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THE FUNCTIONS OF A WOMAN'S CLINIC[1]

THIS title was suggested by Dr. Chipman when he did me the honor of inviting me to speak to you on this occasion.

I accepted the invitation with pleasure for three reasons: First, because Dr. Chipman has long been one of my very good friends, for whose medical attainments and personal qualities I have the highest respect and the greatest admiration; secondly, because I love to renew my associations with this great hospital and university where I feel more at home than anywhere else, except in Boston and my native city; and lastly because I have certain definite views concerning the functions of a woman's clinic and gladly embrace the opportunity to express them.

After you have inspected this imposing clinic which constitutes so great an addition to the facilities of the Royal Victoria Hospital and of McGill University, and which has been made possible by the generosity of the Provincial Government, of Sir Herbert Holt and of the Montreal Maternity Hospital, I feel sure that you will agree with me that the people of the Province of Quebec, and of Canada generally, are to be congratulated upon so visible a sign that its women can receive amid such surroundings the best possible care in their sufferings and ills; that McGill University must rejoice in the increased facilities which the clinic will afford for the instruction of its students and for the stimulation of research in obstetrics and gynecology; and that Dr. Chipman and his associates must exult in the fulfilment of their dreams for ideal surroundings in which to carry on their work. At the same time I venture to surmise that they are experiencing some searchings of conscience as to whether they, or any one else for that matter, will be able to attain, even to a slight extent, the ideals which all of us have in mind.

What is a university woman's clinic? You will note that I emphasize the word university, for therein lies the crux of the matter. I would define it as an adequately equipped hospital limited to the care of women suffering from the infirmities of their sex, and manned by highly trained physicians with uni-

[1] Read at the opening of the new Maternity Pavilion of the Royal Victoria Hospital, Montreal, October 29, 1926.

versity ideals. In it medical students are to be trained, and serious efforts are to be made to discover at least some of the secrets connected with the normal and abnormal functioning of the female reproductive system, as well as of its interdependence with other organs of the body. Such a conception is relatively new in English-speaking lands, for, although we have had for years women's hospitals, lying-in hospitals, maternity hospitals, as well as other hospitals with undescriptive and ambiguous designations, they were all organized to care for sick women along purely humanitarian lines, were only indirectly concerned with education and not at all with research. Indeed, hospitals still exist which limit their humanitarianism to "respectable married women only," forbid teaching within their walls, have no conception of what research means and would regard the suggestion of animal experimentation as anathema. In general, it may be said that the idea of the university woman's clinic originated in Germany, where its best type has constituted an ideal which we are just beginning to imitate.

As soon as considerable aggregations of people came together in cities, it became necessary to devise methods of caring for the sick poor, and hospitals and infirmaries developed, but it was not until much later that women in childbirth were thought of. As far as I can learn, their care was first attempted in Paris during the reign of Saint Louis in the thirteenth century. At that time an addition was made to the Hotel Dieu, and in its basement was organized a service "des acouchiez," and nearly a century later we learn that it was supervised by a ventrière named Juliette (1378). In the quaint language of the times its habitation was described as follows—"the fifth ward, below this large 'salle' is in a retired and close location, and there are the pregnant women and those in childbirth, for it stands to reason and is quite proper that women in childbirth should be in a retired and secret place, and should not be visible like other sick persons, and the ward contained 24 beds." Indeed, somewhat similar ideas prevailed in the States until after I had graduated, and any quarters were thought good enough to accommodate pregnant women, who were regarded as unfit associates for other types of patients. In the reign of Francis the first, the conditions at the Hotel Dieu had altered but little except in size, and the "salle des accouchées" was a cellar-like structure, "which was so low down that at high water the level of the Seine was one foot below the windows and two feet above the beds —from which came and any day may come great inconveniences." It might be added that the patients slept four in a bed, and no distinction was made as to whether they were pregnant or delivered, sick or well. In such circumstances, puerperal infection became a constant scourge, and the only great improvement effected before the time of the revolution was to limit the number of patients to two in each bed and to attempt to separate them by a plank down its center.

During the revolution the Maternité was moved to the Abbey Port Royal, where it still remains. It is scarcely necessary to mention that it was rendered famous by Madame LaChapelle and Baudelocque, and particularly by the work of Tarnier, who eventually demonstrated that patients could be delivered more safely there than in their own homes. While a long series of more or less famous men served in an advisory capacity as surgeons accoucheur, the Maternité was directed as a school for midwives by a succession of maitresses sage-femme, and was rigorously closed to medical students and even to so eminent a medical man as De la Motte. It is only fair to state that this exclusion was due to clerical rather than feminine influence.

Except for private courses given by practitioners in their own quarters, it should be recalled that no instruction in obstetrics was available for medical students until 1745, when the University of Paris authorized a theoretical course, and it was not until one hundred years later that the first clinique was opened for practical instruction. It should likewise be remembered that the inspiriting courses of William Hunter and Smellie were not given in the hospitals or medical schools of London, but were private enterprises conducted without supervision in their own premises.

For these reasons, it was highly significant that soon after Johann Jacob Fried had been appointed head of the Maternity of Strasbourg, he was able to persuade those in authority to permit its utilization for the training of medical students as well as of midwives, and to lodge its control in trained medical men. Fried at once stimulated those working with him to attempt to extend the bounds of obstetrical knowledge, so that it may be truthfully said that he organized the first woman's clinic in the world about 1730. He lived to direct its activities for thirty-nine years, and he built upon such firm foundations that Osiander years afterwards described it as "the mother school of all institutes of the kind in Germany."

In 1751, one of Fried's most promising pupils, Roederer, organized the clinic of Göttingen, and during his short life, for he died at the age of thirty-nine, rendered it famous for all time by his important contributions. Following this, professorships and later clinics were gradually organized in all the German and Austrian universities, although many of them did not attain prominence until after the Franco-

Prussian war. From then onwards, every German university had its Frauenklinik, in which obstetrics and gynecology were taught and practiced by a single chief. Most of them were equipped with adequate laboratories for scientific work, and, with a few notable exceptions, the chiefs were chosen not merely because they were good clinicians and teachers, but because they had made more or less important contributions to the science of medicine.

In France, unfortunately, there was no similar development. Obstetrics and gynecology became separated, and while excellent obstetrical hospitals developed in the larger cities, they were poorly equipped from a scientific point of view. They trained many excellent clinicians, who failed to add materially to our stock of knowledge. Gynecology became affiliated with surgery, with the result that its scientific aspects were neglected, and the gynecologists suffered as much from their lack of knowledge of obstetrics as did the obstetricians from the lack of sound surgical training, while both suffered from failing to gain a comprehensive view of the normal and abnormal functioning of the female reproductive system, which, aside from its practical aspects, greatly limited their capacity for fruitful investigation, even had the universities been able to afford adequate material support.

Time does not permit any adequate consideration of the conditions in Great Britain, but all who are familiar with them know that it does not possess a single institution which compares favorably with the best German Frauenkliniks before the war. It is in great part on that account that we regard so highly our colleagues in Edinburgh, who, in spite of the lack of adequate clinical facilities and material resources, have succeeded in maintaining a tradition for productive work. For similar reasons, I must forego any allusion to conditions in the United States, and it must suffice to state that it is only within the past few years that we have begun to establish adequate university woman's clinics, and at present we are not as well off as was Germany fifty years ago. Consequently, there can be little wonder that our students are poorly trained, and that in the richest country in the world the puerperal death-rate is higher than in any civilized country except Chile and New Zealand.

What are the functions of a university woman's clinic? All will agree that they are threefold, namely, the best possible care of patients, the adequate training of students, and the fostering of research, and I shall consider each function separately and two of them in some detail.

The Care of Patients

No argument is needed that the first function of the clinic is the best possible care of the patients entrusted to it, as enlightened treatment of the sick is rightly regarded as a fundamental obligation to the community, and, in an institution such as this, to the donors who have so generously made possible its erection. There need be no anxiety along such lines, for the tradition long since established at the Royal Victoria Hospital makes anything else unthinkable.

The Teaching of Students

It depends upon one's point of view whether the teaching of students or the fostering of research is to be regarded as the more important function of a university clinic, although I believe that the former, if properly done, is a potent stimulus to the latter. Here the conditions are ideal for good teaching, for the relationship between the hospital and university is such as to insure that the headship of the clinic will always be in competent hands, as is evidenced by the agreement entered into by the hospital, to the effect "That so long as the present individually appointed Governors of the Royal Victoria Hospital remain in office, or constitute a majority of the Board of Governors, the Professor of Obstetrics and Gynecology in the Medical College of McGill University shall ipso facto be Chief of this Clinic, in the said Maternity Pavillion." This is as it should be, and places the responsibility where it belongs; moreover, it is inconceivable that in choosing professors in the future the university will fail to secure the very best available.

The proper type of professor being assured, it is probable that he will be wise in the selection of his associates, and this brings us to the consideration of what should be taught. Here you are fortunate in being able to teach obstetrics and gynecology together, for, in addition to uniting the two subjects into a comprehensive whole, it makes possible the elimination of much reduplication of effort and enables the student to regard the various functions of the female generative tract in their proper perspective and to realize that the better that of childbearing is supervised the less will the others become deranged. Consequently, no matter whether the future practitioner limits his work to obstetrics or to gynecology, or practices both branches, he will have a sounder foundation upon which to build than had he been taught each subject independently, no matter how brilliant his teachers may have been.

Passing to the consideration of who shall be taught, the requirements of three types of students must be borne in mind, namely: the medical student on his way towards the degree of doctor of medicine, the graduate, who, after his interne service, desires to prepare for special practice or to fit himself for a career of teaching and research, and the practitioner

who wishes to spend a few weeks in making good deficiencies in his original education. In my opinion, it is the duty and privilege of the university clinic to foster the interests of the first two groups, but I believe it will do well to refer to another type of institution such students as desire so-called extension or "refresher" courses. Naturally, one sympathizes with their desire for improvement, but in general it would seem inadvisable to allow the university staff to dissipate its energies in rudimentary instruction, for those whom experience teaches will profit but little from it. It goes without saying that such practitioners should receive a cordial welcome when they wish to spend a few days in the clinic, but, except in unusual cases, they should be referred to specially devised post-graduate schools for instruction especially adapted to their needs.

On the other hand, one of the important functions of a university clinic must be the training of regular medical students, and, if they are of proper caliber, no effort is too great to be expended upon them, for it is in great part from them that the successive house staffs must be recruited, and the best of them will constitute a considerable proportion of the advanced students upon whom the ultimate reputation of the clinic will depend. For such students, the 117 ward beds will furnish adequate material for clinical instruction unless the classes are allowed to become unwieldy, while the attainments of the present teaching staff will insure sound instruction.

It is, however, even more important for the educational usefulness of the clinic that adequate opportunity be afforded to graduates who desire to spend several additional years in preparation for their life's work. A certain proportion of them can best be trained by appointment to a long-term house service, in which routine clinical duties will not occupy their entire time, but instead several hours of each day will be available for such investigative work as they are fitted to undertake. Moreover, I feel that after the completion of the first year of service, certain minor teaching duties should be assigned to them, which should be increased in amount and importance as their ability becomes demonstrated. On the other hand, if they show no signs of intellectual curiosity, their service should be short. Graduate students for whom hospital posts can not be found constitute a more difficult problem. In general, they should not be admitted unless they give promise of doing creditable work, and never for a shorter period than one year. In addition to being afforded facilities for clinical improvement, each should be assigned a definite piece of work, for whose solution he should be held responsible. Those who come with a problem already in mind are doubly fortunate, but for those who do not, one must be selected, and for that purpose the suggestions of intelligent younger members of the staff are frequently invaluable.

In this connection, a word concerning the qualifications of the teachers, as it is my conviction that our universities frequently sin grievously in the constitution of the staffs of clinical departments by allowing them to become clogged with practitioners who have outlived their university usefulness. For this reason, I believe that appointment to all posts below that of the chief should be for a stated period, and that only those who are engaged in productive work should be eligible for reappointment—with the possible exception of an occasional unusually brilliant teacher. In my experience, nothing so deadens a clinical department as the prolonged presence upon its staff of men in active practice who have become so engrossed in outside obligations that they are unable to find time for investigation of any sort. Such men, beside exerting a pernicious influence upon promising young men, clog the line of promotion by occupying posts which should be filled by those who are anxious to advance the bounds of knowledge. Unfortunately, conduct of a department along such lines demands a ruggedness of fiber and a degree of moral courage which few chiefs possess, and they usually find it easier to say that art is long and life is short, and that the cemetery will eventually solve the difficulty.

RESEARCH

In the present state of medical education on this continent, it would appear that the most important university function of a woman's clinic consists in the fostering of research, whose objective should be the discovery of the biological principles which underlie our daily clinical observations. It is not generally understood that one can scarcely be an inspiring teacher unless he is seriously interested in the fundamental bases of his specialty, and unless he is able to speak with that authority which comes from first-hand knowledge—which is vastly different from the ability to talk glibly of what others have discovered. Teachers of this type, however, are not common, and when found are difficult to satisfy, as they are not content with a reasonable clinical material and a few class rooms. In addition, they demand well-equipped laboratories, scientific associates, trained technicians and a reasonable budget, and, like the horse leech's daughters, are constantly crying "give, give"—not, however, for increase in personal salary, but for means with which to broaden their investigations.

The maintenance of the research end of an efficient clinic requires a considerable endowment, which unfortunately, I understand, is lacking here. Conse-

quently, the following remarks are made in the hope that they may reach the ears of some potential benefactor and impress him with the desirability of making good the deficiency. Generally speaking, medical research may be along clinical or fundamental lines, while in many instances the two are advantageously combined. By the former are understood such advances as may result from the critical analysis of large series of accurate clinical observations, from the development of especial skill in the study of certain phenomena of disease, or from the devising of new operative or technical procedures. Naturally, such contributions are highly important, and will continue to be made, but in view of the great advances which have occurred in all branches of medicine, it is becoming increasingly difficult to make important discoveries by the unaided use of the five senses and a scalpel. In this connection it may be said the layman scarcely appreciates the extent to which the fundamental sciences have become ancillary to medicine, and that within a short time after its discovery almost every important contribution to pure science is utilized in medical investigation. For these reasons, it can scarcely be expected that fundamental advances can be made by the pure clinician, unless he has associated with him medical men who are well trained in one of the pure sciences or in one of the biological sciences which constitute the basis of all medicine.

In general, it may be said that a relatively modest scientific equipment for an ideal university woman's clinic should consist in small laboratories for biochemical, physiological, bacteriological and pathological research, and at the head of each must be a man who has spent years, before or after completing his clinical education, in perfecting himself in some science. Naturally, the type of work to be undertaken will vary according to the talents available, as well as with the trends which are dominating scientific work at the moment, and it must always happen that there will be great variations in the merits of the several subdepartments in various clinics.

In a woman's clinic, it is essential that the men responsible for such subdivisions shall be competent clinicians and surgeons, but their practical and investigative work will be so engrossing that they will not be able to engage in outside private practice, and consequently they must be paid salaries sufficient to enable them to marry and eventually to support a small family in moderate comfort. This means that they must be upon the so-called full-time or university basis, and if the greatest efficiency is to be obtained, and stagnation and onesidedness prevented, provision must be made for them to pay occasional visits to Europe and to the educational centers of this continent, and this can only be done on a prolonged leave of absence with full salary or by some form of subvention. It should constantly be borne in mind that the young man in private practice is justified in borrowing money to pay the expenses incident to such trips, as he has every expectation that the practical benefits accruing from it will soon compensate for the money spent; but it is not so with the comparatively low salaried full-time man, to whom such an indebtedness will remain a burden for years.

In general, it should be laid down as a rule that no one should be appointed upon a full-time clinical staff who does not command a mastery of some science in addition to his clinical training, or at least who is not prepared to attain it. If such a rule is followed, the clinic will soon have connected with it a number of enthusiastic highly trained men who will be prepared to attack various more or less fundamental clinical problems with some assurance of leading them to a satisfactory solution. It is my conviction that it is inadvisable to take up problems which are without clinical bearing; such should be carried out in the underlying scientific departments of the university where they belong, while the medical investigator should concentrate his interests upon phenomena observed at the bedside or in the operating room.

I hope that my hearers will not misconstrue what I have said, as I have no desire to argue in favor of placing the entire clinical staff upon a full-time basis, as I recognize full well the advantages which may accrue to the clinic from its connection with a number of men who are engaged in practice, but what I wish to emphasize is that fundamental investigative work can only be expected from scientifically trained men who are prepared to devote themselves to it and to make the heavy financial sacrifices which are incident to such a career.

In this continent excellent clinicians and clinical teachers abound, but we have very few really productive men, and I take it that one of the important functions of a university clinic is to do everything possible to foster them. If we are honest, we must confess that we have practically no exact knowledge concerning the fundamental basis for any of the normal or abnormal functions of the female generative system, and that the only problems of the kind which are approaching solution are those concerned with certain phenomena associated with ovulation and the anatomical changes accompanying it, and they are being solved by anatomists, embryologists and physiologists instead of by those who are primarily interested in obstetrics and gynecology. We frequently hear it said by practical medical men that gynecology is a dying specialty and that obstetrics has been dead for years. Doubtless, this is correct if one has only

operative procedures in mind, but, on the other hand, I think it must be admitted, if we approach the question from a scientific point of view, that there is no field of medicine in which so much awaits discovery. The practically minded man may in turn reply that that is possibly correct, but that most of the unsolved problems are of scientific interest only and have little or no bearing upon the relief of suffering or the cure of disease.

This being the case, I can not refrain from enumerating certain of the problems which are in urgent need of solution and after that I shall be content to have the unprejudiced hearer decide whether they are important or not. For example, what do we know concerning the actual nature and cause of normal menstruation? Do we realize that millions of women are incapacitated for some days each month as the result of its abnormal course and that we are unable to relieve it much more efficiently than our grandfathers? Do we realize that we know almost nothing about sterility and its cure, except when it is due to frankly mechanical causes? What do we know about the cause and prevention of carcinoma, or why is it that every third colored woman develops uterine myomata after passing the fortieth year. Likewise, we are practically ignorant as to why uterine displacements follow every third or fourth normal labor, and until such information is forthcoming our treatment of the abnormality must remain empirical. What do we know concerning the endocrine and metabolic changes associated with the menopause or concerning their rational control? Every one knows that the pregnant woman falls into labor approximately ten lunar months after conception, but we are as ignorant of its cause as was Job concerning the wild goats of the mountain or the hinds that calve. Imagine what a boon it would be both to womankind and to obstetricians, when it becomes necessary to induce labor, if it could be done safely and efficiently by the hypodermic injection of some substance which will eventually be discovered. We are just beginning to learn the wonderfully economical manner in which nature keeps house during pregnancy, but our knowledge of the finer details of metabolism during that state are woefully incomplete.

Do we realize that thousands of women go through untold mental anguish each year because of the fact that, while they conceive readily, the pregnancy comes to an untimely end as soon as it attains a certain stage, and that we are as powerless to prevent it as when our grandfathers talked of rheumatism of the womb.

All statisticians who write upon maternal mortality point out that from 25 to 30 per cent. of all maternal deaths are due to the toxemias of pregnancy, and yet we are as ignorant concerning their true cause as a generation ago. The same statisticians tell us that a further 40 per cent. of deaths are due to puerperal infection, and we are still debating whether or not there is a scientific basis for autoinfection. Moreover, while infection can generally be prevented by the employment of suitable prophylactic measures, we can do little more to cure it, when it develops, than could Semmelweiss eighty years ago. The entire field of bacteriology in so far as the pregnant and parturient woman is concerned is in urgent need of cultivation, and we still have to devise methods of coping with bacterial invasion and of increasing the patients' power of resistance to it.

I could continue to enumerate similar problems indefinitely, but what has been said should suffice to indicate that they are abundant and urgent, and I can conceive of no worthier function of a woman's clinic than to afford opportunities to men who are anxious and willing to devote themselves to such investigations.

J. WHITRIDGE WILLIAMS
THE JOHNS HOPKINS HOSPITAL

TERTIARY MAN IN ASIA—THE CHOU KOU TIEN DISCOVERY[1]

A RICH fossiliferous deposit at Chou Kou Tien seventy li to the southwest of Peking was first discovered in the summer of 1921 by Dr. J. G. Andersson and later surveyed and partially excavated by Dr. O. Zdansky. A preliminary report on the site was published by Dr. Andersson in March, 1923,[2] followed in October of that year by a brief description of his survey by Dr. Zdansky.[3] The material recovered from the Chou Kou Tien cave deposit has been prepared in Professor Wiman's laboratory in Upsala and subsequently studied there by Dr. Zdansky. As a result of this research Dr. Andersson has now announced that in addition to the mammalian groups already known from this site there have also been identified representatives of the Cheiroptera, one cynopithecid and finally two specimens of extraordinary interest, namely, one premolar and one molar tooth of a species which can not otherwise be named than *Homo? sp.*

Judging from the presence of a true horse and the

[1] Announcement of the Chou Kou Tien discovery was first made by Dr. J. G. Andersson on the occasion of a joint scientific meeting of the Geological Society of China, the Peking Natural History Society and the Peking Union Medical College held in Peking on October 22, 1926, in honor of H. R. H. the Crown Prince of Sweden.

[2] Mem. Geol. Surv. China, Ser. A, No. 5, pp. 83 to 89.

[3] Bull. Geol. Surv. China, No. 5, pp. 83 to 89.