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QUEEN'S MEDICAL QUARTERLY is presented to the Medical Profession with the compliments of Queen's Medical Faculty. Contributions will be gladly received from members of the Profession and willingly published.

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EDITORIAL.

IT is with pleasure that we announce to the profession the completion of the arrangements with the Ontario Government for the branch laboratory of the Provincial Board of Health. Dr. W. T. Connell has been appointed Assistant Bacteriologist for the Province, and he has arranged with the faculty for the use of the laboratories in making the necessary examinations. These duties Dr. Connell assumes in addition to what he has been doing. The formal announcement will be found elsewhere in this issue. Specimens and communications should be sent to "The Pathological Laboratory, Queen's University." Immediate attention will be given at all times to this work.

Several promotions in and additions to the Faculty of Medicine have been announced. Dr. I. Wood is now Pro-

essor of Pediatrics and Associate Professor of Obstetrics and Gynaecology. Dr. Mylks is Assistant Professor of Anatomy; and Dr. Williamson, Professor of Medical Jurisprudence and Toxicology. Dr. F. Etherington has been appointed Tutor in Anatomy and Lecturer in Animal Morphology. This is the beginning of the realization of the plans of the Faculty to develop the teaching of Anatomy to the highest possible degree of efficiency. Dr. Etherington is in Edinburgh actively preparing for his new duties next session. Dr. W. C. Barber and Dr. W. C. Herriman, both of the staff of Rockwood Hospital for the Insane, have been appointed Clinical Assistants to the Chair of Medicine. This means that the clinical advantages of Rockwood Hospital will be more fully utilized than ever before.

The sudden death of Dr. V. H. Moore necessitated a special meeting of the University Council to appoint a representative to attend the meetings of the Ontario Medical Council. Dr. Herald was unanimously requested to act this year, and the permanent appointment was left over till the annual meeting of the University Council in 1905. A report of the Medical Council meetings will be found on another page of this issue. The new regulations in regard to matriculation and the fifth year curriculum will be of interest to present and prospective students.

At a recent meeting of the Kingston Medical and Surgical Society the question of Doctors dispensing their own medicines was discussed with a committee of the Druggists' Association. There can be no two opinions regarding the inconvenience and loss of time, not to consider the actual financial loss in the items of drugs and bottles, that the busy practitioner is subjected to in dispensing his own medicines. On the other hand there can be no two opinions regarding the decided gain to the patient and the certain protection of the practitioner's reputation by the physician knowing the exact drugs taken as well as their strength and purity. Some druggists do not hesitate to use

drugs of inferior quality and reduced strengths, and some have even been known to substitute a cheaper and inferior quality and even to replace the prescribed drug with one they said was "just as good." Then again, prescriptions are often refilled without the doctor's order, patients desiring to save a doctor's fee rather than make sure of a perfect recovery. Neither is the prescribing evil a small one, it is rather the rule than the exception, for Mr. A. knows Mr. B. prescribes, and feels that he may just as well have half a dollar as Mr. A., so he says "what is the use of going to Dr. Bones when I have the prescription he will give you? He will charge you 50 cents or \$1.00 and send you here for the medicine" and the motive that prompts the druggist to prescribe and secure the dispensing for himself makes the patient take the druggist's prescription and save his own \$1.00. Some years ago, well within the memory of some still practising in the city, a similar arrangement to the one now proposed was made, and before very long the druggists agreed to increase the price of their prescriptions to the profession, who in their turn sought refuge from the increase by purchasing drugs from outside firms at reasonable and market rates. This state of affairs soon led to the present condition in which busy men because of the hunger and thirst of some druggists are compelled for the sake of their patients and their own reputation to stock up with drugs and bottles and waste precious time dispensing that can be so much better employed in keeping abreast of the times and making themselves fairly familiar with the results of recent research. To conclude, we believe it would be a saving of time, money and nerves if the doctors would not dispense, and the druggists would act honestly and honourably with the public and the practitioner, but until all men everywhere are honest and honourable the course of the "Good" will be modified by the conduct of the "Evil" and the medical millenium pushed farther away.

DR. V. H. MOORE.

On June 8th last, at his home in Brockville, death came peacefully to V. H. Moore, M.D., L.L.D., and thus was removed from his earthly labours one who was known by the profession in Canada from Halifax to Vancouver, who was respected by all who knew him and who was loved by those who were fortunate enough to know him intimately. Dr. Moore filled a large and important place in the town where he dwelt and in the profession which he adorned. Though he had an extremely large practice he found time to take an active interest in whatever he conceived to be for the benefit of Brockville. He was active in the municipal and educational affairs of the town of his adoption. His fellow citizens showed their appreciation of his worth by electing him to the Board of Education, the Town Council and the Board of Water Commissioners. In each of these positions he was recognized as a leader. For many years he was Surgeon to the 41st Regiment and but recently retired with the rank of Surgeon Lieut.-Col.

It was not, however, in these positions that Dr. Moore won his greatest fame. His whole heart and mind were more in his chosen profession. Graduating from Queen's in 1870, he immediately began practice in Brockville. From the very beginning of his career the people recognized his ability and gave him their confidence. His practice grew and increased and was not confined to Brockville alone. Patients came to consult him from the country and neighbouring towns for miles around and his fellow practitioners, both in Brockville and in the neighbouring district, were glad to secure his advice in consultation and his aid in surgical operations. We venture to say that no other practitioner in Canada outside of a University centre, perhaps, enjoyed the confidence of his confreres as did Dr. Moore.

To the profession at large Dr. Moore became known through the Associations, Provincial and Dominion, in the business of which he always took an active part. His worth

was recognized and rewarded by his fellow members who elected him Vice-President of the Provincial Association and President of the Dominion. To us at Queen's he was known and valued as our representative on the Ontario Medical Council. I am sure his confreres on the Council will agree with me when I say that no member in recent years took greater interest in Council business nor wielded a greater influence in moulding the Council's policy than did Dr. Moore. As the representative of his Alma Mater he never lost sight of her interests. As a member of the profession he at all times endeavoured to keep up the standard of Medical Education. No where will Dr. Moore's services be missed more than in the deliberations of the Medical Council.

As a man Dr. Moore had the rare faculty of winning the confidence of all with whom he came in contact. Of a bright and genial disposition, large hearted, liberal and by nature kind he not only won respect but commanded and received affection. A man of vast reading inside of professional studies, possessed of a rich and ready flow of language, a keen sense of humour and the faculty of getting at the pith of any subject, he was a fluent, eloquent, effective and convincing speaker. To his ability as a speaker he owed much of his power in the various public and semi-public positions which he held.

Brockville and the profession mourn his loss, but all feel that his was a useful life. In our mourning our sympathies go out to his widow and his two children. To them the loss of such a husband and father must be heavy indeed but even in this their hour of sore affliction it may be some consolation to them that they mourn not alone. Throughout Canada the members of the profession are partakers of their grief, and while we weep for him who is not, we sympathize with the dear ones he has left and pray that consolation may come to them from that God in whom he believed.

J. H.

THE MEDICAL SCIENCE OF THE ANCIENT GREEKS.

GENTLEMEN GRADUATES, When I was asked to address you on the occasion of this Convocation I had great doubts as to whether I should undertake anything so dangerous as to speak to a well-trained body of men on their own subject about which I know so little. Yet I felt also it would be better that anything I had to say should bear as closely as possible on those professional studies which you have just completed, as far, at least, as this University is concerned. I reflected also that after all there was, perhaps, one side of your subject about which I might venture to say something, although I am well aware that even on that side my knowledge is very imperfect and wanting in the professional touch. The side I mean is the history, or more properly the ancient history of medical science, and I propose to read to you to-day a paper on the great Greek physician, Hippocrates, usually styled the Father of Medicine. That is going a long way back, you will think, in the history of your profession for a subject, and some of you may be of opinion that there is not much to be learned from the works of a physician who lived 2,300 years ago. That depends, however, on the way in which you study them. You may not find much that adds to your scientific knowledge of medicine in the strict sense of the words. But you may still get many valuable hints from Hippocrates for the study of disease by natural methods of observation, you will still find something to help you in the sound methods of investigation which he employed, and there certainly ought to be something inspiring for you in becoming acquainted with the spirit in which the greatest of the ancient physicians laboured in his profession.

From another point of view, also, it is a very proper thing for a member of a learned profession to be acquainted with the history of his subject and the labours of the great men who laid its foundations and helped to maintain its reputation

in the past. We ought not to lose sight of the fact, especially in these practical modern times, that one of the best forms of general education which a professional man can receive is the intelligent study of the history and development of his subject from its earliest scientific form to its present condition. Wisely treated, such a course of study would give him the key to the whole intellectual and much of the social history of humanity. It would illustrate for him every great phase of thought, every great period of effort and achievement in the history of civilization. To most students it would probably be worth more than any course in general history or philosophy which they could take, for it might be made to include both history and philosophy in their most vital forms. They would learn the different forms which the problems of research assume in every age, and they would be taught in this way, better, perhaps, than in any other, to appreciate the long struggle of humanity and the ideals involved in it. At present, however, as far as University training is concerned, I am inclined to think no learned profession gives so little attention to its past as the medical profession.

The medical science of Europe had its origin in Greece, and the name of the Greek physician, Hippocrates of Cos, stands at the head of medicine in much the same way as that of Aeschylus stands at the head of tragedy, or that of Aristotle at the head of logic. Hippocrates, also, is one of the great names of the age of Pericles, and not unworthy to appear along with those of Plato, Sophocles, Thucydides, Phidias and the others, as representing the intellectual splendour of ancient Greece.

Hippocrates was born about 460 B.C. in Cos, one of those Aegean islands so famous in ancient history. His family belonged to a priestly race of Asclepiads who served in the temples of the god Aesculapius, and amongst whom an independent medical guild seems eventually to have developed. A member of such a family would certainly inherit a large stock of traditional lore about disease and its remedies, from old priestly charms and spells to the use of certain drugs, ointments and foods, and observations on the symptoms of diseases. But the best evidence that the traditional knowledge of the

Asclepiads amounted to little or nothing in a scientific sense is the treatise which Hippocrates himself wrote on the early medical art, *περὶ ἀρχαίης ἰητρικῆς*, from which we must infer that he inherited nothing that could be called even the rudiments of medical science. In that treatise, which perhaps was written as a kind of manifesto about the beginning of his career, we find Hippocrates trying to define the proper field of medical study, to give it a systematic and scientific direction on the one hand, and on the other to free it from the metaphysical speculation with which he says all previous writers, who appear to have been properly speaking philosophers rather than physicians, had mistakenly encumbered it. "All those who have written on medicine," he begins by saying, "have postulated some theory about heat and cold, moisture and dryness, or some other thing of the sort to which they trace the cause of diseases." And in the twentieth section of the same treatise he exposes the error of those "physicians and sophists" who assert that to know the medical art it is necessary to know "what man is and how he came to be and was originally compounded," *ὡς οὐκ εἶη δυνατὸν ἰητρικὴν εἰδέναι θεοῖς μὴ οἶδεν, ὃ τί ἐστὶν ἄνθρωπος καὶ ὅπως ἐγένετο πρῶτον καὶ ὁπόθεν συνεπέγη ἕξ ἀρχῆς*). This line of inquiry, Hippocrates remarks, belongs rather to philosophy. In contrast to such philosophical flights of speculation Hippocrates defines with characteristic realism and plainness the science of the physician as the study of "what man is as concerns his eating and drinking and other habits, and how he is affected by each. Nor is it sufficient (Hippocrates continues) to say, for example, that cheese is a bad food because it causes trouble to him who has eaten his fill of it; but we must ask what kind of trouble, and how it arises, and to what part of the body it is hurtful, for there are many foods and drinks bad which affect different men in different ways." The advance which Hippocrates made in this treatise seems to have been to define more clearly and emphasize the function of the medical art in the regulation of diet in cases of disease as distinguished from the use of food by those in health. By putting medical art on this plain and simple footing, he at once rids it of the purely empirical prescriptions and the superstitions and magical

elements of older medical practice, as well as of the merely speculative philosophy of "Empedocles and others," and makes it a true observational science. This was a considerable advance, no doubt, in the way of clearing the field for real progress, and it is the great merit of Hippocrates that he succeeded in reducing this observational science to a system and furnishing it with those laws and general conceptions which a system requires. Starting from this principle that dieting was the chief business of the medical art, he was led not only to study the value and action of food in the treatment of the sick, but also the stages of progress in disease, in order to discover at what periods either food or medicine could be most safely given and with the best effect. He thus reached the therapeutic principle that it is necessary not only to know the right kind of diet and medicine in disease, but also the right moment for intervening with them. In this way Hippocrates, studying the condition of his patient closely, gave a great development to medicine. He discovered the critical days in diseases, particularly in fevers, the characteristic progress of which, with all their remissions and exacerbations, he describes with great minuteness. His clinical observations are almost modern in their fullness and accuracy. Philosophically viewed, the progress which Hippocrates thus achieved in medical science was to bring disease clearly under the conception of law and to exhibit it as interference with *φύσις* or nature, that power in the universe which moulds and tends to maintain all things in health and harmony, and which therefore naturally resists disease. Hence his early recognition of the principle of the healing power of nature, *vis medicatrix naturæ*. Nature, he said, is the physician of diseases. The human physician's business was mainly, in his view, to wait on nature and assist it in its efforts to throw off disease. It was a scientific conception of the subject which at once raised it above all the superstitious fancies of the age regarding the demoniacal character of disease, the use of charms and the like. Hippocrates is as solidly naturalistic in his views and treatment of disease as a physician of to-day.

A striking characteristic of Hippocrates, and perhaps of the best Asclepiad schools generally, was the power of general-

izing which they showed in reasoning about disease. It was a kind of inductive process founded on natural observation by which they sought to supplement their defective knowledge of the causes of disease and their very limited aetiological analysis. Such a saying as that quoted with admiration by Dr. Francis Adams, "Those things which bring alleviation with bad signs, and do not remit with good, are troublesome and difficult," and this simpler dictum, which I remember as one of the *Aphorisms*, "When sleep ameliorates a disease, it is a good sign," illustrate the philosophic kind of induction characteristic of this ancient Greek school of physicians. This line of research led to the high development of Prognosis which made *The Prognostics* and *Aphorisms* of Hippocrates monumental works in their way.

What hints for this clear and scientific conception of therapeutics Hippocrates may have found in the labours of nameless predecessors or contemporaries in the different schools of the Asclepiads at Rhodes, or Cnidus, or elsewhere, how much he may have learned from the trainers of athletes for the gymnasium, whose knowledge of dietetics he specially mentions in his treatise *On Ancient Medicine*, it is impossible to say. He was a man, as one may see from his works, who neglected no source of information. What is certain is that he was the first to systematize and make public the floating and scattered mass of knowledge about diseases and their cures which before his time had been probably the jealously guarded secrets of medical guilds and the traditional lore of gymnastic experts. His own contributions to this stock of medical knowledge were, no doubt, very great, but possibly they appear now to be even greater than they are from the fact that he was the first to give the completeness of scientific method and system to knowledge in this department.

Perhaps the best way to give you some idea of the scientific thoroughness with which Hippocrates observed and studied disease would be to read to you one of his clinical records. It is a case which he recorded amongst many others during an epidemic of fever at Thasos, an island off the coast of Asia Minor :

Silenus [*that is the name of the patient, perhaps a miner in the famous mines of Thasos*] dwells on the flat beach near the property of Eualcides. From toil, drinking and unreasonable exertions he took fever. He began by feeling pain about the hips, headache, and a distention of the throat. A bilious and violent discharge took place *the first day*; dark coloured urine with a dark sediment; great thirst and a dry tongue; no rest at night. *On the second day* a sharp fever; more dejecta of a thin, frothy kind; dark coloured urine; an uneasy night; did not notice things much (i.e., there was a kind of stupor or dullness). *On the third day*: every symptom more acute; oblong distention on each side of the hypochondrium, somewhat relaxed towards the centre; discharges somewhat dark in colour; urine thick, somewhat dark; no rest at night; much babbling, laughter, singing; involuntary discharges occur. *On the fourth day*, the same symptoms. *On the fifth day*, excessive or violent discharge, bilious, smooth, shining; urine thin, little of it, transparent; takes little notice of anything (i.e., great dullness). *On the sixth day*, slight sweats about the head; the extremities cold, livid; much tossing about; nothing discharged; sharp fever. *On the seventh day*, voiceless; extremities no longer any heat; retention of urine. *On the eighth day*, cold sweats; a red eruption after the sweats, spreading itself over the body like pimply down and remaining permanent; dejecta as if undigested; pain in discharging urine; extremities warm a little; slight sleep; coma; speechless; urine light, bright. *On the ninth day* the same symptoms. *On the tenth day*, could not take drink; coma; slight sleep; urine thick with a white sediment after standing, like coarse flour; the extremities again cold. Death took place. Throughout the respiration was bad, intermittent and laboured. Quivering of the hypochondrium was constant. His age was about 20 years.

That is a clinic of Hippocrates which you can date about 2,300 years ago. What kind of a case would you judge that was? As an experiment I asked one of the medical professors after reading it over to him to say. He answered without much hesitation that it was a fairly defined case of common typhus. Yet in the medical histories I have consulted I find it is stated that there is no certain or satisfactory account of typhus fever till the year 1501, when it occurred in Italy. (See Wilson on Continued Fevers). The number of cases which Hippocrates observed during this outbreak must have been very great, as we may infer from his general remarks, although those which he actually records are only 16, or, if we take the whole series,

42. But the bewildering variety of symptoms which would certainly show themselves at such a period does not prevent this ancient master of diagnosis from distinguishing a type of fever which was not accurately distinguished or described again till the 19th century. "In another class of cases," he remarks, "the critical days were different." In this class, he tells us, most patients had a crisis on the 6th day. The fever then left them for 6 days. Then there was a relapse and the crisis came on the 5th day, after which they generally recovered. Then he describes other cases of a similar kind in which the critical days differed slightly in the following manner: First crisis on 7th day, fever absent for 7 days, then relapse for 3 days. First crisis on 6th day, fever absent for 7 days, relapse for 4 days. First crisis on 7th day, absence of fever for 3 days, relapse for 7 days. The figures vary slightly, but generally make up 17 days.

Hippocrates does not distinguish this relapsing fever as a different species from typhus—that was not done till the 19th century—but he marks very clearly characteristic differences between it and the more deadly typhus. "All those," he says, "whose crisis occurred in this order, as far as I observed, recovered;" and he notes that all those who had good and liberal bleedings at the nose (*epistaxis*, which may occur in relapsing fever, but not as a rule in typhus,) came happily through the disease.

The *Epidemics* of Hippocrates, from which I have taken the above, is the earliest medical description of an epidemic which we possess. We can see that it is an excellent and accurate record of an epidemic, once common, in which typhus and relapsing fever were conjoined. And it is a fact that until the 19th century there is nothing so good or exact in medical history. Till that time later physicians seem to have known nothing about relapsing fever, not even enough to recognize the value of the clinical records which Hippocrates left of the epidemic at Thasos. It is a good example of the value of true and careful observation in medical science, even when there is nothing to help it in the way of scientific aetiology. When we consider how variable and confusing the symptoms of those

fevers may be, and the chances of their being crossed with other ailments, we must admire the keen clinical eye and mental grasp which enabled Hippocrates to write such a work as *The Epidemics* in the infancy of the medical art.

There is a scientific completeness in some respects about these records of the epidemics at Thasos which might still furnish a model for the modern physician. Hippocrates is careful to note even the meteorological conditions which preceded and accompanied these outbreaks of fever. He always begins his description by a detailed account of the character of the seasons and the prevailing winds and weather. It may be an anticipation of some science of medical meteorology which may yet be taken up one of those days. Here, for example, is how he begins his account of this same epidemic at Thasos :

In Thasos, commencing a little before Arcturus (15th Sept.) great and frequent rains during the periodic northerly winds. From the autumnal equinox till the vernal equinox (21st March) moist winds from the south, occasional showers from the south ; northerly tempests, droughts, very cold weather, high winds, snow ; the tempests greatest about the 21st September.

A spring with north winds, droughts, occasional showers ; very cold.

About the summer solstice (21st June) a few rains, great frosts till near the end of July, but after the dog star rose until the middle of September, a hot summer ; burning heats and not gradual in their oncoming, but continual and violent ; no rainfall ; the northerly periodic winds blew as usual.

About the middle of September, showers from the south until the autumn equinox. Under these circumstances, during the winter, began cases of hemiplegia (perhaps some fulminant paralytic variety of cerebro-spinal fever) and became very common. Some of those attacked died quickly, and the sickness was either epidemic or did not occur at all.

Early in the spring the fevers began and continued till the autumn equinox and towards the summer. Of all who took ill at the beginning of spring or of summer, the most recovered, only a few dying ; but those who took ill in the autumn, after the rains had come on, were bad cases, most of them dying.

That is a sample of the very careful and complete observation which was practised by this old Greek physician. Hippocrates had some idea also of sanitary science and wrote a book on *Air, Water and Sites*, in which he treats of the situa-

tion of cities, their exposure to sun and wind, the kind of water used by the inhabitants, and so forth. He advises the student of medicine to study those things in every city he visits and gives himself a medical description of different cities and districts, showing how the constitution of the inhabitants is affected by their environment. Modern inventions have made the conditions of life more uniform in each country than they were in ancient times, and modern medical science is so absorbed in subtle instrumental analysis that it pays little attention to these old lines of natural observation and research, yet there might still be room for some comparative medical science based on the study of climate, situation and food such as was attempted by Hippocrates.

The chief distinction no doubt of Hippocrates as a physician is the great development he gave to physical diagnosis, which he systematized and practised in a way that raised it almost to the level of the science of our own time. He used, for example, the method of auscultation in diseases of the respiratory organs, and gives precise directions how to practice what is still known as the Hippocratic succussion. "Let some one," he says, "hold the hands of the patient while you shake his shoulders and listen from which side the sound of disease comes." And he shows how the physician may thus determine whether the fluid in the chest is water or pus. He also describes the sound of pleuritic friction as something like the creaking of leather. Here again the diagnostic art of Hippocrates was superior to anything practised till early in the 19th century, when modern pneumatology began with the work of Laennec and Raynaud.

On Prognosis, or the science of forecasting the course of a disease, Hippocrates set a high value and achieved himself a kind of unique distinction in this department, his *facies Hippocratica*, or description of fatal signs in the visage, being still a tradition in medicine. It occurs at the beginning of his book, *The Prognōstics*. "The first thing in acute diseases," he says, is to look at the face of the patient and see if it is like the face of those in health, but especially if it is like itself; if so, it would be an excellent sign; but if quite the opposite, a very

bad sign." Then he goes on to enumerate the following signs in the face as likely to indicate a fatal issue for the case: "A nose sharp at the point, hollow eyes, sunken temples, the lobes of the ears turned back, the skin about the face tightly stretched, hard and dry, the complexion greenish gray or dark."

Then Hippocrates adds that if the face looks like this at the *beginning* of the disease, the physician has to reconsider it unless he can discern other fatal symptoms. He must enquire if the patient has been continuously sleepless, or if he suffers from hunger, or if the dejecta are very watery; for if so the appearance of the face is a less sure symptom of approaching fatality. And further, if the disease is older than the third day when the face appears thus, the physician must not only ask these questions, but look for other signs, both in the whole body, and especially in the eyes; if the eyes avoid the light or weep without cause, or are distorted, or the one is smaller than the other, or if the whites have red in them, or livid veins or humours, then all these signs are fatal. The physician, he also says, should look under the eyelids while the patient is asleep, if anything appears of the white when the eyelids are closed (unless he has taken certain medicines, or there has been diarrhoea, or unless he is accustomed to show the white in this way while he sleeps) it is a bad sign and surely fatal. If the eyelid is bent and livid, or the lips, or the nose, with any of the other symptoms, it is a sign that death is near.

Of course modern medicine understands all these signs aetiologically as Hippocrates could not. In him they are only part of a general prognosis.

Then he speaks of the movements of the hands as a prognostic. "About movements of the hands," he says, "I recognize the following: In acute fevers and lung inflammations and inflammations of the brain when the patient waves his hands before his face and chases things in the air, and picks at the bed-clothes" (Hippocrates says 'picks flocks from his garments'), or makes movements as if gathering twigs or dusting chaff from the walls, these are all bad and signs of death."

This particular part of the Hippocratic prognosis became a kind of popular lore in the literature of the middle ages.

Shakespeare makes use of it in the well-known passage of Henry V., where Dame Quickly describes the death of Falstaff: " 'A parted just between twelve and one at the turning o' the tide ; for after I saw him fumble with the sheets and play with the flowers and smile upon his fingers' ends, I knew there was but one way ; for his nose was as sharp as a pen, and 'a babbled of green fields.' "

The passage I have read to you from the *Prognostics* of Hippocrates I chose partly because it was simple and vivid. There is much in the treatise that is more valuable and recondite. It deals fully with every condition of the patient, sweats, respiration, position in bed, &c., from the point of view of Prognosis. Modern medical authorities who have given attention to this subject of ancient medicine regard the treatise of Hippocrates as of high value still for the modern student. The *International Encyclopædia of Medicine* says of it: "We recommend it to all members of the profession who wish to learn the true inductive system of studying medicine."

It is easy, even for one who has no special professional knowledge of medicine, to see the greatness of the intellect, akin to that of an Aristotle and a Bacon, which could lift medical science out of a chaos of casual empirical information and fantastic speculation and make it a complete, co-ordinated system of knowledge based on true methods of research. Hippocrates had all the qualities of a great physician who combines scientific analysis and philosophic breadth of vision with that keen, clinical eye which misses nothing that is characteristic of a case.

Hippocrates was also a master of surgery, though that is too technical a subject for me to enter upon. Dr. Adams, in his *Life of Hippocrates*, says of his work in this field, "In surgery he was a bold operator. He fearlessly, and as we would now think, in some cases unnecessarily, perforated the skull with the trepan and the trephine in injuries of the head. He opened the chest also in empyema and hydrothorax. His extensive practice, and no doubt his great familiarity with the accidents occurring at the public games of his country, must have furnished him with ample opportunities of becoming ac-

quainted with dislocations and fractures of all kinds ; and how well he had profited by the opportunities he thus enjoyed, every page of his treatises *On Fractures* and *On the Articulations* abundantly testifies. In fact, until a very recent period, the modern plan of treatment in such cases was not at all to be compared with his skillful mode of adjusting fractured bones, and of securing them with waxed bandages." Another authority, the *International Encyclopædia of Medicine*, says : "He boldly and freely opened abscesses of the liver and kidneys. . . . The rectum was examined by an appropriate speculum, fistula-in-ano was treated by ligature, and hemorrhoids were operated upon. . . . The bladder was explored by sounds for the detection of calculi ; gangrenous and mangled limbs were amputated ; the dead foetus was extracted from the mother. Venesection, scarification and cupping were all employed."

His knowledge of physiology was of course very rudimentary. There was no subject which the ancients found more difficulty with than physiology, what they called the natural functions, *actiones naturales*, respiration, circulation, digestion, and secretion. To the last these remained much of a mystery to them, as indeed they continued to be till far on in our modern era. Hippocrates thought food was prepared for assimilation by being a sort of boiled in the stomach. Later on Asclepiades declared that the process was one of trituration. They had both got hold of facts in a way, but even though they had combined them, they would still have been unable to solve the problem for want of a chemical theory of the gastric juices.

In the treatise on *Ancient Medicine*, which I have already quoted from, we find Hippocrates struggling to lay the very foundations of physiological science when there was evidently little or nothing to help him. The only hint he seems to have for a start is the old generalisation of Empedocles about the four qualities of things which in the view of ancient medicine were combined in the living body, heat and cold, moisture and dryness, a principle which he had discarded as of no use in therapeutic practice. But he makes use of it here as a simple classification and begins by seeking to determine what parts of the human body collect and carry the moisture, what parts the

heat, and so on. He classifies the different parts of the body, some as hollow and becoming narrower as they continue, like a bladder with a neck; some as hollow and extended, some solid and round, some flat and overhanging, some flat and extended, some long, some thick, some loose and soft, some round and hard, and he proceeds to consider the question which of these parts will be best fitted to draw and collect the moisture from the rest of the body, whether the hollow parts that are extended, or the solid and round parts, or the hollow parts that narrow as they continue, like a bladder with a neck. Evidently the last, he answers, as may be learned from the form of those parts of the body which are on the surface and open to observation, for, he continues, you may notice that the mouth, which is a hollow part, cannot draw in any water when it is opened wide, but if you protrude the lips and press them together so as to form a kind of tube you can draw in anything you like. Things of this form then within the body, he concludes, are best fitted to draw in and collect moisture or fluid. But by the same reasoning he deduces that things which are hollow and extended are best fitted to receive fluid which is poured in or rushes in, although such parts cannot draw in and collect fluid in the same manner as the others. In the same way he reasons that spongy and light parts, such as the spleen and lungs and breasts, drink up moisture and grow hard and are enlarged most commonly when moisture or fluid is added to them.

You see the first gropings of the intellect in this new science of physiology. It is very rudimentary, but there is a certain soundness of method in it, especially in the careful comparisons with the known forms and operations of nature. This method would have led men far if they had but continued to follow it. But they lost this road after the great bloom period of the Greek genius was past, and did not find it again for many centuries. I am but a layman on this subject, but it seems to me that the medical profession has hardly realized the historic value of the treatise *On Ancient Medicine* as laying the foundations of medical science.

The work of Hippocrates in this field of the sciences contributory to medicine has of course little value when compared

with the progress which later modern science has made in this direction. In this respect Hippocrates and the ancient world generally were in the position of pioneers who can make but a few thin clearings in the boundless area of the primeval forest. But where the field lay more open to natural methods of observation and experiment, as in clinical investigation and the treatment of disease by natural methods, Hippocrates was and remains a master of the medical art. His general principle in therapeutics was to watch the patient closely, to study carefully the phases of nature's conflict with disease and learn how to assist nature by seizing the right moment for intervention. He laid great stress on diet, exercise, bathing and such natural methods in the cure of disease. His description of the medical value of different kinds of food, fish, fowl, flesh, milk, cheese, &c., is quite in agreement with our modern notions about them. In drugs his favorite laxative was the herb mercury, but active medicines, though freely used by him on occasion, were of secondary importance in his system. This principle became the ruling one with all his school. Galen, who lived centuries after him and was one of his greatest followers, insists strongly on it. "In slow diseases," he says in his book on Diet (*περι λεπτυνοῦσης διαίτης*) "it is better, when it is possible to reach your end by dieting alone, to abstain from medicines."

This Hippocratic treatment has had a great influence on the best English schools of medicine. In the cases of fever particularly, Sir William Jenner has given a strong opinion in its favour. "That man," he says, "will be the most successful in treating typhoid fever who watches its progress not only with the most skilled and intelligent but also with the most constant care, and gives unceasing attention to little things, who when prescribing an active remedy, weighs with the greatest accuracy the good intended to be effected against the evil the prescription may inflict, and then, if the possible evil be death and the probable good short of the saving of life; holds his hand." Indeed one cannot help noticing that the more you physicians are getting to know about every function and tissue of the body, the less you are making use of drugs, except in the case of a few standard medicines used under well

understood conditions. I was reading the other day an account of the progress of medicine in the 19th century by Dr. William Osler, of John Hopkins University. Dr. Osler writes on this subject:—"One of the most striking characteristics of the modern treatment of disease is the return to what used to be called natural methods—diet, exercise, bathing, massage. There probably never has been a period in the history of the profession when the value of *diet* in the prevention and cure of disease was more fully recognized." I do not mean to challenge so good an authority as Dr. Osler on the subject of medicine, but I think I might correct that statement slightly. There was such a period in the history of the profession, that period of Greek medicine which is represented by the names of Hippocrates and the greatest of his school. The natural methods which Sir William Jenner and Dr. Osler prescribe were exactly the methods prescribed and practised by Hippocrates, only of course the modern physician is aided by a much greater pathological knowledge. On the other hand it may be a question whether that greater pathological knowledge may not lead him to neglect the keen and careful observation which distinguished the greatest of the ancient physicians.

Hippocrates is a characteristic Greek of the great Greek period, a man of fine observing power, of large philosophic mind, and with that instinct for system and method, that spirit of scientific investigation, which is so conspicuous in the ancient Greek. It was not till the 17th century of our era at least, when modern anatomy and physiology began to bring new light to bear on medical science, that men were able to add anything valuable to the knowledge and the methods of Hippocrates.

The history of medicine, one may notice, shows the same general phenomena as the history of literature and the arts. During the flourishing period of the Roman Empire one or two Greek physicians like Asclepiades and Galen, who practised in Rome, gave reputation to the profession, but though they added and improved a little they did not go much beyond the Hippocratic art. As the Roman Empire declined under the inroads of the Teutonic barbarians, medicine, like learning and

the arts, declined with it. During the dark ages of Europe, from the 5th to the 10th century, medicine was just kept from oblivion in the monasteries, but the sound scientific method and the finer clinical instruction of Hippocrates were forgotten or neglected. The medical science that was practised from the 12th to the 15th centuries had an Arabian and Eastern character, and was a poor empiricism mixed up with all kinds of superstition and absurd fancies. The physician of the middle ages thought more of astrology, charms and wonderful specific drugs than of studying the condition of his patient. The way in which he sought to learn the best times for administering his cures was by consulting the stars and casting the horoscope of his patient. In short the mediæval physician was a good deal of a quack and an impostor, and he is satirized as such by nearly all the writers of that period. Some of you may remember Chaucer's description of the Doctour of Physik in the 14th century :

For he was grounded in astronomye,
 He kept his pacient a ful greet dele
 In houres, by his magik nature!
 Wel coude he fortunen the ascendent
 Of his images for his pacient.

That is, his diagnosis and prognosis were made by the use of astrology and *magia naturalis* or natural magic, as they called it.

Still he had preserved some of the principles of the Hippocratic art—for his own use at least. Chaucer tells us:

Of his diet measurable was he
 For it was of no superfluitee
 But of great norissing and digestible.

Then in the 15th century the awakening began with the great intellectual movement of the Renaissance, the revival of ancient learning and science. Not only Cicero and Aristotle, but also Hippocrates and Galen, now began to be studied with intelligence and in the originals, instead of in poor monkish and Arabian compilations. But for nearly two centuries more European physicians, like European thinkers in general,

were little better than pupils in the school of Greek and Roman thought.

But with the beginning of the 17th century the new impulse in science, the scientific method of observation and experiment, to which Bacon had given the force of a definite and reasoned system, began to be vigourously applied to medicine. Physiology contributed with Harvey the discovery of the circulation of the blood. Chemistry contributed with the German Sylvius the doctrine of fermentation. Sydenham in England and Boorhaave in the great medical school of Leyden organized clinical teaching on the old method of Hippocrates, whom both recognized as in a special sense their master.

That was the beginning of modern medical science. You all know what its progress has been since. The 19th century has been a series of triumphs for medical science, all the more that almost every other kind of science now contributes its quota to medical or surgical development. All the research methods of physical science have been brought to bear on the medical art. The knowledge of the great natural functions of life, which the ancient physicians almost despaired of ascertaining with precision—respiration, circulation, digestion, excretion, has been wonderfully advanced, and physiology has become a biological science with departments like cellular pathology which Hippocrates could not even have dreamt of. The use of anæsthetics has given a new delicacy to investigation, and along with the anti-septic treatment has made surgery a new science. Bacteriology has created preventive medicine and given us a new method of healing in serum-therapy. It is a most brilliant record of conquests, the history of medicine in the 19th century.

Yet, amidst it all, gentlemen, we have to remember the fact which Dr. Osler points out in the passage I read to you, that in practical therapeutics the old Hippocratic art of careful watching and the use of natural methods remains the foundation and centre of the medical art.

There is one side of therapeutics which I have not even touched, and yet it is a part of natural therapeutics and belongs more to my own line of study than any other part. That is the

mental side of the healing art. Of course every one recognizes this side up to a certain point. Every one admits that the true physician should bring the soothing and refining power of good manners and the supporting power of a developed and cultivated intellect into the suffering and apprehensive household where he goes. But I think he might do more harm than that. To the ordinary man a true helpful word from a physician would be of far more value than it is from any one else, either professor or preacher. His patient and every one in the house are generally in a frame of mind very open to suggestion from him. If he is educated enough to appreciate the mental as well as the physical condition of his patient he has a great field of true work here. He could say to one kind of man, "read such and such a book, it will suit you," or to another, "look over the art journal I will send you." To one he might say, "read Keble's Hymns," to another, "get Mr. Dooley's latest"—if nothing better would be suitable. Why should this sphere of mental suggestion and treatment be abandoned to the specialist in insanity, or to the unscientific Christian Scientist? To do this of course the physician must be more than a mere specialist; he must be a highly educated man, with that kind of training which the study of literature is peculiarly fitted to give. After all the physician's first diagnosis is to diagnose the character and speech of his patient. It is sometimes said that the physician knows the worst about men, but it is at least equally true that he sees them also at their best, in the sick household, away from the levities and rivalries of life, brought face to face with realities, and willing to do their best. There ought to be something in this experience to give the physician, if he is a sound man, that kindly wisdom and thoughtful gravity of judgment, and that fine poise of temper which one does really see in the best of the profession.

The great thing for any member of a high or learned profession is always to keep growing. Some men are dead intellectually long before they are in the grave. They know as little, speaking philosophically, at 40 and 50 as they did at 30; they feel less, they think less. Their science has become more routine and empiricism; the only aim of their work and their chief

interest in life is the money they make and the enjoyment they can purchase with it. Always keep your scientific interest in your work alive. Do not let it be entirely absorbed by material or business interests, however important these may be ; otherwise you become a mere practitioner, using certain formulas mechanically and hardly taking the trouble to test or correct them by your ever growing experience. Always know what the scientific problem is below the therapeutic one, and keep your eye on it. I should say that a man who is not improving and modifying his methods every five or six years till he is 60 at least, is not doing all he might do. He may even be taking and using the newly discovered methods of others to some extent, yet, if he is not watching and testing them closely, he is not growing.

The physician, like other men, must learn from his failures. No doubt a physician's mistakes are apt to have terrible results, more so than a clergyman's or a critics, though these are sometimes bad enough. It is an awful thing that a man should lose his life, or even his leg, by a physician's mistake. But perhaps it is not so terrible if it helps to save the lives or legs of other men ever afterwards. I think we may forgive a physician his mistakes when they are not wilful, if he learns from them how to avoid similar mistakes, and accept the lesson of caution which has been given him. A vain and conceited man does not learn from his mistakes. He only grows callous and says to himself "There is nothing certain in medicine ; we all make mistakes ; it was no fault of mine." But if he is a true scientist and the right sort of man, he learns from his mistake. He sees that a little more thinking, or a little more careful observation, would have avoided that error. He will find out where his fault lies, whether he is diagnosing too hastily, or overlooking little signs, or relying too much on one particular method ; and he will be on his guard another time. Such a man will feel his mistakes acutely, but he may be forgiven them. He will likely be an excellent physician in the end and make the world abundant compensation for his mistakes.

I wish you all, gentlemen graduates, true success in the profession upon which you are now entering. It is a very noble

one, combining as almost no other profession does, scientific, intellectual and human interests in its practice. It is a profession well fitted to make a happy and useful life, if a man will labour in it with even a spark of the fine scientific and philosophic spirit which distinguished its founder, old Hippocrates of Cos.

JAMES CAPPON.

ANNOUNCEMENT.

DR. W. T. CONNELL desires to announce that having been appointed assistant bacteriologist to the Provincial Board of Health of Ontario, he will make free examinations for medical practitioners of swabs from cases of diphtheria (diagnosis or release); blood from suspected typhoid fever; sputum for tubercle bacilli or pneumococci; and pus for its contained micro-organisms. Bacteriological examinations of water samples will be made when such are forwarded through officials of local boards of health. Urine, tumors and morbid tissues do not come under free regulations.

For details address,

Pathological Laboratory,

Queen's University, Kingston, Ont.

COLLEGE OF PHYSICIANS AND SURGEONS
OF ONTARIO.

THE following students of the Medical Faculty, Queen's University, have passed the examinations held by the above licensing body.

PRIMARY.

F. A. Aylesworth, Bath ; H. A. Boyce, Murray ; E. Bolton, Phillipsville ; W. C. Brown, Midland ; M. E. Branscombe, B.A., Picton ; E. C. Consitt, Perth ; J. Chant, Chantry ; M. E. Grimshaw, Wolfe Island ; J. V. Gallivan, Kingston ; J. T. Hogan, Perth ; R. W. Halladay, Elgin ; M. Lesses, Kingston ; C. A. Lawler, Kingston ; T. D. Macgillivray, B.A., Kingston ; C. C. McCullough, Gananoque ; A. D. MacMillan, Finch ; W. R. Patterson, Kingston ; W. E. Patterson, Newburgh ; L. L. Playfair, Kingston ; Jas. Reid, Renfrew ; W. E. Spankie, Wolfe Island ; C. P. Templeton, Napanee ; F. R. W. Warren, B.A., Balderson ; J. F. Wade, Balderson.

INTERMEDIATE.

F. A. Aylesworth, Bath ; M. E. Branscombe, B.A., Picton ; J. H. Cryan, Demorestville ; J. C. Caskey, Tweed ; J. V. Gallivan, Kingston ; D. H. Houston, Belleville ; H. Moore, Athens ; C. C. McCullough, Gananoque ; E. J. Robinson, North Williamsburg ; Victoria Reid, B.A., Kingston ; A. H. Singleton, B.A., Newboro ; E. J. F. Williams, B.A., Brockville ; J. M. Young, B.A., Renfrew.

FINAL.

F. A. Ayleworth, Bath ; F. M. Bell, Kingston ; M. E. Branscombe, B.A., Picton ; J. H. Cryan, Demorestville ; J. S. Dickey, North Williamsburg ; D. H. Houston, Belleville ; H. E. Moore, Athens ; W. W. McKinley, Seeleys Bay ; G. E. McIntosh, Mississippi Station ; D. M. McCarthy, Kingston ; E. J. Robinson, North Williamsburg ; Victoria Reid (B.A.), Kingston ; A. A. Staley, Wolfe Island ; A. H. Singleton (B.A.), Newboro ; G. H. Ward, Napanee ; E. J. F. Williams (B.A.), Brockville ; J. M. Young (B.A.), Renfrew.

ANNUAL MEETING OF THE MEDICAL COUNCIL OF CANADA.

THE Annual Meeting of the Medical Council was held in the Council Chambers, Toronto, commencing Tuesday, June 28th and ending Saturday, July 2nd. There were two new members present, viz.:—Dr. Baskin of Uxbride, who had been elected in the place of Dr. Sangster, deceased, and Dr. Herald of Kingston, who had been appointed representative of Queen's University in the place of the late Dr. Moore. Dr. Thorburn who formerly represented the Toronto School of Medicine, resigned his position as the institution which he represented now no longer exists.

Hon. Dr. Sullivan of Kingston was unanimously elected President and in the chair gave the utmost satisfaction to all. Every member felt that his election was but a slight tribute to his long and honourable service in the profession which he has so adorned and for the advancement of which he has so earnestly and faithful laboured. Dr. Macdonald of Toronto was elected Vice-President and no one better suited for the position could have been chosen.

The two important matters that were under consideration were the Matriculation Examination and the Fifth Year: The findings of the Council were as follows:—

REQUIREMENTS FOR MATRICULATION.

Any one of the following credentials will be accepted:

1. A certificate of having graduated in Arts or Science in any University in His Majesty's Dominions, or in any other University approved of by this Council.
2. A certificate from the Registrar of any chartered university conducting a full Arts course in Canada, that the holder thereof has passed the examination conducted at the end of the first year in Arts by such university.
3. A certificate of having passed the joint University Senior Matriculation examination in Arts as conducted by the Education Department of Ontario.

4. A certificate of having passed the Senior Arts Matriculation conducted by any chartered University of Canada.

5. A certificate of having passed the joint University examination for Junior Matriculation in Arts, as conducted by the Education Department of Ontario—with an advanced percentage as follows :—40 per cent minimum on each subject, and 50 per cent on the aggregate.

6. A certificate of having passed the joint University examination for Junior Matriculation in Arts, as conducted by the Education Department of Ontario, with honors in any two departments.

In as much as we believe the above standard to be superior in character, we recommend that distinguishing term "Ontario Medical Matriculation", shall appear prominently on every certificate.

The fee for Matriculation shall be twenty dollars, and every medical student after matriculation shall be registered in the manner prescribed by the Council, and this shall be held to be preliminary to his medical studies, which will not be considered to begin until after the date of such registration.

THE FIFTH YEAR.

By the regulations contained in last year's announcement every student during his fifth year was required to go to college and attend a prescribed course of lectures. The only exception to this rule was, that those students who had been House Physicians or Surgeons in a recognized hospital for one year were not required to attend college during their fifth year. The regulation read as follows :—

"A certificate of having been House Surgeon or Physician in a recognized hospital for one year will be accepted in lieu of these clinical lectures and hospital attendance."

This was amended so as to read thus :—"A certificate of having been House Surgeon or Physician in a recognized hospital for one year or of having spent six months as an assistant to a qualified medical practitioner and of having regularly attended for six months the wards of a recognized hospital in which clinical lectures or demonstrations are given by the staff will be accepted in lieu of the above specified clinical lectures.

A recognized hospital for the purposes of this regulation shall be construed to mean a hospital having not less than fifty beds and satisfactory to this Council."

The amended regulation permits a practitioner to employ a fifth year student for six months of his fifth year and affords the student an opportunity of acquiring much useful knowledge and experience. It also permits the fifth year student to attend any hospital for six months that fulfills the requirements of the amended regulation and there are many of them in Ontario. Thus the student may remain at home and be saved the expense of an extra session at college. It was felt by the members of the Council that the amendment, while it favored the student financially, enabled him to acquire as good a practical knowledge of his profession as he could possibly get by attending college for another session and taking the course of lectures formerly prescribed.

There were of course many other matters before the Council, such as complaints as to infringement of the Council's regulations ; appeals from students, letters relating to professional or rather to unprofessional conduct. These were dealt with by the Council or referred to the appropriate committee.

Taken all in all the meetings of the Council were harmonious and each member seem desirous of doing what was best in the interest of the profession and the public. Undoubtedly the last annual meeting of the Council will have a beneficial effect upon medical education in this Province.

PERSONALS.

Dr. Angus Ferguson, '04, will practice in Edmonton, Alberta.

Dr. Ferguson Carr-Harris, '01, has been appointed a house surgeon at the City Hospital, Blackwell's Island, New York.

Dr. Robertson, '03, Kingston, has purchased from M. Healy, the corner double brick residence opposite the Palace Hotel, Daniel Street, Smith's Falls, and will occupy it in a few weeks, when he will open a practice there.

Dr. E. F. J. Williams, '04, has been appointed to Bellevue Hospital, New York.

Dr. M. E. Branscombe, '04, is the new House Surgeon at the Protestant Hospital, Ottawa.

Dr. Herbert Tandy, '04, Medallist in Medicine, has been appointed Purser of the Steamer Columbian of the R. & O. Co. for this season. He left for his summer duties in the middle of June, having been given three months leave from Kingston General Hospital.

Dr. Robert G. Moore, '02, Brooklyn, N.Y., spent a few days vacation in the city last month.

Dr. J. C. Caskey, '04, has been appointed Assistant House Surgeon in St. Luke's Hospital, Ottawa.

Drs. W. Gibson and A. H. Singleton have commenced their duties as House Surgeons at the Kingston General.

REPORT OF THE DEAN OF THE MEDICAL FACULTY.

THE Faculty of medicine has had a very successful year, both attendance and revenue having increased. The death of the late Dean Fife Fowler, who for many years was identified with medical education in Kingston, led to the appointment of Dr. J. C. Connell to this responsible office. Dr. John Herald retired from the office of Secretary on Dec. 1st, 1903, and Dr. W. T. Connell was appointed to succeed him.

Several changes in and additions to the teaching staff have been made. Dr. Wood has been promoted to be Professor of Pediatrics and Associate Professor of Obstetrics and Gynæcology ; Dr. Mylks to be Assistant Professor of Anatomy ; and Dr. Williamson to be Professor of Medical Jurisprudence and Toxicology. Dr. W. C. Barber and Dr. W. C. Herriman, of the staff of Rockwood Hospital for the Insane, have been added to the staff as Clinical Assistants, to give clinics in *Mediciné*. This will increase the clinical facilities very materially. Arrangements are in progress for further extension of the clinical teaching. Dr. Frederic Etherington has been selected for the new position of Lecturer in Animal Morphology and Tutor in Human Anatomy. It is expected that under his guidance the department of Anatomy will become more efficient than ever and the Anatomical museum will be developed. Dr. Etherington is now in Edinburgh and will spend the summer in preparation for his work. With these additions the teaching staff now numbers twenty-five.

The requirements for Matriculation Examination have been increased ; so that now matriculation for Medicine is the same as for Arts, except that the optional subjects are not required. The matriculation examination must be completed within one year of the date of entering upon medical studies, so that hereafter all second year students must be fully matriculated.

To the medical curriculum Physics has been added as a first year study, the course to be entirely experimental and practical and suited to the needs of medical students.

For teaching Pharmacology a laboratory is being fitted up and its equipment will be completed as soon as possible.

The work of the year was marked by enthusiasm on the part of both the students and the staff.

The attendance for the year was 216, an increase of 15 for the year. Thirty-seven Arts graduates are in attendance. There are also quite a number of students who are taking the combined Arts and Medical Course, which can be had in six years.

Forty-two candidates received the degree of M. D. and C. M.

The total revenue for the year was \$22,364.81 ; of this amount \$1,974 was paid to the University ; and \$1,498 to the School of Mines. The salary account amounted to \$9,405.73. Out of the expense account, which amounted to \$5,231.95, nearly \$2,000 was spent on equipment.

So far in its history the Faculty of Medicine has been entirely self-supporting, that is, it has never had any source of revenue other than the fees of the students. In spite of this an addition to the Medical building, costing over \$10,000, was finished three years ago, and every year has seen a large sum spent on improvements and equipment. It is felt, however, that endowment must be secured for proper extension of those subjects requiring professors who devote all their time to teaching, and laboratories whose equipment and maintainance must always be out of proportion to the fees collected from those in attendance. The experience of the Faculty has shown that laboratory teaching cannot be successfully carried on by men in the active practice of medicine. Another reason why endowment may fairly be expected for the primary subjects of medicine is that these are essentially subjects of the Arts Course, for they are accepted as part of the work for the B. A. degree not merely in Canadian but in British Universities. Then there is the department which has to do with public health. For this endowment is needed. Sanitary Science and Bacteriology also have long ceased to be purely medical subjects, and are now properly recognized to be subjects for the B. Sc. course. All three subjects are taught by Dr. W. T. Connell, who has during the twelve years of his connection with the University earned a reputation for thorough and reliable work, and has

done some research of great value to the country. The Ontario Government has recognized the value of his services by appointing him a special health officer for Eastern Ontario to make examinations in connection with contagious diseases.

This department needs more support than the Faculty feels able to give it out of its present revenue.

It must be remembered, also, that the fees paid by medical students are already very high and ought not to be increased. They are about four times higher than the fees paid by Arts students, and twice as high as those paid by the students of the Science Faculty. At the same time it ought to be noted that the fees paid by medical students in Queen's are much less than those of Toronto University and of McGill.

The Faculty has confidence that the friends of Queen's will no longer overlook the claims of the medical side of the institution to participate in future endowment, especially as regards the teaching of such purely academic and scientific subjects as anatomy, physiology, bacteriology, sanitary science and public health.

J. C. CONNELL, M.A., M.D.,
Dean of Faculty.

REPORT ON ANIMAL BIOLOGY.

THE total registered attendance during the session was 167, of whom 10 were extra-murals. The attendance is distributed as follows :

Pass class (of whom 8 were extra-murals)	52
First Year in Medicine	47
Second Year in Medicine	48
Preliminary Honours (of whom 1 was extra-mural)	16
Final Honours (of whom 1 was extra-mural).....	4

167

There are two or three matters connected with my work which merit some consideration on the part of the Trustees. The first is the large attendance. Ten years ago the total attendance was only 79. The second matter is the largely increased amount of practical work now done in both Physiology and Histology—work that is rendered imperative in the interests of honour students in arts, as well as of medical students. A third matter is the necessity for providing a more thorough course of instruction for those of our students who intend to teach biology in the higher public schools of the province.

These considerations all point to the desirability of appointing an additional instructor in animal biology. If lecturing alone were required, it would be as easy to lecture to 167 students as to 79. But the real increase in work, in all science teaching, consists in carrying on laboratory instruction. In physiology and histology this has been fairly well done in the past, but in the other main division of biology, viz., animal morphology (including comparative anatomy), the work has been narrow and defective. - My honour students have every year been warned about the inadequacy of the treatment of this side of their course, and the time seems to have come when something must be done to relieve the disabilities under which the student of animal morphology labours at Queen's.

The proposal of the Dean of the Medical Faculty to appoint an instructor in Human and Comparative Anatomy seems to open up a way for a solution of the difficulty. Such an in-

structor would, in time, come to occupy the position of Professor of Animal Morphology. He might at the outset be appointed lecturer in this subject and do the work which Dr. Williamson has been doing for me during the past three or four years. Such an arrangement as Dr. Connell suggests evidently implies that in time all the teaching of anatomy, in both Arts and Medicine, would be under the direct control and supervision of one man. Animal physiology and histology would then come to occupy all my time.

The unification of all anatomical teaching under one professor would improve the teaching and tend to break down the artificial distinction between anatomy as a medical subject and anatomy as an arts subject. When the combined six years' course in arts and medicine for the B.A., M.D., degrees was installed two years ago, human anatomy was made in Queen's (as it has long been in Cambridge, England,) an arts subject. One of the objections to adopting the course was that human anatomy and materia medica were too restricted in their training to be admitted as subjects of scientific culture. It was urged at the time that if human anatomy could be enlarged to comparative anatomy, the objection to its study in an arts course would be entirely removed. The movement, therefore, towards having one instructor for human and comparative anatomy is one that will, when consummated, give the subject its highest educational value.

The new course for B.A., M.D., is attracting medical students. It was at first feared that the course would draw away students from the regular arts courses. So far as I can judge, it is not having this effect. Rather it is inducing medical students to take arts classes before entering upon their regular professional studies. The proof of this is furnished by the fact that during the present session I know of two medical students (and there may be others) who have dropped their purely medical studies and entered upon the combined B.A., M.D., course.

One of the effects of the proposed new regulations of the Education Department will be to send increasing numbers of teachers to the University. They will come in order to qualify

themselves, more particularly, to teach the additional science now included under the name of Nature Study. Nature study implies the study of the outlines of every one of the natural sciences. Hitherto the only sciences studied in our High Schools and in the Continuation classes of our Public Schools have been physics and chemistry. Hereafter a teacher will need to know, in addition, elementary Botany, Zoology, Geology, Mineralogy and Meteorology.

The amount of secondary education that is being done in the public schools of the province is increasing all the time. In 1902 there were 4,933 pupils in continuation classes, with 554 teachers. Of these 26 were graduates in arts, 108 held first class certificates, and the remainder held second class. These continuation classes are just small High Schools, and it should be the aim of the University to attract not only the pupils from these, but the teachers also, and induce the latter if possible to complete a course in Arts. In no other way can Ontario approximate to the ideal of the parish schools of Scotland than by placing an arts graduate in every one of the 540 public schools of the province in which High School work is now being done.

If we are to encourage teachers to come to Queen's to improve their attainments as teachers, it is quite clear that a well-planned course of study should be organized specially to meet their needs. The science specialists' course—in fact, no specialists' course would be suitable for them. There should be more literature and less of advanced science than is now to be found in any of our science courses. The instruction also should be from a different point of view from that given to the advanced student. Elementary science should be taught to the student-teacher while in the University, as nearly as possible in the way in which he would be expected to teach it to his pupils when he returned to his school.

Now if this is to be done in science, it is quite clear that the University museum must be greatly developed. While some aspects of animal biology can be taught well without much museum work, it is simply impossible to treat other aspects of the subject without a museum. Our museum is lamentably

lacking in specimens, and while I have been anxious to add its equipment, the necessity for expanding the physiological and histological aspects of my work have hitherto absorbed all my time and energy. The development of an anatomical and natural history museum would naturally come to be part of the work of a professor of animal morphology. Such a development would be equally in the interests of the medical student, the honour student in arts, and of those public school teachers who, I hope, will be attracted in increasing numbers to come to Queen's. The preparation of dissections, and the collection of other museum specimens, in short, the organization of a morphological museum might well engross all the energy of a man for ten years to come.

All of which is respectfully submitted.

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HAY FEVER.—Any reliable remedial agent that is valuable in the treatment of this malady is welcomed both by the physician and his patients who may be hay fever sufferers. The etiology, pathology, prophylaxis and treatment of this affection have often been the subject of study and experiment by physicians and also by intelligent laymen. The disease has been described as a catarrhal affection of the conjunctivæ and the mucous membrane of the respiratory tract, characterized by an annual recurrence at about the same date in a given case. Another view is that the disease is a neurosis, and that the local symptoms (rhinorrhea, sensory disturbances, etc.) are due to vasomotor paralysis. The most conspicuous symptoms of hay fever are a burning and itching sensation in the nasal region and between the eyes; violent paroxysms of sneezing; a copious discharge of serum and liquid mucus from the nasal passages; profuse lachrimation; now and then, febrile manifestations; frontal headache; and in not a few cases, some asthma. The diagnosis having been established the subject of prevention and treatment is of the utmost importance. It would be utterly useless and wearisome to attempt to review the list of remedies and the methods of treatment that have been proposed for this disorder. The interests of physicians and patients will best be served by a brief recital of facts respecting the most successful mode of treatment known at this time. A glance at the list of symptoms and a brief consideration of the pathology of hay fever lead to the immediate conclusion that the chief indications are to check the discharge, allay the irritation that gives rise to the paroxysms of sneezing, reduce the turgescence of the nasal mucosa and relieve the stenosis. The only single remedy that meets these indications is *Adrenalin*, as represented in Solution Adrenalin Chloride and Adrenalin Inhalant. By stimulating the vasomotor supply it contracts the arterioles, and thus promptly and efficiently relieves all the annoying symptoms referable to vasomotor paralysis. Moreover, by its powerful astringent action upon the mucous membrane, it blanches completely in a few moments, and renders to the patient a positive degree of comfort. Indeed the results that have been accomplished with Adrenalin in this field alone are remarkable, and of the utmost importance. Messrs. Parke, Davis & Co., Manufacturing Pharmacists and Biologists, of Walkerville, who offer this valuable astringent agent, have also prepared a very complete treatise on hay fever, asthma, bronchitis and similar troubles, with full information relative to the treatment of these maladies with Adrenalin and other agents. This booklet has already been forwarded to a number of physicians who have applied for the same, and others interested in the subject can obtain a copy, post paid, by applying to this firm.