence the importance of strict attention to the living covering of the body, in all of which subject there is ample scope for medical research as to the prolongation of life through the reflexes of the skin. In educational matters the London County Council, England, has recently taken an advanced step, recommending the appointment of paedologists, to assist head masters of schools in the detection of mentally deficient children, quite in line with modern thought, and most welcome as evidence of a truly progressive spirit in mental development. In view of the rapidly increasing importance of hygiene as a factor in national progress, the masses cannot afford to view lightly the achievements of this Congress. All workers are united as one in a general cause. Science never halts in its onward progress, and research is tending towards a unity of knowledge as a whole. Lives are devoted to the study of nature for the welfare of our race, and the progressive spirit in evidence, a source of encouragement, in the evolution of hygienic power. A vast wave of sanitary science is floating round the world, and its ripples felt in remotest parts. The interests of the world are linked together almost as one, so hygiene in a comprehensive sense, carried out successfully, will tend to sharpen and strengthen right thinking, and greatly reduce international ill-feeling. Let our education be fortified by the principles of common sense, and the outcome will be more lasting and practical, and our present generation better able to stand the tests of a trying age. Hailing as we do from all parts of the globe, to exercise an influence for good in child life and hygiene, we earnestly desire a unity of action by this Congress towards a widespread *home education*, in the principles of peace, which, we trust, will be consummated by the Great Powers to promote uniform happiness and prosperity.

THE LANGUAGE OF THE ABDOMEN.*

By S. M. HAY, M.D., C.M., Toronto.

*Read at the Hamilton Medical Society, 5th November, 1913.

MR. PRESIDENT and gentlemen of the Hamilton Medical Society, I greatly appreciate the honor you have conferred upon me in counting me worthy to address you this evening. In accepting this task, I am not unmindful of the responsibility I am undertaking in appearing before your learned society. My subject, I trust, will be of interest to the general practitioner as well as to those doing special work. I read a paper at the last Montreal meeting of the Canada Medical Asso-

ciation on "Practical Points in Pelvic and Abdominal Diagnosis," and as I did not have it published I feel free, on this occasion, to use some of the material contained therein.

The language by which the abdominal cavity expresses its trouble is less clear and definite than that of the other great cavities of the body, the thoracic and the cranial. By the translation or interpretation of this language or these symptoms, we endeavor to reach a diagnosis. The art of diagnosis is the very frame-work, the foundation, the chief corner-stone of all scientific medicine. Diagnosis is an art, and art means the best of its kind; it is a system of rules which facilitate achievement. Our aim in diagnosis is to reach the truth. And, at times this may be impossible. The late Lawson Tait said: "Absolute accuracy of diagnosis in abdominal conditions is often far from being possible, only the ignorant assert that it is, and only the fool waits for it." This means that if we have diagnosed intestinal obstruction, for example, we must not lose valuable time in trying to decide the exact cause of the obstruction. It matters not whether it be due to an adhesive band, a volvulus, or an intussusception, our duty is to relieve it at once.

We should approach our patient with an open mind. Almost unconsciously, we begin to twist facts to suit theories instead of theories to suit facts. A good diagnostician must have the gift of observation and that of deduction. We must be most thorough in our examination. More mistakes are made by not examining thoroughly than by not knowing. When we find certain symptoms, we must do our best to detect the mechanism of their production. Symptoms are only of value when properly interpreted and suitably included in an hypothesis.

Pain is the most common and most important form of language used by the abdominal contents in calling for help. My remarks are gathered from an article by Stanmore Bishop, and from personal observation. Pain must be differentiated from tenderness. Pain is a subjective symptom, while tenderness requires pressure, as of examining hand, before it can be determined.

Pain is of three kinds, it may be continuous, intermittent, or it may be continuous with exacerbations. Continuous pain is probably inflammatory. Intermittent pain indicates either neuralgia or obstruction to the flow in one of the tubular systems, the urinary, biliary, faecal, or in women, the genital series, and is due to the peristaltic contractions of one of these tubes.

It is common knowledge that pain in the earliest stages of appendicitis is distributed all over the abdomen, and this is one example of the indefiniteness of the language of the abdomen. This is due to the fact that the nerves supplying the appendix come from the superior mesen-

teric plexus of the sympathetic, which accounts for the fact that the pain is at first referred to the entire abdomen. As soon as the inflammation has extended *beyond* the appendix the pain becomes localized, on account of the other nerves affected.

Regarding pain in the tubular systems, we may say with Morrison that the *ordinary* contractions of unstriated muscle are not perceived; they are painless. The *forcible* contractions of unstriated muscle are well-nigh unendurable; they cause the most severe pain that human beings can experience. All the colics are pathological examples of this fact, labor is a physiological analogue.

The most usual stimuli to forcible contraction are the presence of a foreign body plus inflammation, or rapidly increased tension. As examples, we may mention calculus in the bile ducts, calculus in a ureter, and even conception in the fallopian tube. I remember one case of ectopic gestation, seen in consultation with Dr. Hooper, where intermittent pains came on severely for a few hours every second or third day for about a week before her operation. And in another ectopic case the intermitten pains came on regularly every morning, lasting for hours, and then passing off, only to return next day about the same time.

An excess of carbonic acid, such as accumulates in the blood during sleep, is a *predisposing* cause of active contraction in unstriated muscle; hence the frequency with which renal or hepatic colic awakens the patient in the early hours of the morning when sleep is deepest. Exhaustion of the muscular walls follows prolonged and intense effort, and relief from the severe pain results, even though its cause be not removed.

The time at which pain appears is of assistance to us. For example: In appendicitis, the pain always precedes the nausea and vomiting. I remember seeing a young girl, in consultation with Dr. Page, who was supposed to have appendicitis, and she certainly had some of the prominent symptoms. She had pain in the right abdomen, with rigidity and some vomiting. On enquiring, I found that the vomiting awakened the child and the pain came later. The parents of the child said if this is appendicitis, we want an operation at once. We know the danger of delay. I felt the responsibility with parents taking such an attitude. However, I ventured the opinion, after talking the matter over with Dr. Page, that it was not likely an inflammation of the appendix. We examined the chest, with negative results. In eight or ten hours we met again and were now able to discover slight friction over the right chest. The child developed and went through an ordinary attack of pleurisy. The vomiting coming before the pain, and the knowledge that in the early stage of chest trouble in children we occasionally have symptoms closely resembling those of appendicitis, saved us the humiliation of a mistake, and the child, the danger of an operation.

Pain, in ulcer of the stomach, follows immediately the taking of food. In ulceration of the duodenum, it comes in two to four hours after. Pain just after micturition suggests cystitis or stone in the bladder—pain during micturition indicates urethritis. Pain before menstruation may be due to inflammation of the ovaries or salpingitis; during menstruation, to contraction or flexion of the uterine canal. Many other examples might be mentioned.

Bishop tells us that the character of pain has its value in diagnosis. An intense, sudden, tearing, rending pain, often severe enough to produce collapse, and it may be associated with vomiting, is only observed in a few conditions, usually one of six. These are:

1. Ruptured ectopic pregnancy.
2. Ruptured pyosalpinx.
3. Ruptured appendical abscess.
4. Ruptured gastric ulcer.
5. Ruptured duodenal ulcer.
6. Ruptured gall bladder.

Note that these are all ruptures, ruptures of important organs, permitting the escape of an *irritant* fluid into a *healthy* peritoneal cavity. We get nothing like this in ascites, because the fluid is non-irritating; and we get nothing like it in tuberculous peritonitis, although the fluid may contain even pus, because the peritoneum is not healthy when the irritating fluid comes in contact with it.

In abdominal pain we frequently have associated with it rigidity. Rigidity will not be present, however, until the peritoneal surface becomes involved. For example, in ulcer of the stomach you may have pain without rigidity. If, however, the ulcer extends deep enough to involve the peritoneum, you at once get rigidity. In catarrhal appendicitis, you have pain, but no rigidity, until some part of the peritoneum becomes inflamed. Again, rigidity may be only temporary, as when distension begins, showing septic paralysis of the bowel, rigidity largely passes away.

Intestinal Obstruction.—Without going fully into the well-known symptoms of this condition, I would say if we have colicky pain, vomiting, the absence of abdominal rigidity, together with inability to pass feces or flatus, we know we have a case of intestinal obstruction with which to deal. But at times, all these symptoms are not well marked and some doubt still remains in our minds. What I wish most particularly to say in this connection is this: Even after our diagnosis has been made with all the accuracy possible, it is well to make a very careful inspection of the abdomen. And I fear our many modern mechanical aids to diagnosis have made us less close observers and poorer pulse-feelers than our forefathers in the profession were. Now, if a careful

watch reveals a visible intestinal peristalsis, this is the final confirmatory symptom of obstruction after which there should be no delay in operating. But if on inspection or on placing the hand lightly upon the patient's abdomen, visible or distended coils of intestine are found *without* peristalsis, the distension has either been so great or so long continued that paresis has taken place. Here the prognosis is most grave. To put it in one sentence: *Visible peristalsis is an important indication of obstruction, while visible coils without peristalsis indicates paresis of the intestine.*

A knowledge of the truth of that one sentence has been of immense value to me on many, many occasions.

Intussusception.—The manner in which this condition announces its presence is peculiar and almost unique. It usually occurs in infants or young children, and the mother will tell you that the child has attacks of intense pain—she makes this very emphatic. You may go to the bedside of the baby and find your little patient fast asleep and apparently in no pain at all. You are inclined to think and perhaps say, "Another over anxious mother." However, you uncover the abdomen and gently pass your warm hand in various directions over it. For a time the child makes no objection and you feel nothing abnormal. But as your quiet friction excites peristaltic action and the child begins to cry, the crying becomes more and more, and the pain greater and greater. The pain seems to reach an acme, and gradually dies away again. It is wave-like in character. It is during the climax of this attack of pain that you perhaps for the first time palpate a mass. The mass increases with the pain and diminishes somewhat as the pain passes off. Both the pain and the mass are produced by increased peristalsis. So when we have vomiting, cramps, blood or blood-tinged mucus in the stools, with no fever and a normal leucocyte count in an infant or young child, with the characteristic wave-like pain and mass, we know we have a surgical intussusception. You may have similar symptoms in an adult, due to sudden obstruction by some pre-existing tumor of the bowel.

Perforation of a Gastric Ulcer.—And this might include those of the duodenum also.

Moynihan says: "Perforation of a gastric or duodenal ulcer is one of the most serious and most overwhelming catastrophes that can befall a human being." Here we have that intense, sudden, tearing, rending pain of which I have already spoken. The symptoms of perforation of the stomach are not those of peritonitis, which, of course, soon supervene. Our duty is to make every endeavor to diagnose perforation before peritonitis occurs. We agree with Moynihan when he says that though the patient looks generally ill, with pallid face, staring

eyes, and sweating brow, the pulse will be found at the first to be hardly altered in frequency and in volume. This is one of the surprises which we must not fail to recognize and remember. True, the pulse soon changes to increased frequency and decreased volume, but that is not due to the perforation proper, but to the peritonitis which is hurrying on.

Those of us who have the pleasure of a personal acquaintance with Sir Berkeley Moynihan know well what a close observer he is and how conscientious and reliable he is in his writings. I will now quote what this noted author says regarding the character of the pain and the attitude of the patient immediately after perforation takes place: "At the moment when perforation occurs, there is the most agonizing and unendurable pain. Patients will afterwards say that there is no pain so horrible in its torture as this. The least movement seems to add something to its severity, so that a patient will perhaps remain for hours almost without stirring. A medical man upon whom I operated told me that the perforation had occurred while he was crouched on his hands and knees in bed in a position which seemed to relieve his pain. When the rupture of the ulcer took place, he could not move to reach the bell, and had to wait motionless until help came to him in the early morning. The tense rigidity of the *whole body* is in striking contrast to the ceaseless unrest of a patient who is suffering the agony of hepatic colic." As far as the awful pain is concerned, I think we are all agreed, but as for the attitude of the patient, we must not expect to find that "almost without stirring" posture in all cases, although I believe it to be the rule. I have just stopped in my writing to call up a prominent Toronto lawyer on whom I operated some time ago for gastric perforation, to know his attitude during the hours before I saw him in consultation. He said: "Call me as a witness, I could no more lie still than I could if you were searing me with a hot iron." I know when I arrived he was rolling around and once went to the other side of the bed and took the knee-chest position. During a little over twelve months I have seen six cases of perforation of the stomach. Five of them I operated on, with four recoveries, one my assistant, Dr. R. W. Wesley, operated on during my absence from town. His case recovered. Some of the doctors who referred these cases to me were telephoned to to-day and several of these patients had that "almost without stirring" posture.

I will again quote from Moynihan's paper, which appeared in the *B. M. J.* of April 1st, 1911: "The breathing is short, jerky and shallow, and the patient may indeed cry out that he cannot breathe. This is due in part no doubt to a spasm of the diaphragm, and in part also, I believe, to that great over-distension of the stomach which is so com-

monly seen when the abdomen is opened." This "great over-distension of the stomach," as observed by Moynihan, has certainly not been met with in my series of cases just referred to, nor as far as I can remember in any of my previous cases, and I fail to understand how the stomach can be over-distended when there is a hole in it which would in some cases admit the tip of your little finger, and through which the air and stomach contents are passing freely into the general peritoneal cavity. This free air distends the abdomen and raises the abdominal wall away from the liver and thus we have a disappearance of the normal liver dullness. This is a very valuable symptom in any case of suspected gastric perforation. It frequently requires some hours before it is present. Of course, an over-distension of the abdomen from any cause may obliterate liver dullness. When we have a *moderate* distension, with loss of liver dullness, this symptom must not be disregarded. And again, we must not always wait for this symptom. I well remember waiting once for it and have regretted it ever since.

Dr. Tubby, of London, reports a case where the family physician saw her in the evening suffering from pain and other symptoms of gastric perforation. He saw her again early next morning, and as he then found that the liver dullness had disappeared, he diagnosed gastric perforation. The diagnosis was confirmed at operation and the patient recovered. In about one year later the same patient was seen by the same doctors, and she had very much the same symptoms. When Dr. Tubby saw her the collapse had disappeared, the abdomen was not distended. There was no tympanites and no vomiting, but there was still pain. The liver dullness was normal. He decided not to operate then because the acute symptoms appeared to have passed away, the liver dullness was present, and he said he was aware that some of these cases of gastric ulcer occasionally have attacks which are extremely like those of perforation, except for signs showing the presence of free gas in the abdominal cavity. The patient recovered without operation. The presence or absence of liver dullness has helped me to a decision on more than one occasion, and for this reason I am dwelling on this point at some length in the hope that it may help others.

I am carefully avoiding the operative treatment of these conditions, much as I would like to take it up, I am trying to confine my remarks to diagnosis. However, I will digress far enough to say that during every step of the operation we should keep a sharp lookout for any sign that will be likely to direct to the probable site of the trouble. On opening the peritoneum proper, note if a puff of gas escapes which would indicate the rupture of some air-containing viscus. This is frequently quite audible. This I have been able time and again to demonstrate to visiting doctors. If a gastric ulcer has perforated, the escaping fluid

will contain flakes of lymph or particles of food. The fluid may be bile stained in perforated duodenal ulcers. If the gas and fluid have a very offensive odor, we may exclude stomach and duodenal trouble and suspect the appendix of being the offending organ. Sometimes by gently passing the hand towards the upper abdomen, we will find one spot where there is a thick localized deposit of lymph, and on disturbing this, an extra amount of fluid is liberated. This is a reliable guide to the initial lesion.

Twisted Pedicle of Intra-abdominal Tumors.—In many of these cases the presence of a tumor may reveal itself for the first time when the pedicle has become twisted. The symptoms are sudden, severe, colicky pain referred to the pelvis, accompanied by vomiting and slight muscular rigidity. If the circulation is sufficiently interfered with by the torsion, the tumor soon becomes gangrenous and is rapidly followed by symptoms of spreading peritonitis with its well-known symptoms. Generally a slow torsion is peculiar to large cysts with long pedicles, while rapid torsion is most common in small ones with a short pedicle. There is one symptom, however, on which I wish to lay special stress. It is the *sudden enlargement of the tumor*.

Many authors do not mention this, although it is made plain by Ashton, of Philadelphia, and has been a marked symptom in all my cases, which are limited to five of the acute variety. I will mention some of these cases. Two of these were referred to me by Dr. Jenny Gray, one by Dr. John Caven, and one I operated on in the Welland Hospital.

I have just now telephoned to Dr. John Caven regarding Mrs. McL., 69 years old, who took sudden pain in abdomen early in the day, and a small tumor was found. Towards evening the tumor was very much larger. As Dr. Caven has just said in his enthusiasm, "You could feel it enlarge under your hand." I operated about 10 p.m., found a parovarian cyst large as small football, with twisted pedicle.

Mrs. S.—aged 28—Dr. Jenny Gray's patient. It was not known that she had a tumor. She took pain on 22nd. Pain would occasionally diminish some. First day no mass felt over the abdomen. 24th—two days later—the tumor reached nearly to the umbilicus. This mass could be felt by both vagina and abdomen. Operation on 24th, I found a cyst absolutely black as large as a small football. The tube of that side was as large as a sausage and very black in color. The torsion had entirely cut off the circulation.

I may report one more case—that of Dr. Jeff, of Port Colborne, seen in the Welland Hospital. Mrs. M., about 30 years old. I saw her on a Monday and the Monday previous she took a severe pain in the back and abdomen on rising in the morning, felt faint, vomited. On Friday

she took another pain and a tumor appeared in the lower abdomen, P. 120-130, T. 101. Pain passed off again. When I saw her the T. and P. about normal. Several doctors saw this patient and various conditions were diagnosed—pregnancy, ectopic gestation, pelvic abscess, etc. I mentioned twisted pedicle of some tumor, but was not at all certain of my ground on account of the time that had elapsed since the first symptom—one week—and also on account of the frequent quiescent periods during the week. Dr. Howell assisted, and Dr. Colbeck gave anesthetic, and we found a tumor about as large as an infant's head, with twisted pedicle. Evidently the torsion had been relieved at times in this case.

Dr. Hutt, of Newmarket, telephoned to me some time ago telling me of a female patient who took sudden pain and a tumor soon appeared in the abdomen. I suggested it might be tumor with torsion of pedicle and advised operation. She was switched to another surgeon, Dr. Hutt has since told me that it proved to be a twisted pedicle.

I learn from these cases that a sudden abdominal pain with a rapidly appearing tumor means in many cases the torsion of the pedicle of an intro-abdominal tumor.

In conclusion, I would venture a few remarks on that most perplexing, but equally important and practical subject, Hemorrhage and Shock. You have done an abdominal operation, have tied off some large vessels. Your patient has been returned to her bed. In one or two hours, perhaps before you have left the hospital, the nurse hunts you up and tells you that your patient does not appear to be doing well. On approaching her you observe at a glance that something is seriously wrong. What can it be? You naturally think of an internal hemorrhage, or perhaps of shock. Which is it? That is the all-important question, and it is not a theoretical one either, as on more than one occasion I have come face to face with the problem. What shall you do? If it be hemorrhage, and you do not open up and secure the bleeding vessel your patient will surely die. If it be shock, and you mistake it for hemorrhage, and you do reopen the abdomen, your patient will die from the added shock. So you see if you *do not* operate in the one condition, your patient's life will be lost, and if you *do* operate in the other condition your patient's life will be lost. It seems as though a life depends on our ability to differentiate between shock and hemorrhage. The pulse will not help you. The pupils or other eye symptoms will not help you. The color of the face and skin is of no help. The temperature cannot be of any assistance. A blanched appearance may be present in either. Ashton, in his work on gynaecology, gives some valuable points of differentiation, to which I have added some more. The first thing to do is to review in your mind quickly the steps

of the operation. Was it a severe operation? Was there much handling of the viscera. Did you tie all large vessels yourself and with proper care?

The following points may help us to differentiate between shock and hemorrhage:

SHOCK.

1. Generally follows a severe or prolonged operation, when the viscera has been roughly handled or exposed to the air.
2. More likely to occur in weak and physically exhausted women.
3. Comes on suddenly.
4. Recovers from anaesthetic in poor condition.
5. Symptoms come earlier.
6. The patient is listless and apathetic and there is seldom any tendency to toss about in bed.
7. No air hunger.
8. Seldom recurrent attacks of syncope.
9. General stimulating treatment tends to improve the pulse.
10. Percussion over the abdomen generally negative.
11. Examination of the drainage tube, where used, shows no pure blood.
12. The blood findings are negative.

HEMORRHAGE.

1. May follow either severe or simple operation.
2. Not influenced by the condition of the patient.
3. Comes on gradually.
4. Recovers from anaesthetic in good condition.
5. Symptoms come later.
6. The patient is restless and her mind apprehensive and anxious.
7. Typical air hunger—gasping for breath.
8. Recurrent attacks of syncope frequent.
9. The pulse progressively grows worse despite all that is done to stimulate the heart and secure reaction.
10. Percussion over the abdomen may reveal dullness in the flanks and tympany in central area, as in ascites.
11. Examination of drainage tube may show escape of pure blood.
12. There may be a moderate leucocytosis.

PRESIDENT'S ADDRESS: DELIVERED BEFORE THE ACADEMY OF MEDICINE, TORONTO.

BY HERBERT J. HAMILTON, M.D.

Medical Education—Medical Congress.

IN the first place, I wish to thank the Fellows of the Academy of Medicine for electing me to fill this important position for the present year. Whilst fully appreciating the honor they have done me I appreciate still more my own limitations, and recognize that the distinction carries with it certain responsibilities, not the least of which is that of selecting a subject for this address which will be of interest of the Academy as a whole. From this point of view I can think of nothing more appropriate than the question of medical education, which has recently given rise to a considerable amount of discussion throughout the medical world. Its efficiency is a matter of paramount and

general importance, in that it tends to raise the standard of those entering the profession.

The Carnegie Committee on Medical Education has carefully investigated the condition of medical education, and has now published two exhaustive reports, one dealing with America, and the other with Great Britain and the Continent of Europe. An analysis of the results of this investigation indicates that, while the systems of medical education in vogue in the different countries vary within wide limits, one being superior to the others sometimes from one and sometimes from another point of view, no single system possesses such uniform advantages as to justify its being regarded as absolutely perfect. The publication of these reports has led to a concensus of opinion that higher standards are desirable, more especially in America, both in preliminary attainments and in the qualifications for practice, and has already resulted in a considerable reduction in the number of medical schools in the United States, due to the closing of some which were badly conducted and imperfectly equipped.*

It is obviously only reasonable to assume that the great advances which have been made in medical science during the last few decades, together with the increased facilities for education in other subjects, indicate the desirability of a corresponding progress in regard to medical education, and of the requirement of higher standards of qualification from those entering the profession.

Preliminary Education and Requirements.—In the recent Carnegie report on "Medical Education in Europe" stress is laid upon the point that the education of a physician is "primarily an educational, and not a medical question," and that the methods and results of professional teaching are dependent upon the general educational system of the country itself. It is unanimously agreed that on the whole professional training in Germany is on a high level, and the committee considers that the excellence of the education received in the German secondary (or collegiate) school is mainly responsible for this. There can be no question that the most satisfactory results as regards medical education are obtained only when it is based upon a good system of general education.

The requirements for admission to medical schools and colleges vary in different countries. In England a minimum preliminary standard, comprising four elementary subjects, three of them being languages, has been indirectly established. It is decidedly low. No medical school holds an examination in general subjects, but the General Medical Council and other qualifying bodies, publish lists of examina-

*Colwell: Journ. Amer. Med. Assoc., 1912, lviii, 654.

tions which they are willing to accept. These include the local and matriculation examinations of the Universities of Oxford and Cambridge. In France it is compulsory that the student shall have obtained the *Baccalauréate* on leaving the *Lycée*, or secondary school, and in addition have devoted a year to the study of the elementary sciences of physics, chemistry and biology.

As a result of the publication of the Carnegie report and the recommendations of the various American medical societies,* the standard of admission has recently been raised in a large proportion of the medical schools in the United States, and some of the State examining boards have now adopted higher preliminary requirements. These include a four-year course at a high school, and in addition a year's work in physics, chemistry and biology. As regards Toronto, it has been suggested by the President of the University that senior matriculation shall be required of students who wish to enter the Faculty of Medicine of the University of Toronto, and this recommendation has been endorsed by the Medical Faculty. I understand that passing junior matriculation in arts still admits the candidate to the Faculty of Medicine.

The Medical Curriculum.—The great advances in medicine and surgery, and in the various sciences which stand in close relationship to them, have resulted in increased demands upon the time of the student, and in constant additions to the medical curriculum, which has now become so overburdened that revision is imperative. When one considers that it is absolutely essential that the student should not neglect the fundamental sciences of anatomy, pharmacology, physics, chemistry, biology, hygiene and preventive medicine, gynæcology, obstetrics, pediatrics, forensic medicine, and the various systems of treatment, it is obvious that his task is insurmountable, and we are confronted with the problem of finding some means of relieving the congestion. The most practical way of solving this problem which has been hitherto suggested is that adopted in France, and more recently in the United States, namely, that the student is required to have devoted at least a year to the study of physics, chemistry and biology before applying for admission to the medical school. In France the teaching of these subjects is undertaken by physicists and chemists in the University Faculty of Science, and not in the Faculty of Medicine by doctors acquainted with these sciences, but not specialists in them. The Carnegie Committee recommends the adoption of this plan, as the relegation of the teaching of physics, chemistry and biology to the elementary or secondary school would economize the time of the student, and thus facilitate more thor-

*Colwell: loc. cit.

ough training in the subjects included in the more strict definition of medicine.

I wish to emphasize the fact that amongst the English-speaking races the study of modern languages does not at present occupy as prominent a place as is advisable, in view of the many important contributions to medical literature which are constantly appearing in them.

Specialization.—Specialization, in the modern acceptation of the term, may be said to date from the latter half of the nineteenth century, and is a necessary consequence of the great progress which has recently been made in medicine and surgery, and in the various sciences which are now regarded as subsidiary or auxiliary to them. Coincident with the developments in internal medicine, surgery and pathology, there has been a corresponding improvement in the methods of diagnosis and systems of treatment, which renders it increasingly difficult—not to say impossible—to keep in touch with the enormous mass of literature which is constantly being published in connection with the various subjects which are now included under the general definition of medicine. This has resulted in the dividing up of both internal medicine and surgery into a series of single specialties, the number of which is steadily increasing. In addition the modern methods of microscopical, chemical and physical diagnosis have now become extremely elaborate, require special study and technique, and already possess an extensive literature. The various methods of treatment also represent distinct specialties, which are continually being added to and subdivided.

It will thus be seen that the great advances in medical knowledge have contributed to and necessitated the development of specialization, but while it is manifestly impossible for any one man to be intimately acquainted with the details of all the various specialties, it is advisable that specialization should be based upon a general training in the principles of general medicine. Fürst* emphasizes the fact that if specialization is carried too far there is a risk of forgetting the unity of medicine as a whole, and that in the consideration of individual factors alone the inter-relationship of the various organs and systems of the human body may sometimes be lost sight of.

Laboratory Work.—The laboratory department has for some considerable time occupied a most important position in the equipment of the modern medical school, and the investigations carried out in it have been of the greatest assistance in solving many of the problems which confront the physician and surgeon. The employment of laboratory methods of research has rendered it possible to make a practically certain diagnosis in many diseases, and in many instances they also furn-

*Fürst, M.: "Der Arzt," Leipzig, 1909, p. 52.

ish definite indications for the treatment of these diseases. It, therefore, follows that an efficiently equipped pathological laboratory is now generally recognized as an essential part of the organization of a hospital, and that a practical course in laboratory work is regarded as one of the most valuable of the recent additions to the medical curriculum. The original researches in chemistry and bacteriology, associated with experimental work, which are now looked upon as essentials in the routine work of every hospital, have played and are playing a very prominent rôle in the great developments in preventive medicine, which is progressively becoming one of the most important branches of medical science.

Clinical Training.—Whilst fully recognizing the fact that the advances in methods of diagnosis and treatment render it imperative that the medical curriculum should include a certain amount of instruction in laboratory work, and that the student should at least acquire a sufficient degree of knowledge in this connection to enable him to understand the various reports and analyses which may from time to time be submitted to him in the course of his professional practice, and to interpret them intelligently in relation to the diagnosis, prognosis and treatment of the case under consideration, at the same time I am of opinion that it is inadvisable to give undue prominence to the purely scientific side of medical training. In his presidential address at the meeting of the Canadian Medical Association at London, Ontario, Dr. McCallum* expressed the opinion that in the report of the Carnegie Committee too much stress is laid on the importance of laboratory instruction in medical education. He thinks that there is a tendency for it to assume undue prominence, and to occupy so much time that comparatively little is left for the clinical work and personal contact with patients, which is so necessary as a preparation for independent practice, and I may say that I am quite in accordance with this view.

It is unfortunate that such a sharp line of demarcation is commonly drawn between theoretical and practical work. The scientific investigation of many of the problems connected with disease can most effectively be carried out in well-equipped laboratories in close relationship to hospital clinics, but the work done in the laboratory should not be looked upon as an entity, entirely distinct and separate from the clinical work, but should rather be regarded as complementary to it. The ultimate object of both departments is or should be the same, namely, the caring for the patient in the best possible manner, and the carrying out of investigations with a view to ascertaining the most effectual methods of preventing and curing disease. The instruction

*McCallum, H. A.: Canada Med. Assoc. Journ., July, 1913, p. 547.

given in the laboratory, except in cases in which the student intends to devote himself entirely to scientific investigation, is merely part of the preparation for the clinical work to be subsequently undertaken in the wards of the hospital, the results of the scientific researches carried out in the laboratory affording indications for more efficient methods of dealing with the practical problems encountered in the latter department.

I should here like to point out that in my opinion it is highly desirable that there should be mutual co-operation between the clinician and the laboratory worker, and that the clinical methods of diagnosis should not be abandoned altogether in favor of laboratory methods. Too many lives have been sacrificed by delaying an operation until a definite diagnosis has been made by means of elaborate and prolonged laboratory investigations. In the first place all the ordinary methods of clinical diagnosis, such as palpation, percussion, etc., should be exhausted, laboratory methods being employed subsequently in order to confirm what has been discovered by clinical ones. If the results of clinical examination indicate that an operation is advisable, make your diagnosis and act upon it, and do not let your patient die from septic peritonitis or some such cause while you are waiting for a reports from the laboratory.

In this connection it may be pointed out that the function of the hospital clinic consists not only in caring for the sick and in carrying out scientific investigations, but also in training future practitioners of medicine, and it cannot be too strongly emphasized that the most valuable part of this training from a practical point of view is that which can be obtained only by direct contact with the patient. In the laboratory the student learns his work by actually doing it himself, not by merely reading about it or even by seeing demonstrations, and this method of teaching is equally applicable to clinical work. I am also strongly of opinion that the work done during the period devoted to clinical study should not be limited to the study of patients as belonging to a class, but should include that of individual cases, in accordance with the rule which prevails in Great Britain. The student is required to carry on the observation of the patient from all points of view, to note the symptoms present, make the various examinations necessary for diagnosis, sift the information thus obtained in the light of the history, watch the progress and development of the individual case, formulate his own conclusions, and suggest whatever procedure his experience indicates, all being done under the supervision of an experienced physician or surgeon. The practical value of such training, even if only a comparatively small number of cases come under the observation of the student, is immeasurably superior to that obtained from the

carrying out of a large number of physical examinations or laboratory examinations, whilst the care of the patient in other respects is left to others. I think it highly desirable that in a clinical service in medicine or surgery the students should be encouraged to take individual cases and work them out upon a scientific basis. This should include the clinical observation of the case throughout, and the performance of the various investigations required, together with a study of the pathology.

It is highly desirable that every student who comes up for his final examination should be required to go through practical training in a good hospital for a certain length of time before receiving a licence to practise on his own account, and the competition amongst graduates for internships shows that they fully appreciate the value of such experience. In the Carnegie report it is stated that the conditions as regards clinical training are more favorable in Great Britain than anywhere else, the system of medical education being based upon the opinion that if it is to attain a maximum degree of efficiency it is essential that the student should come freely into contact with patients, and thus become acquainted with the actual manifestations of disease. If this practical experience is not gained in the hospital under competent supervision it has to be acquired subsequently in private practice without supervision, when mistakes may have disastrous and even fatal results.

I believe that from the point of view of the student there is at the present time a considerable amount of dissatisfaction and lack of confidence in this connection, and many of them fully appreciate the fact that although they have devoted five years to the study of medicine they have not at any time during this period been in sufficiently intimate relationship with the clinical work of the hospital as to fit them for undertaking private practice. The system outlined above teaches the student to look upon the patient he is examining as *his* patient, and to feel that to a certain extent he himself is responsible for making the diagnosis, for watching the progress of the case, and for prescribing appropriate treatment. He thus gradually acquires confidence, and with it that faculty of inspiring confidence in the patient, which is so essential to success in private practice.

It has been suggested by some that the clinical teaching in our hospitals should be done by professors who devote their whole time to clinical teaching, and undertake no private practice whatever, no doubt occupying a chair in the University, and receiving adequate remuneration. Their work is to consist of teaching, setting examinations, and determining the qualifications for practice. In my opinion such an arrangement as this would be by no means an ideal one. Whilst it is, of course, essential that the clinician should be thoroughly acquainted with theoretical medicine and hospital practice, it is at the same time highly

desirable that his experience should not have brought him only into contact with hospital patients, but that he should also have had ample opportunities of coming into close contact with private patients, and of thus acquiring the qualities which make for success in that line of work. It would be as easy to drive a square peg into a round hole as to find a man who has never himself personally had to deal with patients of this class, who is capable of imparting to students the tact and intuition which as so essential in dealing with them.

Post-Graduate Instruction.—Post-graduate teaching, in some form or other, and to a limited extent has long been practised in Europe, more especially in Germany. Qualified practitioners of medicine, particularly those practising in remote country districts, are now realizing more and more the importance of keeping in touch with the progress of modern medical science, and efforts are everywhere being made to systematize post-graduate instruction, and render it more general.

The most efficient organization for this form of teaching exists in Germany, and is known as the Central Committee for Post-Graduate Medical Education. In addition to organizing courses of instruction at certain central points, it also arranges gratuitous local courses for those practitioners who are unable to leave their homes for any length of time. Another central organization is the Kaiserin Friedrich Haus at Berlin.* Vacation courses are also held at the universities, and in addition any qualified individual who wishes to do so can obtain permission to see the work done at the various hospitals and laboratories.

In France no special arrangements have been made for post-graduate teaching, but visitors are welcomed at the clinics and laboratories. As regards England, an association has been formed in London, which issues tickets, admitting to all clinics, clinical lectures, operations and autopsies at eight general and six special hospitals. Post-graduate courses are given at the National Hospital for the Paralyzed and Epileptic, Queen Square, the Polyclinic, St. Bartholomew's Hospital, the West London Hospital, etc., and also at the Schools of Tropical Medicine at both London and Liverpool.

Arnold† has recently published a paper dealing with the post-graduate medical school at Harvard, which forms a department of the University. He is of opinion that this connection with the University is an ideal arrangement, and that it is desirable that the post-graduate school and the medical school proper should constitute one and the same educational institution, with the same equipment and the same teachers.

In regard to the standard of admission to a post-graduate school it should be borne in mind that the primary object of such an estab-

*Carnegie Committee: "Medical Education in Europe."

†Arnold, H. D.: Boston Med. and Surg. Journ., 1913, pp. 168, 265.

lishment is to afford an opportunity to qualified practitioners of increasing their knowledge of medicine, and that the more inadequate their previous medical education has been the more do they need such an opportunity. At the same time, whilst it is not desirable to have minimum requirements for admission, it is advisable to have such requirements for the individual courses which are held, the authorities deciding which course any particular student is qualified to take.

Arnold suggests the possibility of the post-graduate schools ultimately conferring an advanced degree, above the present M.D., but this would, of course, entail more definite rules and regulations as regards requirements. The present system of granting certificates is in some respects more or less unsatisfactory, as in many cases the possession of a certificate means nothing more than that the student has paid the fees for a certain course.

Post-graduate instruction represents an important factor in medical education, in that it renders it possible to raise the standard of the physicians and surgeons who are already in practice, and thus contributes very materially to the well-being of the community in general.

I should like to revert for a few moments to the consideration of laboratory work. In this country there is at present no regular and adequate remuneration for scientific research, and it is becoming an important question as to whether or not it should be subsidized by the State. I wish very emphatically to express the opinion that there is a very urgent necessity for the establishment and endowment of laboratories, financially supported by the Government, in which any graduate in medicine can avail himself of the opportunities thus afforded. It seems to me a very unsatisfactory state of things that funds for the furtherance of scientific research should be paid to men who undertake this important work only as a sort of stepping-stone to private practice, and have not the slightest intention of making it their ultimate aim and object. It is highly desirable that scientific research, upon which we have to depend chiefly for further progress in medicine, should be adequately endowed and supported by the State, which should provide suitable equipment and sufficient remuneration for the teachers, so as to render it worth their while to devote their lives to the work. In return for the money thus contributed by the State, the people, through medical practitioners, could be supplied with laboratory reports, analyses, etc. The laboratory would thus become a Government department, similar to the existing Public Health Department.

Although, as I have indicated above, I think there is much to be said in favor of a nationalized system of laboratory work, I wish most strongly to emphasize the fact that I would not for one moment suggest that the *practice of medicine* should be placed upon a similar basis, and

thus made nothing more nor less than a Government department. The establishment of such a department has even been suggested, with a system of rewards and promotions, similar to that which obtains in Germany, or in the British Army and Navy. It is obvious that, human nature being what it is, such a state of things would offer the strongest inducements to commercialism, which, in any form whatever, is diametrically opposed to the ethics and best traditions of our profession.

Behold us! the members of what has always been considered to be one of the most dignified and honorable professions, parading the highways and byways of this country, our chests expanding with pride, as they groan beneath the weight of the numerous medals with which our gaudy tunics are adorned, the insignia of tinpot decorations, doubtless secured partially through merit, partially through what can only be described as the most carefully planned advertising, and partially through the wire-pulling and intrigue of wily politicians, who, chameleon-like, have acquired the invaluable faculty of adapting themselves, and of changing their color with that of the Government in power for the time being. Are we willing that the social standing of our profession should be thus degraded?

In this connection there is also something to be said from the point of view of the Canadian ratepayer, who prides himself upon paying for what he gets, and for no more. Is it likely that he would be willing to consent to legislation which would involve the raising of a large amount of money by the Government for the maintenance of insurances and benefits, and which would, therefore, also involve a corresponding increase in the rates, while he is deprived of some of the privileges he now enjoys? Would he be willing to place himself under such a parental Government, which would rob him of these privileges, and thus in some ways render him a mere chattel? Imagine his being allowed the privilege of selecting a veterinary to attend his domestic animals, while at the same time he is not permitted to choose the doctor who shall attend his family and himself. I have no hesitation in saying that I am absolutely certain that this country would not tolerate such a state of things for one moment.

In this short summary of the present position of medical education the time at my disposal has only allowed of a brief reference to a few of the more important points in a very wide and far-reaching subject, but I have endeavored above all to emphasize the desirability of giving every student an opportunity to devote himself, during the final period of his medical studies, to clinical work generally and the observation of patients individually, from which alone he can acquire that practical knowledge of his profession which is so essential to his success in after life.

Before concluding this part of my address I should like to say a few words upon the significance of personality. Whilst it is, of course, absolutely essential that the physician should be thoroughly equipped for the duties of his profession, both from a theoretical and practical point of view, it is at the same time highly desirable that his training should not be simply and solely a scientific one. In a monograph recently published, Bickel* gives his conception of the ideal physician. He says that medical knowledge and technical facility alone do not suffice to make a good physician, but that with these should be associated a harmonious character, knowledge and love of human nature, strength of will, loyalty, and sincerity both in regard to himself and others.

The student should be taught to look upon the patients coming under his observation as individuals, and not simply as members of a class suffering from a particular disease. He should study their individual idiosyncrasies, and cultivate that knowledge of human nature and tactful kindness which will enable them to undergo, with the least discomfort possible, under the circumstances, ordeals which must of necessity be extremely unpleasant to them. There is no profession in which greater strength of character and more strict conscientiousness are required, and the physician needs in a pre-eminent degree that elusive quality which has been described as tact. It follows that a physician should not be simply a scientific man, but one with sensitive intuitions and a keen interest in humanity, and Fürst sums up the character of the ideal physician as follows: "Only a good man can be a good physician."

An address delivered before an audience of this character would scarcely be complete without some reference to what has certainly been the most important event in the medical world during the past year, namely the Seventeenth International Congress of Medicine in London, at which many of us were present. The large attendance of nearly eight thousand people, which included many scientists of world-wide distinction, coming from all parts of the world, is an indication of the interest taken in the Congress from an international point of view.

At a meeting of the Canadian section on the closing day of the Congress, Dr. J. T. Fotheringham moved a resolution of thanks and congratulation to the president, secretary and members of the Organizing Committee on the great success with which their efforts had been attended. This resolution was seconded by Dr. J. M. Elder, of Montreal. At the same meeting a resolution was moved by Dr. James Third, of Kingston, and seconded by Dr. Reeve, of Toronto, conveying the thanks of the Canadian section to Dr. W. H. B. Aikins. These gentle-

*Bickel: "Wie studiert Man Medizin?" 1906.

men referred to the great services rendered by Dr. Aikins, who for the last eight years has acted as secretary of the Canadian National Committee, and during that time had been indefatigable in his exertions to secure for Canada a proper place in these international gatherings. In this connection I should like also to refer to Dr. Reeve, who was present at the last International Congress in London, held in 1881, as was also Dr. Aikins, and has ever since taken the greatest interest in the meetings of this important organization.

We all greatly appreciated the significance of the idea so gracefully expressed by Prince Arthur of Connaught, in his address of welcome to the members of the Congress, namely, that not England alone, but the British Empire as a whole, was giving this Congress, the representatives of the various overseas Dominions sharing the position of hosts to the other members of the Congress. I cannot sufficiently express my appreciation of the cordiality of our reception, and of the excellent arrangements which were made for the comfort and entertainment of ourselves and the ladies accompanying us, both in regard to the official arrangements and the social programme.

A very interesting and important function, especially from the point of view of the Canadian contingent, was the reception given by our representative in England, Lord Stratheona, at the Botanical Gardens. It was the most largely attended function throughout the whole week of the Congress, invitations not being restricted to members of the Congress, but also given to other Canadians who happened to be visiting London at the time.

It is a significant fact in the medical history of Canada that we now have a permanent Organizing Committee for the Eighteenth International Medical Congress, to be held in 1917. Of this committee Dr. W. H. B. Aikins is chairman, and Dr. H. B. Anderson secretary.

In conclusion I should like to make a few suggestions as to the work of the Academy during the coming year. The Academy of Medicine was established with the object of promoting harmony and co-operation amongst the members of the profession in Toronto; and also to contribute to the diffusion of knowledge in regard to the work which is being done in this and other countries.

In regard to the various meetings it shall be our aim to provide programmes which will be of interest to the largest number of Fellows. The meetings of the special sections, such as pathology, pediatrics, and so on, will naturally be of the greatest use to those belonging to those sections, but I should very much like to see at least a partial return to the old order of things, in which greater interest, from a general point of view, was shown in pathology and the exhibition of clinical cases. I think it highly desirable that when cases are presented in the various

sections in medicine and surgery, both the pathological and clinical reports should be included. At the same time the special pathological section of the Academy should, of course, still be maintained, and I would strongly urge the importance of having as much work done in this section as possible.

Finally, I should like to say that I assume the responsibilities of the presidency in the fullest confidence that I shall have the support and sympathy of every Fellow of the Academy and of every member of the Council, without which we cannot secure that degree of success and advancement which it is our privilege to attain.

ON FOREIGN BODIES WITHIN THE EYEBALL.

BY G. STERLING RYERSON, M.D., L.R.C.S.E., F.R.S.A. (Lond.)

Professor of Ophthalmology and Otology in the University of Toronto, Faculty of Medicine.

THE subject of injuries to the eye by foreign bodies is so large a one that I shall not attempt to discuss it, but shall limit myself to some consideration of foreign bodies lodged within the eye.

It may be said that as a rule that foreign bodies, such as chips of steel, copper, lead, and glass, pass through the lens and cornea to enter the posterior chamber of the eye. The diagnosis is therefore generally quite easy. The question which remains to be solved is: Is the foreign body imbedded in the tissues of the eye or has it passed through and become lodged in the orbit?

Sometimes this question is easily answered, for with the ophthalmoscope, or the oblique light the foreign body may be plainly seen, but in the great majority of cases it cannot be seen because of the obscuration of the field by extravasated blood. Careful enquiry should be made as to the size of the object which struck the eye, as a large piece of steel is rarely imbedded. It produces a punctured wound, which may or may not be infected, and falls out; but sometimes it lodges, as the following case will show: A little girl was watching her father, a carpenter, at work. The chisel he was using struck a nail in the wood. A piece flew off and struck the child in the right eye. I saw her two weeks later. The wound in the cornea had healed, the lens was opaque, and there was little reaction. An X-ray examination showed a large

piece of steel in the eye. It was enucleated and the steel was found to measure $\frac{5}{8} \times \frac{1}{4}$ inch. Very small pieces of iron or steel may enter the eye through the sclera and leave practically no trace of entrance. Here is an illustration: A plumber in fixing some steam pipes chiselled off a rough point. He suddenly felt something strike his eye. He was brought to me within an hour of the accident, as he said the sight was becoming hazy. There was a slight hemorrhage into the vitreous, but the foreign body could be plainly seen lying on the posterior and superior quadrant of the retina. I watched this case for months, during which the vitreous gradually became cloudy until vision was reduced to perception of light. The eye became painful, with slight pericorneal injection. Fatigue in using the other eye developed and the visual acuity diminished. Excision was performed eleven months after the injury. A very small piece of steel was found imbedded firmly in the retina, apparently encapsuled. Notwithstanding this encapsulation, sympathetic irritation took place. It is evident that in this case there was no infection from the steel fragment, but siderosis took place, leading to secondary degeneration and loss of the eye. It may be said as an axiom that all cases in which a metallic foreign body is lodged within the eye that sooner or later the eye will have to be removed, provided that the foreign body be not removed by the electro-magnet. This brings me to the next point, when and how can foreign bodies be extracted by the electro-magnet? There are two forms of magnets—the hand magnet of Johnson, and others, and the giant magnet of Haub. In the vast majority of cases the hand magnet, if it is a good one, will remove the object. For this purpose it is necessary to utilize either the wound of entrance or, if this is too small, by enlarging it, or if the case is some days old and the wound is closed, another opening should be made, after locating the foreign body, as near to it as possible after reflecting the soft tissues and subsequently reuniting the rectus and conjunctiva. It may be laid down as a rule that the longer after the accident the attempt is made to remove the foreign body by the magnet the less likely are we to succeed. I have seen a case recently in which the spicule of steel was so firmly driven into the inner surface of the sclerotic that even after the removal of the eye it was detached with difficulty by the forceps.

Statistics show that about 50 per cent. of eyes from which foreign bodies are removed by the electric magnet are saved, but of this 50 per cent. a considerable number undergo subsequent degeneration. Of course, iron and steel only are removable by the magnet. Copper and brass seem to be particularly irritating when projected into the interior of the eye. Whether this is due to chemical changes or sepsis is not

quite certain. A fragment of clean glass will sometimes lie quite quiet within the eye. Injuries by lead pellets from shot guns usually pass right through the eye and lodge in the orbit. I remember one case in which a small pellet passed through an eye posterior to the lens without injuring it. After the clots had cleared up a band was to be seen passing obliquely across the vitreous. The eye became soft, but as no further symptoms arose it was not removed. Lodgment of a pellet of lead within the eye necessitates its removal. The time required to produce symptoms of reaction in the injured eye varies from ten days to several months. Occasionally an eye containing a foreign body will remain quiet for years. The most dangerous time is from four to six months after the injury, when sympathetic irritation or inflammation is usually of the form of irido-cyclitis or uveitis, and is often painless and insidious. The removal of the injured eye at this stage is often useless and better vision may be obtained in certain cases in the injured eye than in the sympathetically inflamed fellow. To sum up:

1. In every case of a foreign body within the eye an effort should be made at the earliest possible moment to remove it by means of the electro-magnet.

2. When this fails the eye should be removed. If suppuration has not begun, by evseration. If it has begun, by excision and implantation of a Mules' ball.

3. Sooner or later a foreign body will cause destruction of the injured eye, and if unremoved, sympathetic ophthalmia.

4. In every doubtful case an X-ray picture should be taken of the eye by an expert, who will be able not only to demonstrate the presence of a foreign body, but to locate its position within the eye.

An intramuscular injection of morphine (1-6 gr.) and atropine (1-60 gr.) gives immediate relief in severe lumbago or wry neck. Dr. S. S. Cohen follows this up with the internal administration of colchicum in some such form as:

℞ Vini colchici radiceis fl ʒi
 Sig. Ten drops, in water, every four hours.

CURRENT MEDICAL LITERATURE

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MEDICINE.Under the charge of A. J. MACKENZIE, B.A., M.B., Toronto.
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OBSURE GASTRO-INTESTINAL HEMORRHAGE.

E. Stadelmann (*Berl. klin. Woch.*, May 5th, 1913) discusses the rare forms of hemorrhage from the gastro-intestinal tract, with special reference to those cases in which a fatal hemorrhage was confidently traced to a gastric ulcer during life, but in which the necropsy failed to reveal any ulceration or macroscopic lesion. In a class closely allied to this he includes cases of insignificant erosions of the duodenal mucosa which lead to fatal hemorrhage. In one such case, a waiter, aged 42, had suffered from abdominal discomfort for two to three months, when he suddenly vomited bright red blood. The haematemesis continued till the eighth day, when death occurred. The necropsy showed dark-red faeces in the large intestine, and a trace of blood in the stomach, where no gross ulceration could be detected, in spite of close scrutiny. The only abnormality found was great thickening of the muscular wall of the pylorus and adjoining duodenum. Several small erosions of the size of a lentil were found in the musoca of the pyloric ring, and immediately below this. They did not extend to the muscular wall of the gastro-intestinal tract, nor even to the sub-mucosa. No large blood-vessel could therefore have been involved; yet the hemorrhage was fatal. Another rare cause of hemorrhage is the rupture of idiopathic varicose veins, the origin of which is unknown. They are distinct from the varicosities due to cirrhosis of the liver, renal, pulmonary, or heart disease. Their importance is illustrated by the case of a mason, aged 35, who, after previously being quite well, suddenly felt unaccountably ill one afternoon. In the evening he suffered from severe haematemesis. This continued for several days, and was accompanied by constant nausea, giddiness, and restlessness. Death occurred on the fifth day. The necropsy showed no ulceration of the stomach or duodenum, and no disease of the liver, heart and kidneys to account for the development of varicose veins. In the greater curvature of the stomach, a hand-breadth from the oesophagus, there was a small opening, of the size of a pin's head, covered with blood. This yielded fluid blood on pressure, and admitted a bristle which could be passed into a large plexus of varicose veins. When systematically looked for, such veins are often

found in the oesophagus, stomach and intestine. One patient, a man aged 73, was admitted to hospital in a moribund condition, due to internal hemorrhage. No reliable history was obtainable. The necropsy showed rupture of a varicose vein in an hour-glass stomach. No other abnormality could be found. In another case large varicose veins were found in the stomach of a builder who was killed by a fall from scaffolding. Though intact, it is clear that these veins were a potential source of a fatal hemorrhage. Idiopathic varicose veins may also develop in the submucous and subserous coats of the small intestine. They seldom grow to the dimensions of a split pea, and may never rupture. The author has found them intact in two cases in which death was due to other causes. A very rare condition is a large, single idiopathic varicose vein, as found by the author in the intestine of a builder, aged 83, who died of apoplexy and bronchopneumonia; and in the intestine of a woman, aged 84, who died of an incarcerated hernia. Another source of obscure intestinal hemorrhage is the superior hemorrhoidal plexus, situated about 10 to 15 cm. above the anus. Recognition of this source of hemorrhage requires the use of the sigmoidoscope. The plexus may bleed when lightly touched, and give rise to profound anaemia and general weakness.—*British Medical Journal*.

TREATMENT OF PERNICIOUS ANEMIA.

Byron Bramwell, in the *Proceedings of the Royal Society of Medicine* for May, 1913, discusses the results he has obtained with salvarsan in this disease, reporting thirteen cases. Comparing the effects with those achieved with arsenic, he is favorably impressed with salvarsan. Though he has witnessed remarkable temporary cures under arsenic, he has not seen in any series of thirteen cases such good results under arsenic as in those in which salvarsan had been given. In some cases there was no apparent benefit, but in others striking improvement. As two years is the longest time that has elapsed since treatment in any of the thirteen cases, the likelihood of recurrence cannot as yet be stated; but the author regards salvarsan as a remedy of very great use in pernicious anemia.—*New York Medical Journal*.

RETURN CASES OF SCARLET FEVER.

Sexton (*Arch. of Pediatrics*, May, 1913), from observations upon 10,093 cases of scarlet fever, concludes that so long as the nasal, pharyngeal, and aural discharges exist just so long will the case be infective, and the isolation should be continued until the patient is entirely free

from these discharges. Such a conclusion extends the isolation period often for eight to twelve weeks or even longer, in one case over eight months. No case was allowed to leave the hospital as long as a mucous discharge persisted, and in the majority of cases the source of transmission seemed to be those in which nasal discharges appeared late, and often long after the period of quarantine had passed. Many of these cases run a regular course without complications, so that infection may be carried and remain quiescent for weeks, and then become active owing to a cold and subsequent rhinorrhoea having been contracted. During three years there were 16 return cases traceable to some member of the family having been discharged from the Scarlet Fever Hospital, and a personal investigation showed that in every instance the discharged patient was suffering from a rhinorrhoea, desquamation being present slightly in only two. In a large percentage, if not in all, of the infecting cases the morbid condition is rhinorrhoea or otorrhoea, and a most virulent type of the disease may be contracted from one that is correspondingly mild, as instanced by two cases quoted in which children who had suffered from a mild uncomplicated form were discharged as cured, only to be followed in a few days by a fatal development in their respective mothers. There is no proof that desquamation is infectious, and the facts that infectivity begins prior to, and continues long after, desquamation has ceased, and that the latter may continue far beyond the infectious stage, lead to the conclusion that it plays no part in the transmission of the disease.—*British Medical Journal*.

POSITIVE MEDICINAL ANTITOXINES.

Dr. Max Meyer, New York, remarks on this topic as follows:

A specific relation exists between certain toxins and medicinal substances (antitoxins) and we know, so far, of only three indisputable positive medicinal antitoxins, namely, chinin, salicylic acid and mercury.

All diseases, as we know, are based upon a toxic deterioration by chemical substances, and medicinal antitoxins exist which are able to neutralize the poison. Such an antitoxin is chinin, which in first line is not alone a specific against malaria, but also acts upon various other febril conditions. We observe an affinity between chinin and malaria, but this mutual attraction does not take place within the cells, but dissociated from them. The toxins are cast off by the cells and float isolated in the blood circulation, where they meet the antitoxins and here a neutralization of the heterogeneous substances takes place.

The pharmaco-dynamic action of chinin is mainly upon the nervous system, viz., stimulating and paralyzing, hence the physiologic and

therapeutic effect depends upon the dosage, given at the proper time and in the proper amount. The sulphate and the muriate of chinin are generally prescribed on account of their solubility, but basyl, a new chinin compound, is most soluble and powerful.

Chinin has a remarkable similarity to salicylic acid, another medicinal antitoxin, of which chemists suspect a common benzol nucleus, and owing to this fact in their analogy points to the relation and characteristic as antizymotics and febrifuges.

UNDESCRIBED FORM OF POLYCYTHAEMIA.

Dr. G. A. Friedman (in *Medical Record*) concludes his article thus:

I would like to offer the following as conclusions of my observations:

1. Polycythemia is apparently a frequent phenomenon in cases of non-bleeding duodenal ulcer, proved such by operation, or answering the clinical syndrome erected by Moynihan and others.

2. No such phenomena are seen in gastric ulcer.

3. Injections of adrenalin in such patients is followed by a transient diminution in the red cells, but soon afterward the polycythemia asserts itself.

4. The injections of adrenalin in dogs produce a polycythemia, which apparently is due to a lesion of the bone marrow.

I assume that the causes of polycythemia in my cases are intimately connected with the causes of duodenal ulcer, and may be due to some alteration in the secretion of adrenalin.

5. It may be assumed that duodenal ulcer is perhaps a trophic disorder due to some disturbance in the secretion of adrenalin. My hypothesis is that adrenalin in such cases acts hormone-like in a specific manner upon the vessels of the duodenal mucosa and produces the changes that finally lead to the appearance of ulceration.

THE BACILLUS OF LEPROSY.

H. Fraser and W. Fletcher (*Lancet*) state that material for purposes of cultivation on various media has now been obtained from 32 non-ulcerating modular cases of leprosy and 373 inoculations made on the various culture media. It is curious, in view of the findings of other investigators, that they have consistently failed to obtain a culture of the bacillus lepræ. There can be no doubt but that material swarming with bacilli has been employed on each occasion. This was clearly demonstrated by the microscopical examinations which were

made in every case. From the examinations made of nodules which have been incubated on culture media for periods ranging from a few days to nine months, no evidence has been obtained that the bacilli had increased or lessened in number. Those investigators who have recorded an increase in the number of organisms as a result of microscopical examination must surely have failed to observe the bacterial richness of the material employed for inoculation. Anyone who has examined smears prepared from freshly exised leper tissues must be struck with the enormous masses of acid-fast bacilli present, and we are unable to comprehend how it is possible to state in a case where no macroscopic growth is apparent that an increase, recognizable only by the microscope, has occurred.—*Medical Record*.

ARTERIOSCLEROSIS AND ALLIED SUBJECTS.

The three leading articles of the *Deut. Med. Woch.* are devoted to clinical and experimental arteriosclerosis and paroxysmal tachycardia. Hirsch opens with the pathogenesis and physics of arteriosclerosis. He brings the latter in direct connection with elasticity of the vessels. There is, however, much confusion as to what elasticity really is. It may be complete or incomplete. Normal arteries are completely elastic. The operation of the deforming forces tends to increase the deformity; and when these are withdrawn the *restitutio ad integrum* does not at once take place. A certain amount of elasticity results as an after-effect, controlled perhaps in part by innervation. In arteries which are notably exhausted, or influenced by poisons, this secondary elasticity may constitute a grave menace. In early arteriosclerosis it is easy to note a lack of elasticity; but later on this is not an even expression of the disease, as numerous other factors may have developed—sclerosis, degeneration, calcification. Loeb considered experimental arterial alterations on rabbits and dogs in which lactic acid was the agent employed. His work is still in progress, so that no conclusions are drawn, but the author claims that for the first time he has succeeded in producing arteriosclerosis in an animal other than man. He disputes the assertion of Boveri that arteriosclerosis may be caused in apes by injecting adrenalin. The author's rabbits did not develop the disease. In two dogs, however, in which the intima was attacked, a condition was produced very much like human arteriosclerosis. Dogs seldom develop the disease spontaneously, and even in very old dogs the findings in this respect are conflicting. Kaufmann and Popper, who consider the pathogenesis and treatment of paroxysmal tachycardia with alterations of

arrhythmia and allorhythmia, were able to demonstrate this anomaly was due to Tawara's nodes by the use of the cardiophysygmograph. When arrhythmia coexisted it is due to a change in the point at which the cardiac contraction begins, and also to a certain degree of sinoauricular block. Large doses of physostigma plus strophanthus caused the cessation of the tachycardia, while the arrhythmia assumed another type (*a perpetua*). The latter type in turn is abolished by atrophin. These indications and prescriptions for their relief are worked out wholly by sphygmo- and electro-cardiograms.—*Medical Record*.

THE ETIOLOGIC ORGANISM OF POLIOMYELITIS.

In the issue of the *Journal* for March 27, 1913 (Vol. clxviii, p. 474), we commented editorially on the successful cultivation by Flexner and Noguchi of the etiologic organism of epidemic poliomyelitis. In the October number of the *Journal of Experimental Medicine*, these authors report further experiments on the cultivation of this microorganism. They have now succeeded not only in growing it in pure culture and perpetuating it through a series of sub-cultures, but in reproducing the disease experimentally in monkeys by inoculation from these sub-cultures. "Moreover, from the monkeys in which experimental poliomyelitis has been thus produced, the microorganisms introduced can be recovered in culture and even implanted successfully again. Finally, by means of a special stain, devised by Noguchi, the microorganisms have been demonstrated in smears and in sections from the central nervous organs of human beings and monkeys dead of the disease. Hence it would appear that the organism thus discovered and described fulfils the classic requirements of Koch's law, and may fairly be accepted as the causative agent of poliomyelitis.

This brilliant piece of research, which sheds further lustre on its already distinguished authors, is not merely a step of cardinal importance in the knowledge and control of the poliomyelitis. It demonstrates, as we observed in our earlier editorial, "that a filterable virus is not necessarily an ultra-microscopic organism." The minute globoid bodies in question, whose place in the animate world has not yet been determined, are representatives perhaps of a large class of infective organisms, hitherto undetected and possibly including the etiologic agents of other diseases whose causes are at present unknown. Further research by similar methods, as apparently already successfully made by Noguchi in the case of rabies, may serve thus to solve others of the still perplexing riddles of pathology.—*Boston Medical Journal*.

SURGERY

UNDER THE CHARGE OF A. H. PERFECT, M.B., SURGEON TO THE
TORONTO WESTERN HOSPITAL

FURUNCULOSIS OF THE EXTERNAL AUDITORY CANAL.

Dr. Oliver A. Lothrop, in *Boston Medical and Surgical Journal*, writes thus:

Furuncles of the external auditory canal do not differ in pathology from boils in other parts of the body. They are caused by an infection of the hair follicles. This infection may be predisposed by a discharge from the middle ear passing over the canal, by picking or scratching, by the removal of cerumen, by an unclean speculum, and by sea bathing. Because the thin, sensitive skin of the meatus is firmly adherent to the underlying cartilage, any infection here is extremely painful. The inaccessibility of the parts makes satisfactory treatment unusually difficult.

Ordinarily, the diagnosis in an uncomplicated case is easy. When associated with mastoiditis and there is edema of the tissues, the exclusion of mastoiditis is very difficult at times. Usually one finds tenderness on manipulating the auricle and there is marked tenderness on pressure in front of the tragus. On examination the cartilaginous canal will be found very sensitive to the speculum, and its lumen will be encroached upon by one or more swellings of the wall. The pressure of a probe will elicit tender points where the furuncles are located. If the middle ear is normal the hearing will not be much impaired, provided the swollen walls do not touch and there is no cerumen or discharge to obstruct the sound waves. In later stages the infection may involve the deeper tissues about the canal and there will be edema behind or in front of the auricle.

The usual treatment has consisted of hot douches, wicks of carbolyzed glycerine and one or more incisions in the canal.

When one considers the etiology of the infection, it becomes evident that prevention must accompany treatment of any existing furuncle. The cartilaginous canal is beset with an infinite number of hair follicles, any number of which can be infected by pyogenic bacteria from the discharges of the first boil or by a continuous bathing of pus from a discharging middle ear.

The main object of the treatment with alcohol is the constant sterilizing of the pus and canal wall, thus preventing re-infection. The technic is as follows: The canal is cleaned by cerumen, desquamation, discharge, foreign bodies or polyps. A wick is now inserted into the canal,

nearly to the drum membrane, completely filling the lumen. If there is no discharge cotton is used. If the canal lumen is partly closed by one or more distinct "ripe" furuncles, these should first be incised and the pus evacuated. Any incision should be carefully made into the centre of the furuncle for, if this is not done, the pus does not escape and the patient is not relieved. In addition, there is danger of infecting a new area, and a perichondritis sometimes results from trauma to the cartilage. A probe point will often help to locate the centre of a furuncle.

After being inserted snugly into the canal, the wick is saturated with alcohol, plain or with boric acid, and the patient is instructed to keep the wick wet by dropping alcohol upon it at frequent intervals. The wick should be removed daily by the physician and a fresh one inserted. Whenever a pocket of pus can be located it should be incised. After incision, the alcohol should be applied before the patient recovers from the anesthesia. The alcohol smarts on freshly cut or abraded surfaces with the first application, but gives very little discomfort at later applications.

Not only does the antiseptic action of the alcohol prevent more infection, but the saturated wick acts as a small poultice to the canal. If the inflammation has spread to the surrounding tissues, a poultice of a dilute sulpho-naphthol solution over the auricle may be added to the above treatment.

Following this treatment by wicks saturated with alcohol, some of the early mild cases become abortive without surgical incisions. If the pain is severe and no pus can be definitely located it is better to administer an internal sedative and wait for the boil to become "ripe" and the pus to localize, rather than to make incisions at random. The canal should be moistened with alcohol for a time after apparent cure to insure against an immediate return of an infection.

TREATMENT OF CYSTITIS.

W. Gross is credited in *Paris médical* for May 17, 1913, with the following formula of a mixture to be taken internally in cystitis:

℞ Copaibæ	ʒi	(4 grammes)
Acidi benzoici	gr. lxxv	(5 grammes)
Acaciæ	ʒii	(8 grammes)
Sacchari pulveris	ʒii	(8 grammes)
Olei gaultheriæ	ʒv	(20 grammes)
Aquæ camphoræ	ʒvi	(200 grammes)

M. Sig.: One dessertspoonful every five hours, after the acute inflammatory symptoms have subsided.—*New York Med. Jour.*

HEREDITARY SYPHILIS.

L. Emmett Holt (*Medical Times*), of Columbia University, and Alan Brown discuss at considerable length the cases of 34 infants suffering from hereditary syphilis treated by salvarsan alone. The drug was injected directly into the external jugular vein with a 5 Cc. glass Luer syringe with a No. 22 gauge needle 1.5 cm. in length.

The dose for infants up to 8 months was .05 gm. of salvarsan, or 0.075 gm. of neosalvarsan; above 8 months, from .10 to .20 gm. of salvarsan, or .15 and .30 gm. neosalvarsan, according to age.

There were no untoward sequelæ and the patients were not selected, being taken as they were admitted to the Babies' Hospital.

As a result of these investigations the authors arrive at the following conclusions:

1. Immediate and striking benefit follows the injection of salvarsan in hereditary syphilis, and this is seen in many patients in whom mercury had been used with little or no apparent benefit.

2. Salvarsan must be given intravenously; with the technic described by Holt its administration is not difficult and it is practically free from danger.

3. A single dose of salvarsan does not cure hereditary syphilis, although it often removes the visible symptoms. Relapses, however, are to be expected unless the dose is repeated. With present experience it seems advisable to repeat the injections at intervals for one year, even though no symptoms are present.

4. The best result in hereditary syphilis are undoubtedly obtained by the early use of salvarsan followed by mercurial treatment.

5. Even with the aid of the Wassermann reaction it is difficult to say when a child with hereditary syphilis is actually cured.—*Am. Jour. Diseases of Children*, Sept., 1913).

MELTZER'S SIGN OF APPENDICITIS.

This sign (*Medical Times*) is not generally known as it should be. It is more useful than either the head zone test or the Rovsing sign. Meltzer's sign is elicited in the following manner. With the patient supine and the abdomen relaxed the examiner presses *firmly* with his finger-tips down upon McBurney's point; the patient is then instructed to raise his right thigh, *with the knee fully extended*. If this movement causes or is inhibited by severe pain, it is strongly suggestive of appendicitis, the organ being compressed between the contracting psoas muscle and the examiner's fingers. It is always advisable to *make a comparative test on the left side*.—*American Journal of Surgery*, September, 1913).

TREATMENT OF PHENOL GANGRENE.

H. Roziès, in *Monde médical* for June 15, 1913, writes concerning a patient whose finger, becoming the seat of a felon, had been treated, ten days previously, by incision and the application of an ointment containing phenol. Although healing had promptly followed, the finger had become greyish and insensitive, then acutely painful, and when first seen, its terminal phalanx and a portion of the second appeared shrunken and greyish blue. The nail was gone, sensation lost, and at the second phalanx there was an irregular tender zone, devoid of inflammatory reaction.

The treatment adopted consisted of salt baths and applications of hot air, the latter being supplied by an apparatus consisting of a blower heated by an alcohol lamp. A jet of hot air was directed daily upon the gangrenous tissues from a distance of five centimetres, then more diffusely, over the neighboring painful tissues, from a distance of ten centimetres. Promptly, after the first few sittings, the pain left and the affected area became more sharply limited. The normal color of the member returned and circulatory activity in it was increased. The dead portions of tissue separated, leaving an aseptic ulcerated surface over which, under continued hot air treatment, epithelial growth rapidly took place. The finger remained somewhat thinner than before. The treatment had, however, clearly prevented bacterial pullulation in the part, relieved pain, and accelerated repair. The author suggests that in the small proportion of cases of phenol gangrene of the moist type this treatment would also prove serviceable.—*New York Med. Jour.*

VACCINES IN GONORRHOEAL URETHRITIS.

Guerchoune and Finckelchteinne (*Vratchebnaia Gazetta*, October 12th, 1912, *Ann. des mal. vén.*, March, 1913) find that vaccines are useful in acute and chronic gonorrhoeal urethritis, as well as in the complications of gonorrhoea. In 27 cases of acute and subacute urethritis the gonococci disappeared in 10. A polyvalent heterogenous vaccine was used. The initial dose was 2 million cocci, and this was doubled at each injection, the maximum dose being 50 million. The authors recommend the use of two vaccines, one containing small doses, the other larger. The injections were given subcutaneously every six or seven days. No other treatment was given so as to determine the effect of the vaccine, but the authors advise that vaccine treatment should be combined with other methods. The vaccine reaches gonococci which have penetrated deeply or become generalized, and its action is probably due to the formation of antibodies. Erlacher (*Deut. med. Woch.*, January,

1913) also recommends vaccines in acute and chronic gonorrhoeal urethritis, not only on account of their therapeutic action, but also because of their diagnostic value, for vaccines will produce a gonorrhoeal discharge in cases apparently cured by local treatment with silver nitrate. Erlacher begins with a dose of 5 million cocci given every four days and increased in some cases up to 28 million. In his cases local treatment was given at the same time.—*British Medical Journal*.

OPERATIONS AND METASTASIS IN CARCINOMA.

For many years there has been a feeling among surgeons that mechanical disturbances of malignant tumors are dangerous, on account of the increased liability to metastases, or secondary growths, incident thereto. This view has been based, in the past, on purely clinical observations; recent labors along experimental lines with mouse cancer have tended to strengthen it.

From the surgeon's standpoint this is an exceedingly important matter. What he wishes to know is, whether the growth of secondary masses, in patients in whom metastasis has already occurred, will be accelerated by the removal of the primary tumor, whether life will be shortened or prolonged, and whether the procedures followed in the course of physical examinations or surgical operations increase or diminish the frequency of, or liability to, metastases.

Clunet found that of one hundred and forty-five mice which succumbed to implants of a certain strain of tumor, none showed metastases visible to the naked eye. On the other hand, of eleven mice which were operated on for the removal of nodules of this tumor, five showed metastases. Another series of experiments gave very similar results and Clunet thus concluded that metastases were more frequent in those mice which showed recurrent tumors for a considerable period following operation.

More recently Tyzzer in this country reports experiments on cancer mice along these same lines. He comes to two interesting conclusions. He finds that operations, incomplete, but involving the incision of implanted tumors, do not increase the incidence of metastases. The secondary tumors that are present, however, grow more rapidly. This is due either to an increase in the amount of food material made available by the removal of a large mass of tumor tissue elsewhere, or to the elimination of the element of cachexia, and improvement of the physical condition which almost invariably occurs. It was also noted that metastases may be produced artificially by the manipulation and massage of the implanted tumor. This is accomplished as readily during the early

development of the tumor, as in the period in which metastasis naturally occurs.

It is therefore evident that there should be as little mechanical disturbance as possible, before or during an operation.—*New York Medical Journal*.

POST-OPERATIVE INTESTINAL STASIS AND THE INTRA-ABDOMINAL USE OF OIL.

Dr. Watters F. Burrows concludes his article in the *Medical Record* of 1st November, thus:

“The writer has carried out a series of animal experiments showing the harmlessness and value of neutral mineral oil, used intra-abdominally. In most simple abdominal operations its use is not required since prophylactic care will limit post-operative distress, but in all others the oil is of the greatest value when employed upon abdominal pads during operation or sponged gently upon intestinal coils previous to closure of the incision, excluding only areas where adhesions are desired and having care that all plastic procedures and intestinal anastomoses are completed before oil is introduced. In cases presenting extensive adhesions or widespread peritonitis, large amounts of oil (up to 6 or 8 ounces) are required to prevent recurrence or formation of adhesions, to limit the absorption of toxins from the peritoneal cavity, to assist nature in combating infection, and as a prophylaxis against intestinal stagnation, obstruction, spasm, and final paresis. In the case of more than moderate severity, intestinal spasm and stasis, together with abdominal pain, are largely eliminated and convalescence is more comfortable and safe, while the individual in dire straits at the time of surgical intervention has, postoperatively, manifoldly better chances of recovery.

Conclusions, based upon the peritoneal reaction to chemical irritation and upon the results of using neutral oil intra-abdominally to control infection and effects of traumatism, both mechanical and chemical, as observed in guinea pigs and dogs, are as follows:

1. Iodine, mercuric chloride solution, carbolic acid, alcohol, etc., applied to the peritoneum, rapidly spread beyond the area intended, through capillary action and affinity for the tissues, destroy the endothelial cells, cause an excessive exudate and tend to produce permanent adhesions.
2. Olive oil, containing fatty acids, and commercial liquid petroleum, the impurities in which are acids, rosins, fats and oils, both animal and vegetable, combining irritating substances with a bland oil, produce

inflammation of intact peritoneal surfaces, as is shown by the occurrence of a watery hemorrhagic exudate, which differs, however, from that which takes place in the absence of oil, in that agglutination and organization do not follow.

3. Bland, non-irritating oil, represented by a purified liquid petrolatum obtained from Russian oil, causes none of the changes occurring in the process of adhesion formation, which are endothelial cell injury, coagulable exudate, agglutination, organization, and finally connective tissue and fibrous scar formation. The oil has no appreciable chemical action upon the tissues nor deleterious effect upon the animal and is slowly absorbed.

4. Oil, used intra-abdominally in sufficient quantities, prevents, to a great extent, the formation or recurrence of adhesions.

5. Oil fills the lymphatic channels leading from spaces denuded of peritoneum or opened by incision, thus limiting septic absorption, and, through preserving the endothelial cells, prevents extension of destructive processes.

6. Oil is used to advantage, intra-abdominally, in place of salt solution, upon abdominal pads, and to protect and lubricate the abdominal contents, thereby eliminating or minimizing postoperative intestinal stasis, vomiting, and abdominal pain.

GYNÆCOLOGY

UNDER THE CHARGE OF S. M. HAY, M.D., C.M., GYNÆCOLOGIST TO THE
TORONTO WESTERN HOSPITAL.

INDUCTION AND AUGMENTATION OF LABOR PAINS.

Welz (*American Journal of Obstetrics*, July, 1913) is of opinion that the inception of parturition is caused by an anaphylactic action of proteid birth substances from fetus to mother, and which also probably act as hormones in stimulating the secretion of the posterior lobe of the pituitary gland. Following the experiments of Von Der Heide, the author injected fetal serum intravenously in the buttocks of six pregnant women near term. In four of these cases uterine contractions were initiated, terminating in expulsion of the uterine contents within a short time of the injection. None of these patients had either objective or subjective signs of labor until after the administration of the serum. In one case of pre-eclampsic toxæmia an injection of fetal serum was successfully employed to induce labor at the thirty-fourth week.

Welz refers at length to the observations of Von Der Heide, who, in the case of twenty-six patients, successfully induced labor by this means in ten. This author also believes that the birth act is the result of anaphylactic action. This at first appears impossible, since anaphylaxis occurs as the result of the introduction of a foreign protein into an organism which has been previously sensitized by injection of the same foreign protein. The fetus, however, must be considered as a separate organism which derives its nourishment by dialysis and osmosis through the placenta. Its blood cells are different to the maternal organism, whilst, on the other hand, there is a lack of development in some fetal structures and increase in others. It is possible therefore that some of the fetal protein constituents differ from those of the mother. As this protein is carried into the maternal circulation it results in the increase in quantity of the enzyme specific for the digestion of this protein, as shown by Abderhalden. Welz suggests that this enzyme remains as an intracellular fixture, and that the maternal organism is thus sensitized towards the birth substance which at present is unknown. If this protein is the end product of fetal metabolism the amount would be increased towards the end of fetal development, and it finds its way into the maternal circulation through areas devoid of syncytium. A process of serodigestion is then initiated by the enzyme already stored in the blood, which results in the liberation of a poisonous group capable of producing an anaphylactic shock centred in the uterus. Vaughan has shown that certain proteins have predilections for certain places, and Dale has pointed out that the uterine muscle of the guinea-pig reacts strongly and immediately to anaphylaxis. The author suggests that missed labor and overtime pregnancy are possibly due to an insufficient flow of birth protein into the maternal organism. He also observes that in anaphylaxis is found an interesting explanation of the frequent abortions and premature labors of syphilis. Owing to inflammatory disturbances in the placenta, large amounts of birth substances are thrown into the maternal circulation before the usual time. Furthermore, eclamptic toxæmia may be explained as due to excessive amounts of toxins freed from the birth protein attacking the liver and other viscera. In employing fetal serum as a therapeutic oxytocic agent, Von Der Heide and Rongy think that the patient should be sensitized before the final injection. Welz does not consider this necessary, since towards the end of pregnancy the patient is probably already sensitized. The failure, after certain of the experimental injections, possibly lay in the insufficiency of the amount of birth protein injected. Another factor in determining the onset of labor is the sensitiveness or susceptibility of the uterus, as shown by the experiments of Sauerbruck and Von Der Heide. When labor has once begun, the uterine contractions are stimulated by

the secretion of the posterior lobe of the hypophysis cerebri. Abortion cannot be produced by pituitary extract alone, but there is an increasing susceptibility of the uterus to the action of pituitrin as pregnancy advances. Welz thinks that in cases of uterine inertia there is probably a deficiency either of the birth substances from the fetus or of the pituitary secretion. By the combined use of these substances it is possible to control labor at term; at the same time, the danger of anaphylactic shock must be remembered because of the possible harm to the individual who receives the injection.—*British Medical Journal*.

OCCLUSION OF THE CERVIX AND PARTIAL OBLITERATION OF THE UTERINE CAVITY FOLLOWING PUERPERAL SEPSIS.

Dr. E. A. Bullard, of Brooklyn, reported this case. The patient was sent to the Long Island College Hospital on August 27, 1910, in a desperate condition during her fourth labor. On August 27 a stillborn baby was delivered. Puerperal sepsis and neuritis affecting both legs ensued. The sepsis was severe and the patient was in a more or less dangerous condition for a month. The treatment of the sepsis consisted of intrauterine douches during the first few days, the Murphy drip, and stimulation when required. The patient finally recovered and was discharged on December 25, though she still has some leucorrhœa and a slight neuritis. About two years later she returned in apparently perfect health except that she had never menstruated since leaving the hospital. Every four weeks she had the menstrual molimen for a few hours, but no pelvic pain and never a drop of menstrual fluid. Examination revealed a slight cystocele and a moderate laceration of the perineum. The cervix was normal in size and mobile, but very hard. The site of the external os was replaced by scar tissue. A sinus which admitted a probe for about one-half an inch was seen on the right side of the cervix. Bimanually the uterus seemed about normal in size, retrocessed, but mobile. There were adnexal enlargements and no tenderness was present. The cervix was split up bilaterally. The little sinus was found to be about one-half inch in length, with a blind end. An opening was made into a cavity in the left side of the fundus; this cavity was about one inch long and one inch wide, and contained a little mucus, but no blood. It was not curetted for fear of destroying whatever chance the patient might have of menstruating. The cervix was sewn up and a hard rubbed stem pessary was put into the uterine cavity emerging into the left lateral fornix. The abdomen was opened through a low medium incision and the uterus was found to be about normal in

size and appearance. The tubes were occluded in their inner thirds. The ovaries appeared about normal and one contained a Graafian follicle about to rupture. The patient made an uneventful recovery and left the hospital in about ten days. Three weeks later she returned and it was found that the sutures holding the pessary had cut through and the pessary had been lost. However, a sound could be passed into the uterine cavity. The patient was told to come to the clinic every other day in order to have sounds passed, but she neglected to follow these instructions and by the end of a month the little canal was closed up. At no time after the operation was there any suggestion of a menstrual flow. He had seen the patient at intervals of from two to four months and she was always in the same excellent health. He believed that the sepsis was responsible for the entire destruction of the endometrium, the partial obliteration of the uterine cavity, and the total occlusion of the cervical canal. It was interesting to note that so little damage had been done to the tubes, and no discoverable harm to the ovaries. In an extensive search of the literature he had found that atresia of the fundus or cervix was much more rare than that of the vagina. He had found the records of about 100 cases. The etiology of these cases was interesting, the condition being attributed to puerperal sepsis in 18 cases, to atmoecausis in 10 recorded cases, to cicatricial contraction of obstetric lacerations in 12, to congenital causes in 13, to acquired but unknown causes in 9 cases, to the application of caustics to the uterus and cervix in 14, to defective amputation of the cervix in 3, to the continuous use of the pessary for many years in 2, to tuberculosis of the fundus in 1, and after a severe leucorrhoea of gonorrhoeal origin in 1. In the early days of the use of steam for controlling uterine hemorrhage Pincus, Duhrssen and other had several cases of partial or complete obliteration of the cervical canal until they learned that about thirty seconds of atmoecausis should be the maximum time. Most of the congenital cases were of the cervix only and were cured by trachelorrhaphy or puncture of the cervix. In only a few of the septic cases was the endometrium hopelessly destroyed, as in the speaker's case.—*Medical Record*.

EMPTYING THE UTERUS IN ECLAMPSIA.

Dr. Reuben Peterson concludes his paper in the *New York States Journal of Medicine* as follows:

1. Since the cause of eclampsia is still unknown, its treatment must of necessity be empirical.
2. Only through the analysis of large numbers of cases can the value of any particular treatment be correctly estimated.

3. In a large series of cases of eclampsia prompt delivery gave a maternal mortality of 15.9 per cent., as compared with a maternal mortality of 28.9 per cent. where the delivery was long delayed.

4. Where the uterus is emptied immediately or very soon after the onset of the first convulsion, the maternal mortality is still lower.

5. While in a large group of cases the maternal mortality is 5 per cent, in favor of conservative treatment and spontaneous labor in cases occurring before 1900, between 1900 and 1912, on account of better and more prompt obstetric surgery, the figures are reversed and show that the maternal mortality is lower by 4 per cent. after the radical as opposed to the conservative treatment of the complication.

6. Therefore, the treatment of antepartum eclampsia should consist of emptying the uterus as quickly as possible after the onset of the first convulsion.

7. The operative procedure which will empty the uterus the quickest with minimum trauma and shock to the eclamptic mother and child should be selected.

TREATMENT OF CHANCROID.

Szanto, in *Nouveaux Remèdes* for May 24, 1913, is credited with the following ointment to be applied to chancroids after the latter have been thoroughly cleansed:

℞ Acidi salicylici gr. xv (1 gramme)
 Tincturæ benzoini ʒss (2 grammes)
 Petrolati ʒi (30 grammes)
 Misc. Ft. unguentum.

PERSONAL AND NEWS ITEMS

Ontario.

Medical inspection of factories to eliminate the conditions prevailing in many of them which cause various "industrial diseases," such as tuberculosis and lead poisoning, is likely to be the next field of activity of Toronto's Health Department, according to Dr. Hastings, H.O.H., who discusses the matter in some detail in his report of the work of the American Public Health Association.

The treasurer of the Muskoka Free Hospital for Consumptives has received \$1,000 from the estate of the late Mr. George Wakefield, of 46 McKenzie Crescent, Toronto.

Dr. J. E. Elliott, Toronto, left his Ford car, number 15007, on Wellington Street, near Yonge. When time came to drive home the car was gone. And to date no word of it has come to hand.

At the annual meeting of the Home for Incurable Children, held recently at the Home, 152 Bloor Street East, Toronto, the secretary's report showed that 31 children had been cared for during the year. Two new patients had been admitted, three discharged, and one had died. Receipts for the year were \$15,508.11, with a balance of \$165.45.

Dr. J. A. Amyot, Ontario Provincial Analyst, has been appointed by the International Joint Commission to act in conjunction with Dr. McLaughlin, of Washington, D.C., in preparing the final report as to the results of the sanitary survey of boundary waters between the United States and Canada.

An interesting little ceremony took place a short time ago at the headquarters of the St. John Ambulance Brigade, when Dr. Perry Goldsmith presented the nursing sisters of the Central Division with six first aid surgical outfits. Hitherto the nurses have had to manage as best they could with baskets and their pockets, and Dr. Goldsmith's gift was much appreciated.

A delegation comprising four members of the German Prison Commission—Privy Councillor Plaschke, in the Prussian Ministry of Justice; Privy Councillor Schlosser, in the Ministry of the Interior; Herr Director Heckmann, Superintendent of the State Prison at Wert; and Herr Director Remppis, Superintendent of the Reformatory School at Wabern, recently visited the Guelph Prison Farm.

Dr. Frederick D. Marlow, F.R.C.S., has been appointed associate professor in gynaecology in the medical faculty of the University of Toronto.

Dr. Henry T. Machell has removed his residence to 216 St. Clair Ave., Toronto.

A grand jury in Toronto a short time ago made a presentment from which the following is taken: "We recommend that the Provincial Secretary appoint a commission to investigate the need of a house of detention for all persons of defective mentality, and would in this way prevent the propagation of individuals of whom nothing but a criminal or helpless career may be expected."

Dr. T. Montizambert, medical directory officer of Canada, has selected William's Head as a site for a quarantine station.

The Ontario Provincial Board of Health is doing good work by making municipalities comply with the Health Act.

The Victoria Hospital, London, has added a number of private wards to its accommodation.

The new wing to the Kingston General Hospital will be ready by the end of the year.

Dr. Norman Shenstone has been appointed senior surgical assistant in place of Dr. C. L. Starr. Dr. Stanley Ryerson has also been made one of the senior surgical assistants.

Chapleau is to have a hospital at a cost of \$15,000.

The Town Council of Smith's Falls has made a grant of \$1,200 to the Public Hospital, and \$800 to St. Francis' Hospital.

The Brant Sanitarium for Tuberculosis has been opened. It cost \$23,000.

The London Board of Health some time ago ordered all owners of vacant lands to cut down weeds that might be growing thereon.

The Amasa Wood Hospital, St. Thomas, is much in need of enlargement to cope with the demands on it for accommodation.

During the past year, 482 patients were treated in the Victoria Memorial Hospital, North Bay.

Dr. J. W. Brien has been appointed Medical Health Officer at Ojibway, Essex.

Dr. Catheart, of Courtright, has been appointed Medical Officer for the Indians of Walpole Island.

There is some likelihood that extensive improvements and additions will be made to the City Hospital, Hamilton.

The provincial health authorities are opening the winter educational campaign against the white plague with a series of lectures, illustrated by moving pictures. Dr. George Porter, secretary of the Canadian Association for the Prevention of Tuberculosis, has left for the north on a lecture tour that will embrace Blind River, Thessalon, Sault Ste. Marie, Schreiber and Sudbury.

Dr. Goldwin Howland will in future devote all his time to nervous diseases.

Dr. Colwell, of the American Medical Association, recently inspected the medical department of the Western University, London, in connection with the Carnegie endowment. He was pleased with the progress that had been made.

Dr. A. J. Macaulay, of Brockville, has been appointed Medical Health Officer for that city.

An army medical school has been established in connection with Central Laboratory Hygiene at Ottawa.

A general hospital is to be built at Walkerville, Ont. The National Council of Women is hard at work on the enterprise.

Dr. Hamill, medical broker, has removed to 205 Yonge Street, Toronto, in the Bank of Toronto Building, opposite Eaton's. Office telephone has been changed to Main 3375.

Five hundred dollars have been given to the Sir Oliver Mowat Hospital, at Kingston, for the support of a one-ward cottage.

Quebec.

Some time ago Professor N. Alcock, who held the chair of physiology in McGill University, died, and left his widow and four young children poorly provided for, as his salary was not large. An effort is being made to raise a fund for the widow and children. A number of well-known names have signed the appeal, such as Sir John Rose, Bradford; Professors Waller, Starling, Bayliss, and Principal Peterson, of McGill. This cause is a most worthy one.

Montreal has had 222 cases of smallpox during the year. Compulsory vaccination is lessening the number of cases in the province.

The corner-stone of the St. Justine Hospital for Babies was laid in Montreal by Archbishop Bruchesi.

Dr. F. J. Shepherd, of Montreal, has been made a Fellow of the Royal College of Surgeons, England, *honoris causa*. Congratulations.

Dr. James C. Fyshe, who has been medical superintendent of the Montreal General Hospital, has been appointed to a similar position in the Edmonton Hospital.

The annual convention of the sanitary authorities was held in Montreal, Dr. Lachapelle presiding. It was agreed to ask the Provincial Government to aid free dispensaries in the large cities, that the district inspectors start a campaign of education, that all practitioners be asked to aid this work, and the medical inspection of schools and industrial establishments be made compulsory.

There have been 25 cases of infantile paralysis, with 6 deaths, in Montreal, of recent date.

Dr. Maude Abbott, of Montreal, was elected secretary-treasurer of the Medical Museum at the International Medical Congress. While in Europe she established a branch of the International Association of Medical Museums in Italy.

Dr. A. Campbell Geddes, formerly professor of anatomy, Royal College of Surgeons, Ireland, has been appointed to the chair of anatomy in McGill University, Montreal.

Dr. J. M. Roy, of Montreal, has gone for a trip through Brazil, Chili, Peru and the Argentine.

The Notre Dame Hospital, Montreal, requires \$750,000. It is probable that 20-year, 5 per cent. bonds will be issued.

Laval University, Quebec, will give a course of lectures on hygiene, commencing in January.

Dr. Z. Rheaume has been appointed to the chair of experimental surgery in Laval University, Montreal.

The Montreal Foundling and Sick Baby Hospital, through the generosity of Col. J. H. Burland, has a fund of \$85,000 for building purposes.

Maritime Provinces.

The Dominion Steel Company will erect a hospital at Waterford, N.S. It will be managed by a board, half of which shall be appointed by the company, and half by Waterford. In the event of any disagreement it will be a referee to settle the dispute.

The sum of \$25,000 has been offered to Newcastle, N.S., for a hospital, if the place will maintain it. A further sum has been offered for endowment.

A general hospital to cost \$80,000 is to be built at Glace Bay.

It is proposed to enlarge the Victoria Hospital, at Fredericton, N.B.

The plans are now complete for the Tuberculosis Hospital at St. John, N.B.

Western Provinces.

Dr. Grain, who resigned his seat in Kildonan-St. Andrews, for Hon. Dr. Montague, the new Minister of Public Works, has been appointed medical superintendent of Manitoba Indian Reserves, formerly held by the late Dr. Orton, who for years represented Centre Wellington in the Commons, and was an uncle of Grain. The salary is \$3,000 a year.

Hon. Dr. Montague, Minister of Public Works in the Manitoba Government, will, it is officially announced, seek election to the Legislature from the constituency of Kildonan and St. Andrews.

Dr. H. H. Chown, of Winnipeg, has gone abroad for a lengthy holiday.

The Manitoba Medical Council has succeeded so far in preventing the recognition of osteopaths and chiropractors.

The new additions to the hospital in Winnipeg cost \$650,000.

At the meeting of the Canadian Public Health Association, held a short time ago in Regina, it was urged that hospitals should admit advanced cases of tuberculosis, and this recommendation will be sent to the provincial authorities.

A provincial medical library will soon be established in Regina for Saskatchewan.

Dr. Hugh McLean, of Regina, has been gazetted Provincial Lieutenant in the Canadian Army Medical Corps.

The Government of Saskatchewan has introduced a course of lectures on agricultural bacteriology and chemistry in the course for farmers.

Dr. J. W. MacNeill, formerly of Hamley, Sask., has been appointed superintendent of the provincial asylum at Battleford.

Major F. L. Vaux, P.M.O., Military District No. 10, at Winniueg, has been made an Esquire of the Order of Saint John at Jerusalem.

A Provincial School of Instruction has been authorized for Regina for the purpose of giving instruction to officers of the Army Medical Corps.

The Canadian Conference of Charities and Corrections recently held its meeting in Winnipeg.

Sixty-five thousand dollars will be expended in enlarging the hospital at Selkirk.

Those residing in the northern part of Winnipeg feel the need of a hospital, and an effort will be made to raise the required funds.

Plans are now completed for the new hospital in connection with the University at Saskatoon.

Dr. Lindsay, of Yorkton, has been appointed Officer of Health and Food Inspector for that city, at a salary of \$800 a year.

A municipal hospital will be established at Kindersley, at a cost of \$25,000.

The cost of the Isolation Hospital which is to be built at Regina will be \$77,000.

Dr. Whitelaw, of Edmonton, has recently made an official inspection of houses and premises that were supposed to be insanitary.

Dr. Orr has been made Medical Officer of Health for Medicine Hat, at a salary of \$1,000. There will also be a new hospital for that city, at a cost of \$250,000.

Dr. MacPherson has been appointed medical superintendent of Nakusp General Hospital, B.C.

It is proposed to expend about \$500,000 on the Royal Jubilee Hospital at Victoria, B.C.

Drs. Gray and Blanchard have retired from the active staff of the Winnipeg Hospital, and were banquetted on the occasion.

The Alberta Legislature has taken steps to prevent the spread of tuberculosis among cattle.

The new Royal Columbian Hospital will now be completed at New Westminster, B.C., as the funds have been arranged.

From Abroad.

Four patients were operated on recently by Dr. E. H. Pratt, of Evanston, in an effort to eliminate criminal tendencies and moral deficiencies. The operations were performed at the instance of Judge George W. Bridgeman, of the Circuit Court of St. Joseph's, Mich., who has announced that hereafter he will not sentence anyone convicted in his court of moral crimes to penitentiaries or insane asylums until the knife has had an opportunity to regenerate the mind affected.

In view of the promising results attained in the treatment of cancer, more than a dozen German cities have voted money for the purchase of radium and its sister product, mesothorium. The appropriations range as high as \$60,000 at Leipsic, and \$58,000 at Berlin. Munich is the only large city not yet in the market, the City Council having postponed its intended \$50,000 appropriation on the ground that speculators had raised the price of radium artificially and exorbitantly. The total amount voted throughout the empire is already about \$600,000, more than half the value of the world's total supply of radium at present.

The University of Durham College of Medicine is about to establish three new chairs in the college—diseases of children, throat and ear, and diseases of the skin. The hospital facilities in Newcastle offer ample opportunities to students to acquire practical knowledge of these subjects. Attendance upon the classes will at first be optional but will ultimately become compulsory. Care, however, must be taken not too heavily to overload the medical curriculum, which is already pretty well weighted.

The inaugural lecture in connection with the newly founded chair of bacteriology in Edinburgh University was given by Professor James Ritchie on October 7th, in the M'Ewan Hall. Principal Sir William Turner, who presided, referred to Dr. Ritchie's work as professor of pathology in the University of Oxford and as superintendent of the laboratory of the Royal College of Physicians in Edinburgh, and alluded to the circumstances in which the late Mr. Robert Irvine had made the foundation of the chair financially practicable.

Sir John Batty Tuke, the eminent alienist, died near Edinburgh on 13th October. He was born in 1835, and was well known as an author on diseases of the mind.

Statistics recently published show that the total death-rate of London for August, 1913, was only 11.8 per 1000 inhabitants living. Among the several districts and boroughs the highest rate was 20 in Finsbury, a crowded central slum, and the lowest was 8 in Wandsworth, a populous southern suburb.

On October 7, the United States Circuit Court of Appeals in Chicago sustained the District Court of Indianapolis in its refusal to enjoin the Indiana State Board of Health from prohibiting the sale of catsup and sweet pickles containing sodium benzoate as a preservative.

Col. William C. Gorgas, chief sanitary officer of the Canal Zone, reached New York on October 20, and will shortly leave for South Africa, where he will undertake to check the ravages of pneumonia among the negro miners of that section. Col. Gorgas will be assisted in his work on the Rand by Dr. Samuel Darling, one of his colleagues at the Ancon Hospital, and Major Robert Noble, executive officers of the sanitary department of the Isthmian Canal Commission.

Dr. Louise Pearce, the only woman on the staff of Johns Hopkins Hospital, has been appointed an assistant to Dr. Simon Flexner, of the Rockefeller Institute, New York, to take effect October 1, 1913. Her appointment is unique in American medical annals, as she is the only woman ever named to work directly with Dr. Flexner.

In August last a short cist containing the well-preserved human remains of a brachycephalous man was found in Burgie Lodge Farm, near Forres, by Mr. C. M. Bruce. It was examined by Professor Reid, of Aberdeen, and others, and the general conclusion seems to be that the interment took place from about 4,000 to 5,000 years ago. During the work of removing some stones from the same field Mr. Bruce uncovered another ancient grave about one hundred yards east of the previous find. It is a simply made cist of small capacity, primitive in the extreme, and apparently constructed to receive the ashes after cremation. No trace of bones was found, but only a thin layer of ash containing small particles of charcoal, probably oak. The cist was found about three feet below the surface level, and is egg-shaped, but slightly drawn in, the point lying to the east. It measures 24 in. in length, 17 in. at its greatest width, and 12 in. in depth. The floor of the tomb was bordered with small pebbles, and in the centre a flat stone measuring 6 in. by 8 in. No grave goods were in the cist that would associate the find with any age, nor was there any trace of sculpture work, or attempt at dressing the stones. The present is the third ancient grave discovered in this field; the first, found further west in 1848, contained an urn and bead ornaments.

Seven plague-infected rates were found at Seattle, Wash., between September 30 and October 18, 1913. These rats were found along the waterfront. The municipal health department is actively engaged in the trapping and poisoning of rats and the rat-proofing of buildings in the vicinity in which the infected rodents were found. Officers of the United States Public Health Service have charge of the inspection and

disinfection of arriving and departing vessels to prevent the spread of the disease by ships.

A gift of approximately \$4,000,000 to the Cornell University Medical College in New York was announced at Ithaca, N.Y., on Thursday, October 23rd, on behalf of the board of directors. It is understood that this gift, the largest in the history of the university, was presented by Colonel Oliver H. Payne, of New York, who, prior to that, gave a large sum for the establishment of the branch of the Cornell Medical College in New York City. The interest from the gift will give the medical college an annual income of \$200,000.

It is announced that the late Dr. Gavin Paterson Tennent, of Glasgow, has bequeathed to the University of Glasgow the sum of £25,000 "to be applied for such object or objects in connection with the faculty of medicine as the trustees may determine."

The principal of the Agra Medical School states in his annual report that 65 male students appeared at the final qualifying examination in April, 1913, and that only 29 passed in all subjects. On the other hand, of the 20 women students who presented themselves, 13 passed in all subjects. Of the failures among the male students 27 have been referred to their studies for a further period of one year, and nine have been recommended for removal from the school, "as in the opinion of the examining board they are never likely to pass and their retention is a waste of money to the Government. . . . A large class of failed students also interferes with the work of other students and makes the classes unmanageably large."

A woman physician is needed for the dispensary of the Presbyterian Hospital, Tsinanfu, North China. Apply to Wilbert B. Smith, 600 Lexington Ave., New York.

According to press despatches plague has broken out in a suburb of Novo-Tcherkask, capital of the territory of the Don Cossacks. Eleven deaths have occurred, and the town is placed under military quarantine.

Dr. Christian R. Holmes has been elected dean of the medical college of the University of Cincinnati by a unanimous vote of the board of trustees of the institution. Dr. Holmes succeeds Dr. Paul G. Woolley, who resigned last spring.

Dr. Fitz died in Boston on Tuesday, September 30, after an operation on the stomach. Born in Chelsea, Mass., on May 5, 1843, he received his education at Harvard, obtaining the degree of A.B. in 1864, of M.D. in 1868, and the honorary degree of LL.D. in 1895. He settled in Boston and in 1870 joined the teaching staff of his alma mater as instructor in pathological anatomy, becoming assistant professor of

pathology in 1873 and full professor in 1878. From 1878 to 1892 he was Shattuck professor of pathology, and since 1892 Hersey professor of the theory and practice of physic. In 1908 he retired and was made an emeritus professor. Dr. Fitz was one of the leading men of Harvard University, and a well-known practitioner of Boston. He contributed many essays to medical literature and is especially well known through his studies on appendicitis.

The Metropolitan Life Assurance Company, New York, has issued an address by Louis I. Dublin on vital statistics. Anyone may have a copy by asking for it. It contains some useful information.

A copy of the *Institution Quarterly* is to hand. It is devoted to the public charity work of the State of Illinois. It contains much useful matter on public health. Prevention is the keynote of most of the articles in the issue.

An editorial in a recent issue of the *New York Times* states that in 1912, owing to the insufficient number of school medical inspectors, only 287,469 of the 825,000 pupils in the city schools received proper physical examination. This year there are 867,000 pupils, and the Department of Health has asked for an increased appropriation to provide more inspectors. It is estimated that over 426,000 of these children have defective teeth.

Prof. Charles Richet, of the *Faculté de Médecine*, Paris, a member of the *Académie de Médecine*, and director of the *Institut Marey*, Paris, has been selected as the recipient of the Nobel Prize in Medicine for 1913. This is a recognition of Prof. Richet's recent work on anaphylaxis.

An unverified press report from San Francisco on Oct. 25 describes the successful treatment by Dr. George R. Carson of typhoid fever by the injection of blood-serum from a convalescent patient. By this means, it is said, the course of the disease is shortened and its complications avoided. Dr. Carson's report was presented at the recent annual convention of Pacific Coast Railway Surgeons. Its publication in medical literature will be awaited with interest.

The Herman Knapp Memorial Eye Hospital has been opened at corner 57th and 10th Streets, New York. The hospital was founded by Dr. Herman Knapp in 1869, and was located at 44 and 46 East 12th Street. During these years 420,000 cases have been treated.

The American National Red Cross announces the receipt of gifts of \$100,000 each from Mr. Jacob H. Schiff and Mr. James A. Strymser, and of \$2,000 from Mrs. Whitelaw Reid. The gift from Mr. Strymser is to be added to the fund for the purchase of land in Washington on which the Government is to erect a building for the Red Cross as a

memorial to the women of the Civil War. Congress has already appropriated the sum of \$400,000 to cover the cost of constructing the building, and the Red Cross has offered to raise the \$300,000 necessary for the purchase of the land. With the completion of this memorial building the Red Cross will have a permanent home and headquarters where the various departments of the service can be housed. The other two gifts are to be used as endowments for the fund for the town and country nursing service, which is practically new work for the Red Cross.

The *American Journal of Surgery* will devote the January issue to the treatment of fractures. Almost every phase of this subject will be discussed.

The International Tuberculosis Congress, which met recently in Berlin, inaugurated a world-wide movement against this common foe of mankind. This is most hopeful.

The British Anti-Vivisection Society has been robbed to the extent of £6,000 by its secretary.

OBITUARY

JOHN FRY.

Dr. John Fry, of Selkirk, Ont., died there in his seventy-seventh year.

J. D. STEVENSON.

Dr. Stevenson died in Toronto on 8th October. He was 86 years of age.

G. A. KENNEDY.

Dr. Kennedy, of MacLeod, Alta., died in Winnipeg Hospital, on 8th October. He was born in the town of Dundas in 1847. Was for a long time connected with the C.P.R. and the N.W.M.P.

I. R. PATTERSON.

Dr. Patterson, of Port Elgin, Ont., died there at the age of seventy-seven years.

RODERICK McLENNAN.

Dr. McLennan died at Quincy, Maine. He was born in Prince Edward Island in 1858.

WILLIAM JOHN McKAY.

Dr. McKay, Medical Officer of Health, Saskatoon, died there in his thirty-ninth year. He was a graduate of Manitoba College. He leaves two children.

HUGH M. PATTON.

Dr. Patton died at Little Metis. He had practised in Montreal, and was in his forty-eighth year.

CHARLES Y. MOORE.

Dr. Moore, of Brampton, died there 11th September. He was born at Derry West in 1847. He graduated from the University of Toronto in 1871. He had a large practice in and around Brampton, where he resided for many years.

DOUGALD STEWART.

Dr. Stewart, of Teeswater, Ont., died there in his sixty-fourth year. He had practised in Teeswater for thirty years.

CHARLES F. DURAND.

Dr. Durand died in Toronto on 10th November. He had practised for a number of years in Buffalo, but for the past two years was located in Toronto. He was a son of the late Charles Durand, a well-known Toronto lawyer.

THOMAS M. ARMSTRONG.

Dr. Armstrong died at his home in Lloydtown, Ont., where he had practised for many years. He graduated from Victoria University in 1860. He was 76 years of age.

CALVIN LUTZ.

Dr. Lutz, Gananoque, Ont., died 14th September, in his 63rd year. He practised for some time in Western Ontario, but retired on account of ill health, when he carried on a drug business. He is survived by a widow and one son.

ROBERT LYON SANDERSON.

Dr. Sanderson died at his home in Sparta, Ont., 23rd September, at the age of 82. He began practice in 1857 in St. Thomas, but moved to Sparta. He was at one time Medical Health Officer for the township of Yarmouth. He was very highly esteemed.

GEORGE EDMOND BARIL.

Dr. Baril was born at Battiscon, Que., in 1859. He was educated at Victoria Medical College, and practised for some time at St. Pierre, and later in Montreal, where he died on 20th September. He took a keen interest in educational affairs.

F. R. W. WARREN.

Dr. Warren died at Assiniboia, Sask., recently. He was born at Balderson, Ont., in 1877, and graduated from Queen's with honors as B.A. in 1901, and M.D., C.M., in 1906. He practised for a time at Belgonie, and then at Assiniboia.

THOMAS H. HANSON.

Dr. Hanson died at Kenora, Ont., in the latter part of September. He was born in London, Ont., sixty-eight years ago. He was for many years medical officer for the Indians.

J. L. BETHUNE.

Dr. Bethune died at his residence in Baddeck, N.S., on 27th September, at the age of 71. He practised at one time in Cape Breton. He leaves seven daughters and one son, who is engaged in the practice of medicine.

THOMAS MERIL PRIME.

Dr. Prime was born at Durham in 1836. He studied at Castleton Medical College, Vermont, and later at Bellevue, New York. In 1874 he located in Knowlton, Que., where he practised till his death. He took an interest in public questions affecting the weal of his locality. He leaves two daughters and two sons, both being physicians.

GIDEON DUNCAN.

Dr. Duncan died on 5th October at Bathurst, N.B., where he had long followed his profession. He was a native, where he was born in 1842. He came to this country in 1864, and graduated from McGill in 1871. He was a past-president of the Canadian Medical Association, and the New Brunswick Medical Association. His son is a doctor.

BOOK REVIEWS

GRAY'S ANATOMY.

Anatomy, Descriptive and Applied. By Henry Gray, F.R.S., Fellow of the Royal College of Surgeons, Lecturer on Anatomy at St. George's Hospital Medical School, London. A new American from the 18th English edition. Thoroughly revised and re-edited, with the Basle anatomical nomenclature in English, by Robert Howden, M.A., M.B., C.M., Professor of Anatomy in the University of Durham, England. Illustrated with 1126 engravings. Philadelphia and New York: Lea & Febiger, 1913.

This superb volume brings anatomy up to date, and leaves nothing to be said. Every medical student and practitioner knows of Gray's Anatomy. It has become a household word with every doctor wherever the English language is spoken. The arrangement of the systems, as found in this work, cannot be improved upon, as it has stood the test of nearly fifty years. Edition after edition shows that while the various editors have been watchful to improve the work by the incorporation of new discoveries, the main features remain unchanged. It is quite impossible to state how much the medical profession owe to this book, for it has been the bed-rock upon which many a great anatomist and surgeon has patiently built. The method of coloring the illustrations is most helpful, and enables one to grasp at once the relationship of the parts. Every feature of the book calls for commendation, such as the paper, the typography, the illustrations, and the lucidity of the text.

The editor has devoted much study to the edition now before us, and merits the highest praise for the careful and scholarly manner in which he has performed his task. The publishers have spared no pains in making this edition a perfect example of bookmaking, worthy of their name and reputation as a house that has for so many years supplied the medical profession with so many books of high order. We can most cordially recommend this edition of Gray's Anatomy.

POCKET CYCLOPEDIA.

Gould and Pyle's Pocket Cyclopedia of Medicine and Surgery, based upon the second edition of Gould and Pyle's Cyclopedia of Practical Medicine and Surgery. Second edition, revised, enlarged, and edited by R. J. E. Scott, M.A., B.C.L., M.D., New York, formerly Attending Physician to the Dewitt Dispensary; formerly Attending Physician to the Bellevue Dispensary, author of "The State and Board Examination Series," editor of Witthan's "Essentials of Chemistry and Toxicology," and "Hughes' Practice of Medicine," etc., etc. Philadelphia: P. Blakiston's Son & Company, 1012 Walnut Street, 1913. Price, \$1.00.

This small volume takes up the conditions most generally met with in medicine, surgery and obstetrics in alphabetical order. Though the descriptions are necessarily brief, they are very clear and well stated. It is a book of much utility and can be carried in the pocket as a ready reminder of what is the best opinion held to-day on the principal diseases and accidents that one is liable to be called upon to treat. We have looked through this book with care and feel free to speak well of it. The editor has maintained the original plan and has added new matter. The treatment in each disease, accident, emergency, etc., is very ably handled. For this book and the publishers we have only words of commendation. It would make an excellent addition to any library, and a very valuable *vademecum* for every doctor in practice.

A CLINICAL MANUAL OF MENTAL DISEASES.

A Clinical Manual of Mental Diseases. By Francis X. Dercum, M.D., Ph.D., Professor of Nervous and Mental Diseases, Jefferson Medical College, Philadelphia. Octavo of 425 pages. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, \$3.00 net. Canadian agents, the J. F. Hartz Company, Toronto.

This excellent book follows a very simple, but natural, classification. It is written by the author from a practical standpoint. The author has long been known as a writer upon diseases of the nervous system. This work on diseases of the mind adds to his reputation. It is a very clear and satisfactory exposition of the subject of which it treats. Though the book is not a large one, yet it contains all that will

be required of anyone in general practice. We like very much this practical volume on mental diseases.

DISEASES OF THE SKIN.

Quiz Compend of Diseases of the Skin. By Jay F. Schamberg, A.B., M.D., Professor of Diseases of the Skin, Philadelphia Polyclinic and College for Graduates in Medicine, Fellow of the College of Physicians, Philadelphia; Member of the American Dermatological Association. Fifth edition, revised and enlarged, with 112 illustrations. Philadelphia: P. Blakiston's Son & Company, 1913. Price, \$1.25.

For anyone who wishes a brief exposition of skin diseases, by one who is a thorough master of the subject, this little volume is just the one for him. It is an excellent means of reminding one of the essentials. The diagnosis and treatment are clearly and well stated. We can very heartily recommend this volume.

INTERNATIONAL CLINICS.

A Quarterly of Illustrated Clinical Lectures and especially prepared Original Articles on Treatment, Medicine, Surgery, neurology, Obstetrics, etc, etc. Edited by Henry W. Cottell, A.M., M.D., and John A. Witherspoon, M.D., and others. Vol. iii., twenty-third series. Philadelphia and London: J. B. Lippincott Company. Price, \$2.25 per volume.

The contributors to this volume at Drs. Albert Abrams, Bailey K. Ashford, Astley P. Askhurst, W. T. Bainbridge, Simon Barneh, P. Bandit, H. T. Byford, J. Castaigne, E. M. Corner, C. F. Craig, Peter Daniel, N. Gwyn, J. B. Huber, F. H. Humphries, F. C. Knowles, T. Linn, B. Reed, C. R. Robins, P. G. Skillern, C. P. Thomas, W. H. Wadsworth, and Gurney Williams. The subjects discussed are Diagnosis, Treatment, Medicine, Surgery, Medico Legal and Electrotherapeutics. There are a number of very fine plates, charts, diagrams and figures. Two of the plates are beautifully colored. All the articles are good, and this volume takes its place worthily along with the long list of those in the set to which it belongs. For twenty-three years these volumes have been regularly appearing every quarter. They have built up a creditable reputation. This volume will well repay the time spent upon it in giving it a careful reading.

VISITING LIST.

The Physicians' Visiting List (Lindsay and Blakiston) for the Year 1914. Sixty-third year of its publication. Philadelphia: P. Blakiston's Son & Company, 1012 Walnut Street. Price, \$1.25.

This edition of Lindsay and Blakiston's Visiting List contains the

usual information. There are tables and letter press of a useful character, in addition to the blank pages for the names of patients and the attendance given them. It is bound in limp leather with pocket and pencil holder. It has been our pleasure for many years to recommend this Visiting List, and we have much pleasure in repeating this recommendation.

CHEYNE & BURGHARD'S SURGICAL TREATMENT, VOL. V.

By Sir W. Watson Cheyne, Bart., C.B., D.Sc., LL.D., F.R.C.S., F.R.S., Hon. Surgeon in Ordinary to H.M. the King; Senior Surgeon to King's College Hospital, and F. F. Burchard, M.S. (Lond.), F.R.C.S., Surgeon to King's College Hospital, and Senior Surgeon to the Children's Hospital, Paddington Green, London. New (2d) edition. Thoroughly revised and largely rewritten. In five octavo volumes, containing about 3,000 pages, with about 900 engravings. Price, cloth, \$6.00 net, per volume. Philadelphia and New York: Lea & Febiger, 1913.

The appearance of this volume completes the most recent and practical work on the market on Surgical Treatment. It is a work which should appeal strongly to the entire profession, for in each case it gives even minute details and describes the whole proceeding in clear language and with excellent illustrations. This volume treats of the surgical affections of the Pancreas, Liver and Spleen, and surgical affections of the Neck, Larynx, Breast and Thorax and Genito-urinary Organs, including the Kidneys.

The unusual promptness with which the successive volumes have followed each other makes it possible for the doctor to secure a comprehensive work on Surgical Treatment, evenly up-to-date throughout—a very important consideration. This fifth volume, which completes the set, will be found fully as attractive as its predecessors.

We have reviewed the previous volumes, and were able to state that as a work on surgery it takes a first place. The work is now complete and should be in the library of every practitioner who makes any pretence to do surgery. We can recommend the entire set of five volumes and in doing so we give a full mead of praise to the publishers.

FOREST PROTECTION.

Commission of Conservation, Canada, Committee on Forests for 1812. By Clyde Leavitt, M.Sc.F., Chief Forester, and Chief Fire Inspector. Toronto: Bryant Press, 1913.

This volume from the Commission of Conservation contains much useful information on the preservation of forests, and the loss caused by their destruction by fire. It is worthy of a careful perusal.

MISCELLANEOUS MEDICAL NEWS

VITAL STATISTICS OF TORONTO.

There were 597 deaths (exclusive of 56 still-births) in September, 1913, as compared with 458 in September, 1912. When allowance is made for increase in population, the figure indicates a marked increase in mortality over September, 1912, as is shown below:

September, 1913	14.6
September, 1912	12.5
Excess of mortality, September, 1913, over September, 1912,	2.1 per cent.

This means that the general death rate for September, 1913, is almost 17 per cent. higher than that of September of last year. This condition is due almost entirely to a great increase in the number of deaths from infantile diarrhoea. Excluding infantile diarrhoea and enteritis in both years, the death rate for September, 1913, is lower than that for September, 1912, as 10.8 compared to 10.4. For the first nine months of 1913 the death rate figures 13.2 as against 12.1 for 1912. The chief causes of death last month were diarrhoea and enteritis among babies under two years, there being 149 fatal cases, an increase of 71 over last year.

The fifteen chief causes of death were as follows:

Cause of death.	No. deaths,		Sept., '13.	
	Sept., 1913	Sept., 1912	Inc.	Dec.
Diarrhoea and enteritis (under 2)	149	78	71	..
Congenital debility and malformations..	47	36	11	..
Organic heart disease	36	24	12	..
Pneumonia and broncho-pneumonia	32	29	13	..
Tuberculosis (all forms)	31	19	12	..
Cancer	30	30
Violence	26	25	1	..
Acute nephritis and Bright's	25	8	17	..
Acute contagious diseases	25	24	1	..
Premature birth	17	17
Cerebral hemorrhage and apoplexy ...	12	14	..	2
Diseases of the stomach	11	10	..	1
Old age	11	7	4	..
Simple meningitis	8	13	..	5
Bronchitis	8	2	6	..

There were 24 deaths from the "acute contagious" diseases, diphtheria, scarlet fever, typhoid fever, smallpox, measles and whooping

cough in September, 1913, as compared with 24 in September, 1912.

The death rate for this group of diseases per 100,000 of population (per annum) for September, 1913, was only 58, as compared with 66 for September, 1912, a decline of 12 per cent.

The number of cases and deaths from certain reportable diseases for the month is as follows:

Diseases.	Cases reported		Deaths	
	1913	1912	1913	1912
Diphtheria	58	65	3	2
Scarlet fever	35	21	5	1
Typhoid fever	132	52	10	10
Smallpox	0	0	0	0
Measles	13	33	0	0
Whooping cough	6	7	6	11
	—	—	—	—
	244	178	24	24
Tuberculosis	46	49	31	17

The mortality statistics of the "acute contagious" diseases for the first nine months of the year compare with those of the same period of 1912 as follows, showing a decrease of 26 per cent.:

Cause of death.	Rate per 100,000 population (per annum)			
	Deaths 9 months		9 months	
	1913	1912	1913	1912
Diphtheria	61	130	16.6	38.9
Scarlet fever	41	53	11.2	15.9
Typhoid fever	36	38	9.8	11.4
Smallpox	0	0	0.0	0.0
Measles	79	20	21.6	6.0
Whooping cough	38	72	10.0	21.6
Totals	255	313	68.6	93.8

Diphtheria shows a decrease of 57 per cent.; typhoid 14 per cent. No deaths occurred from smallpox. Measles were epidemic in the earlier part of the year, showing an increase in the death rate of 260 per cent. Scarlet fever deaths decreased 30 per cent., and whooping cough deaths 52 per cent. Ten deaths in the city resulted from typhoid fever, five cases originating out of town. The death rate from typhoid fever was 24.1, as compared with 27.2 for September of last year.

Of the deaths registered in Toronto in September this year no less than 253 were those of infants under one year, as compared with 125

in 1912, and 33 between the ages of one and two, as compared with 21 in 1912. The ages between 50 and 59 show the next greatest number of deaths, 51 for this year; 31 for September of last year. The infant death rate was over one-quarter higher than for the corresponding month of last year—609 per 100,000 of population in 1913; 478 for 1912, an increase of 29 per cent.

The chief causes of death among babies last month Dr. Hastings lays to 10 sources of trouble, of which diarrhoea and enteritis come first, with 125, congenital debility second with 47, premature birth at 17. Pneumonia 9, stomach diseases 7, acute contagious diseases 6, bronchitis 6, simple meningitis 6, tuberculosis 4, syphilis 4.

The average death rate per annum over ten years is 31.5, it reaching 49 in 1906, and 10.4, its lowest point for that period, in 1903. September, 1913, shows 27 per cent. below the average.

Typhoid, for the first nine months of 1913, caused a lower death rate by 52 per cent. than last year for the same period, 49 per cent. lower than the average for the decade. Of the 132 cases of typhoid in Toronto, 74 originated out of town, 16 of them in Mimico, 5 in Niagara Falls, 5 in Muskoka, 5 in the States, and 19 in miscellaneous Ontario towns.

No evidence of typhoid due to Toronto's milk supply is forthcoming for last month.

THE PUBLIC ROLLER TOWEL.

Roll on thou stiff and dark old towel-roll,
 A hundred hands are wiped on thee each day;
 Thou leavest mystic records, like a scroll,
 And finger prints of all who pass they way.
 And where be those who saidst thou should not stay?
 They pass, but thou rollest thy length immense.

—From "Judge."

SHAKESPEARE AND SLEEP.

Not so long ago critics were practically agreed that Shakespeare never allowed even the shadow of his own personality to show on the mirror which he held up to Nature. Every one knows Matthew Arnold's sonnet:

Others abide our question; thou art free.
 We ask and ask—Thou smilest and art still
 Out-topping knowledge.

Now it is coming to be seen that, even if Shakespeare did not, as Mr. Frank Harris contends, portray himself in various disguises in many of his characters, we get at least some glimpses of "the man Shakespeare" in the plays. One example of this is the habit of brooding on death, of which there are many examples. In most of us there is what may be called a subsoil water of thought, or it may be feeling, into which the mind, when not occupied with other things, is apt to fall. Long ago it was pointed out by Professor David Masson that when the soul of Shakespeare "swooned into itself" the thought of the sleep of death and what dreams might come in it would rise to the surface. It is scarcely within our province to discuss the supposed self-revelations of the dramatist, but we may be allowed to call attention to a thing on which he dwells with such insistence that we cannot help thinking he gives expression to a personal experience. This is sleep. What poet has described insomnia as Shakespeare has done, not once but over and over again? There is the famous soliloquy of Henry IV. beginning—

How many thousand of my poorest subjects
Are at this hour asleep! O sleep, O gentle sleep!
Nature's soft nurse, how have I frightened thee,
That thou no more wilt weigh my eyelids down,
And steep my senses in forgetfulness?

When troubles gather round Macbeth, his wife says to him:

You lack the season of all natures, sleep.

Then there is Macbeth's terrible sob of remorse after the murder:

Methought I heard a voice cry, Sleep no more!
Macbeth doth murder sleep, the innocent sleep;
Sleep that knits up the ravelled sleeve of care,
The death of each day's life, sore labour's bath,
Balm of hurt minds, great Nature's second course;
Chief nourisher in life's feast.

Then like the wail of a lost soul:

Still it cried, Sleep no more to all the house.
Glamis hath murdered sleep and therefore Cawdor
Shall sleep no more. Macbeth shall sleep no more.

Iago, when his poison is working in Othello's spirit, says exultingly:

Not poppy nor mandragora,
 Nor all the drowsy syrups of the world,
 Shall ever medicine thee to that sweet sleep
 Which thou ow'st yesterday.

In the *Sonnets*, in which we prefer to believe, with Wordsworth, even against Browning, that Shakespeare unlocked his heart, there are several references to the same subject. In the twenty-seventh we have the true note of the worst form of sleeplessness:

Weary with toil I haste me to my bed,
 The dear repose for limbs with travel tired,
 But then begins a journey in my head
 To work my mind when body's work's expired.

In the next one he says:

How can I then return in happy plight
 That am debarr'd the benefit of rest?
 When day's oppression is not eased by night,
 But day by night, and night by day oppress'd?

These are but a few instances which might be gathered from the poet's works, in which, speaking of sleep, "he call'd himself names in many a mused rhyme." In reading medical writings referring to insomnia it is easy for one who knows what it is from his own experience to distinguish between those who bear the scars and those who have never felt the wound. One justly famous and most humane surgeon says that if a man sleeps ill one night he can make up for it the next; we find the explanation of this want of sympathetic insight in his statement that he had only two sleepless nights in his life. Although Shakespeare is said to have trod the world unguessed at, we hazard the guess from the ever-recurring note of the blessedness of sleep that the "myriad-minded men," who saw into the very depths of human nature, had his wakeful hours.

HUNTER DAY IN LONDON.

Hunter's day was celebrated in the accustomed manner at the Royal College of Surgeons. Sir Rickman J. Godlee, president, delivered the oration in the afternoon, and also took the chair at the dinner in the evening. In his oration he drew an interesting picture of Hunter among his friends, many of them celebrities of the period, also of his house, of which he showed a ground plan, and refer-

red to its remarkable contents. Passing to his museum, he reminded the audience that Hunter was not only a man of phenomenal industry but one endowed with the mania for collecting, who thought of money only as a means of crowding his house with works of art and his museum with specimens illustrating not only his novel views of physiology, but others interesting from their rarity or beauty. Sir Rickman then noticed some changes in the museum since it was bequeathed by the founder. Clift, who wrote descriptions, made drawings and dissections, etc., had been engaged without fee, and worked for about a year and a half when Hunter died. He was then retained at seven shillings a week to catalogue and dust. When at last the government gave £15,000 for the collection, and subsequently a further £12,000, and the college gave £21,000 for the first building for it, Clift was made the first conservator, retiring on a pension in 1842, and was followed by Richard Owen, whose great work was the publication of the illustrated catalogue of the comparative anatomy series. Next came Queckett, who was essentially a microscopist, and made a microscope for himself out of a roasting jack, a parasol, and a few bits of iron. He left to the museum a valuable microscopic collection, and was succeeded by Flower, who starting as a surgeon, became a pure anatomist, and greatly enriched the osteological collection. Then came Stewart, with excellent work on mimicry, symbiosis, and protective coloring. Now, under Dr. Keith, the aim of the college is to adhere closely to Hunter's principles, to regard his words "body, blood, and motion," as their motto to illustrate the processes of life. The president then pointed out that since its erection in 1800, the museum had been more than trebled, and was certain to be still further enlarged. It now contains 64,766 mounted specimens. He illustrated its arrangement to show its harmony with Hunter's original conception, and then referred to the losses sustained by the college in the deaths of Mr. Dent, Sir Henry Bullin, and Lord Lister. As to the future, he asked if the country ought not to have an anatomical and pathological institute, forming part of a living university of which the college would be the medical faculty, offering opportunities and the vast material of the museum for original research, and expounding in its lectures the advances made.—*Letter in Medical Record.*

THE DEADLY HOUSE FLY.

An interesting mathematical problem has been solved by an esteemed contemporary concerning the multiplication of the common house-fly.

Prof. L. O. Howard, chief of the Bureau of Entomology, has been studying the habits and life history of flies and has discovered that each female fly lays 120 eggs at a time and that she usually lays four of these generous batches of eggs before she considers her motherly duties ended.

Professor Howard began studying flies in the early part of June, and he found that the eggs which the fly laid on June 1st had hatched out into flies within ten days, and that each of the 120 young flies were ready to start right in laying eggs at the same rate that their mother had laid them. There is, thus, abundance of time for the development of 12 or 13 generations during the summer, before the flies begin to hibernate.

Starting with the first batch of 120 eggs laid by the original fly on June 1st, we arrive at the following astounding table of consequences by the last of September, when the breeding season ends:

June 1, one fly lays 120 eggs; June 10, 120 flies lay 14,000 eggs; June 20, 14,400 flies lay 1,728,000 eggs; June 30, 1,728,000 flies lay 217,360,000 eggs; July 10, 217,360,000 flies lay 26,083,200,000 eggs; July 20, 26,083,200,000 flies lay 3,029,984,000,000 eggs; July 30, 3,029,984,000,000 flies lay 363,598,080,000 eggs; Aug. 9, 363,598,000,000 flies lay 44,631,769,600,000 eggs; Aug. 19, 44,631,769,600,000,000 flies lay 5,355,812,253,000,000,000 eggs; Aug. 29, 5,355,812,353,000,000,000 flies lay 642,697,482,240,000,000,000 eggs; Sept. 8, 642,697,482,240..... flies lay 76,123,697,868,000,000,000 eggs; Sept. 18, 76,123,697,868,800,000,000,000 flies lay 9,134,843,744,256,000,000,000,00. eggs; Sept. 28, 9,134,843,744,256,000,000,000,000 flies lay 1,096,181,249,310,720,000,000,000,000 eggs.

But the total just stated is the resulting progeny of the mother fly and her first batch of 120 eggs. Professor Howard tells us that each fly usually lays four such batches of eggs. So by multiplying the above figure by four we find the following:

4,384,724,977,242,880,000,000,000,000.

One mother fly might, therefore, in one summer produce twelve generations of children, grandchildren, etc., until her descendants numbered four octillions, three hundred and eighty-four septillions, seven hundred and twenty-four sextillions, nine hundred and seventy-seven quintillions, two hundred and forty-two quadrillions, eight hundred and eighty trillions.

The human mind cannot grasp the full magnitude of these figures—four octillions of little flies! But a little computation begins to reveal what a stupendous mass it would be.

Suppose we say that an average house fly measures a quarter of an

inch in length and a quarter of an inch in height when she stretches her legs or wings, and a quarter of an inch in width. Four flies standing in Indian file would just reach one inch. Sixty-four flies would make one cubic inch.

Thus we see that there would be 253,440 flies in a mile if they stood one in front of the other. If all the four octillion flies stood in a continuous line they would reach 20,000,000,000,000,000,000,000,000 miles; they would reach 833,000,000,000,000,000 times around the earth. Spread out over the surface of the earth, they would make a carpet over the entire globe more than a thousand miles thick. Stretched out to the sun (which is 92,000,000 miles away) these flies would project to the very centre of the solar system; passing Venus and Mercury, on the way, they would form a huge road from the earth to the sun a thousand miles wide and three miles deep.

If the flies were all rolled up into a huge ball, they would make a mass bigger than the earth! All this may not seem possible. But figure it out for yourself. Take, for instance, the last surprising statement that the flies would make a solid mass bigger than the globe.

If one fly occupies a quarter of an inch—wide, high and thick—then there would be sixty-four flies to a cubic inch, or 110,792 flies to a cubic foot, or 2,987,984 flies to a cubic yard, or 16,277,791,171,084,000 flies to a cubic mile.

If it takes that number of flies to make a cubic mile, then divide your four octillions of flies by that number, and you find you have 268,778,165,861 cubic miles of flies as the summer product of the one original mother fly. But the scientists tell us that the entire bulk of our earth is only 259,944,035,515 cubic miles. So, the flies would make another world as big as our earth and there would be enough to spare almost to make a moon besides.

Of course these figures assume that each fly is a mother fly, capable of laying eggs, whereas half the flies would be male flies, and have no direct offspring. But, on the other hand, the figures given above are vastly inadequate and do not begin to be big enough. This will be seen when it is realized that each one of the flies in the above calculations is only allowed to lay one batch of eggs, whereas she is entitled to lay four batches of eggs, and each of these three extra batches of eggs might hatch out into flies and go on laying their four batches of eggs.

This would be a perfectly legitimate thing to reckon, but the figures would run beyond anything which the space of this magazine could print, and it would be as hopeless as it would be to compare the grains of sand at the seashore—no number is big enough to express it.

Now, of course, all the eggs a fly lays do not hatch out, and that

fortunate fact is what saves us from such a pest of flies as would ruin the world. But the lesson of all this is that every fly should be killed whenever possible. Nature manages to see that countless millions of eggs never hatch successfully, and it is left for mankind to see that such flies as do survive are exterminated.—*Pacific Medical Journal*.

THE BARBERS OF ROUEN.

In France, as elsewhere, formerly barbers and surgeons were for centuries joined together. In the *Progrès Médical* of June 14th, a writer who signs himself M. G., gives an account of the community of surgeons of Rouen based on a history by Dr. Francois Hue, recently published. Little is known about the early period of this community, but their first statutes were inserted in the *Livre des Médecins* of Etienne Boileau, Provost of Paris in 1260. The administration of the community was then in the hands of a committee of six sworn members. Their function was to examine persons who practised surgery, and on their report the provost authorized or forbade the practice of those persons. In these statutes there is nothing to show that surgeons practised barbering, nor in the statutes of the barbers of 1371 is there any allusion to surgery. In 1500 the surgeons and barbers of Paris were reunited into one community by the efforts of the Faculty of Medicine, which wished to bring the surgeons under its authority. After innumerable lawsuits Charles the Ninth in 1567 decided that no barber should be admitted master in his craft unless he had passed an examination in surgery. The union lasted till the foundation of the College of Surgery in 1763. In 1648 a branch of the community was detached under the name of barbers, wig dressers, and bath men, which for a long time was under the dominion of the barber-surgeons, and was erected into a community only in 1673. This was, speaking broadly, the history of the community of surgeons of Rouen. In the sixteenth and seventeenth centuries it was composed of a lieutenant, of the first surgeon of the king, of three sworn wardens, of sworn masters, *aspirants*, and apprentices. The lieutenant paid a tax to the first barber of the king. The masters had the right to keep open shop and to hang out boxes and basins. Their number was from 30 to 35. They were recruited by the procedure of the "great masterpiece," a long and minute examination, consisting of fourteen different parts and extending over several months. A man could become an *aspirant* only after an apprenticeship of three years under a master. Gradually he came to be able to take the master's place, and then either remained all his life assistant to a surgeon or looked after the business of a surgeon's widow, or passed the great examination if he

could pay the fees, which were high. Sons of masters had certain privileges. They paid only half fees and could remain with their fathers. Barber-surgeons practising in Rouen, in the suburbs, or within certain areas had an easier examination, which lasted only three days. Once admitted they were assigned a definite post with limited rights, somewhat similar to those of the later *officer de santé*. The community also admitted midwives and examined dentists and cutters for rupture. It managed its own affairs under the supervision of the Bailli and the *parlement*, which was the chief local authority of the province. All questions affecting the community were dealt with in meetings, which were held at least once a week. For a long time the surgeons remained united to the barbers. Then there came a period of drifting apart, till the severance was completed by the promulgation of the decree of Versailles in 1756.—*British Med. Jour.*

MEDICAL PREPARATIONS, ETC.

SAFE ANTISEPTICS IN GONORRHEA.

Tincture of iodine irrigations in solution of from one to four drachms to a quart of hot water is said to be one of the safest and best antiseptics that can be used in gonorrhoea. The strength of the solution and number of irrigations a day depends upon the stage of the disease. To keep the urine bland and non-irritating sanmetto should be administered in teaspoonful doses three or four times daily throughout the treatment. In cases of extreme acidity of the urine one of the potassium salts will be found helpful.

A FAMILIAR FORM OF CYSTITIS.

There is a form of cystitis quite familiar to the general practitioner. It occurs in females, old and young, with apparently normal pelvic organs, generally after a chilling. There is an abrupt onset with frequent micturition, tenesmus, and perhaps dysuria. The acid urine contains the infecting organism, usually a colon bacillus, pus, and often blood. Rest in bed, local warmth, light diet, free catharsis and sanmetto are the measures employed, and in a few days the severity of the attack subsides, and generally in two or three weeks the patients are as well as ever.