Landecker said many years ago at the Mansion House, the public must realize that the growth of science is rather to be measured by geometrical than arithmetical progression. And in the relatively short space of time since I entered as a student at University College under my old teacher, Sir Oliver Lodge, now your principal, the laboratory accommodation in my school has been quadrupled and is yet insufficient. How, may I ask, has private benevolence or subscription lists met the needs of the universities I mentioned? I maintain that the present system of expecting this source of income to be adequate has entirely broken down.

In saying this, I am not in any way depreciating the wonderful energy and spirit of your Chancellor and his supporters in this great city. What was necessary to start a great university you have accomplished. The thesis I am now maintaining is that if you look around you at other universities you will see that you cannot rely on private munificence to maintain your university or to develop and extend its laboratories in a manner which the advance of science and your competition with the rest of the world will require. If, then, the first source of your income is insufficient, far more inadequate is naturally the sum that you may happily derive from the fees of students. The cost and maintenance of laboratories is and must always be far in excess of any subscription towards their maintenance that those who are working in them can offer. The fees which a student can afford are really but a slender contribution to the provision of such means of learning as a university must in the future offer. Moreover, I suggest that it is most unjust to expect that the parents or guardians of a medical student should bear the heavy expense of a professional education. Why should science workers be taxed in fees which are not demanded for education in literary or commercial livelihoods? The ranks of the professional classes are not filled with recruits from the well-to-do. That the cost of the five years' education of a medical man is a specially heavy tax, and that the average income he may derive from his professional career is not a just equivalent, is shown by the steady diminution in the number of medical students which has now been going on for something like a decade. In speaking of this diminution in the number of medical men available for the services of the State I should like to point out, in passing, that it is also partly due to the utter lack of interest shown by the central Government in the care of human life, and that until the Medical Acts are justly altered so that the scandals of quackery and unqualified medical practice are put an end to fewer and fewer persons will be able to afford the trouble and expense of studying for five years to obtain a position, an educational qualification for which is demanded of them by the State, but the advantages of which the State refuses to guarantee or to secure to those who have fulfilled the requirements laid down by statute.

If, then, your sources of income for maintenance are inadequate it is a fair question to ask what is the alternative? That question has been answered by Sir Norman Lockyer in a way which is far better than anything I can put forward and that answer is, of course, State aid. It may be suggested that while we have before us the greatest fiscal question that can be raised it is impossible to secure attention for financial matters of a lesser grade. I must say that in this I can see no reason, that to us as a nation questions of education are always as vital as any other, that in short as Dr. Macnamara recently urged in Edinburgh, there is no justification for allowing the fiscal question affecting the empire to overwhelm the education question. Sir Norman Lockyer pointed out that an adequate initial State aid for the universities including vast amounts for construction would be a sum roughly estimated at twenty-four millions. The provision of this from a nation like ours which spends every year close on 190 million pounds in injuring and pauperizing itself with alcohol would be nothing. In fact the introduction of legislation to provide for this essential of education is a duty which presses heavily on a Government which does nothing to protect the people from drink, that greatest cause of poverty and crime, or to prevent the nation annually throwing away its millions in the gutter.

I have not yet seen any detailed criticism of Sir Norman Lockyer's powerful appeal to the nation except that by Sir William Anson, but no doubt plenty will meet him with the usual outcry against State aid. Should that form of opposition arise, I hope it will be generally understood that the principle of State aid to higher education has been admitted for a number of years. Mason's College, like the other university colleges, has received an annual pittance from the

Treasury, and the Faculty of Medicine knows what limitations and restrictions were originally placed on the mode of allotment of this money to university purposes. What would be a reasonable fear on the part of the Houses of Parliament might be the artificial maintenance of a weak university, or the making of provision for a subject therein, under local circumstances which were not favourable to the development of that particular department in the university. But all questions of administration such as these would naturally be adjusted by the provision of a university bureau in the Education Department, and probably a considerable economy would be attained if by means of such a bureau there was effected co-ordination and reorganization of the Medical Faculties in some of the old universities, with full consideration, as already said, of the capacity of each university to develop given subjects.

Is not, however, the actual situation this? A sum of about £25,000,000 is required to place our university system of education on a merely efficient basis. Private benevolence and the fees of students cannot provide this sum. Where, then, do the arguments of those who oppose State aid on principle apply? They have nothing to offer, nothing to propose.

CONCLUSION.

To sum up, I suggest that while the British Association for the Advancement of Science is endeavouring (according to the scheme recently determined upon) to educate public opinion on the necessity of making this a prominent political question, the universities should co-operate by conference and agree upon a definite programme of state aid to the universities to be pressed upon the Education Department.

If Birmingham took the initiative in this, as in other great national movements, it would, by ensuring success, add a wreath to the civic crown which this great city so worthily wears.

An Address

ON

MEDICAL LEGISLATION AND EDUCATION.

Delivered at the Opening of the Winter Session of the Post-Graduate College, West London Hospital.

By SIR WILLIAM SELBY CHURCH, BART., K.C.B.,
President of the Royal College of Physicians of London; Senior Physician, St. Bartholomew's Hospital.

AFTER some introductory remarks, Sir William Church continued as follows:

It is interesting to look back to former years when first medical education was seriously considered by the leaders in the profession and public men. Few of us realize that the subject of medical education has been in the crucible for seventy years. In the year 1834 a Committee of the House of Commons was appointed to inquire into "the laws, regulations, and usages regarding the education and practice of the various parts of the medical profession in the United Kingdom." This Committee never made a report; it took, under the chairmanship of Mr. Warburton,¹ M.P. for Bridport, a very large amount of evidence for the three divisions of the kingdom; that for England was printed and is extant, that for the other divisions of the kingdom was never printed, and is supposed to have perished in the flames which consumed the Houses of Parliament in 1834. A very large portion of this mass of print is taken up with evidence regarding the quarrels which went on for so many years between the Licentiates and Fellows of the Royal College of Physicians and the Members and Council of the Royal College of Surgeons. All this is now ancient history and of no interest to anybody, but the Committee's labours bore some fruit, although it was long in ripening. Notwithstanding the absence of any report, the work of the Committee attracted a certain amount of attention, and men of public spirit and foresight had their minds directed to the anomalous state of the practitioner of medicine and the dangers the public

¹ Mr. Henry Warburton was a philosophical Radical. He was educated at Eton and was a scholar of Trinity College, Cambridge. He was elected Member for Bridport in 1826, and the following year moved in the House for an inquiry into the funds of the Royal College of Surgeons. He was Chairman of the Parliamentary Committee on the Study of Anatomy, which led to the passing of the Anatomy Act in 1832.

was under from its inability to distinguish among the practitioners those who had received some training from those who held no diploma of any sort. Six years later Mr. Warburton laid before the House of Commons a Bill for the Registration of Medical Practitioners. So far as I know no action was taken on Mr. Warburton's Bill. Four years later, in 1844, Sir James Graham and Mr. Mannors Sutton prepared and brought in a Bill for the Better Regulation of Medical Practice throughout the United Kingdom. The need for some central controlling power to regulate medical education and to see that no one who had not some professional training and proper education was included in our ranks was self evident, and his Bill also gave power to the central authority to remove from amongst us those who were unworthy to be members of an honourable profession. It took fourteen years more before the fruit was ripened, but Sir James Graham's Bill was virtually the same as that which passed in 1858 as the Medical Act. From the date of Sir James Graham's Bill until the passing of this Act, the position of the medical profession and its relation to the commonwealth continually occupied the attention of Parliament.

There can be no doubt of the enormous benefits which the Medical Act of 1858, the Dentists Act of 1878, and the amending Act of 1886 have conferred on the public and the profession. The status which the latter now occupies is far higher than that formerly held, and the public has profited both from the better education of the practitioner and from being able to discriminate between those legally qualified to practise medicine and the irregular adventurer.

The General Medical Council, although I am not always in agreement with its views and actions, has undoubtedly done good service in equalizing the medical examinations throughout the United Kingdom; and it has shown, on the whole, a wise discretion in the recommendations it has made as to the course of studies to be carried out in the medical schools, in accordance with the advances which have taken place in scientific knowledge. Its disciplinary powers have also been of great advantage in raising the tone of our profession.

It is interesting to observe that exactly the same questions and difficulties met the promoters of improved means of registration and medical education seventy years ago as exercise the profession now. Then, as now, the greatest differences of opinion were expressed on the value of apprenticeships, the need for an improved preliminary education, and the want of clinical teaching. It was advanced then, as now, that the supply of medical practitioners was much beyond the demand, and various proposals were made for restricting the numbers entering the profession. In fact, although the times are changed, the fundamental questions and difficulties remain the same.

It is almost impossible for us to conceive the state of, I will not say the medical profession, but of medical practice in the country at the time when the Select Committee took evidence. Apparently any one could call himself surgeon or apothecary, and could obtain equal advantages with those who held diplomas from the corporate bodies like the Royal Colleges and had undergone an examination and possessed a certain amount of education. One of the questions which most deeply moved the mass of the profession then, as now, was Should there be penal laws which gave a monopoly of practice to those who held qualifications and prevent their being interfered with by the unlicensed? In my opinion our fathers acted wisely, and I feel sure that in our day our Legislature will be equally sensible; to me it appears that it would be a most unwarrantable interference with the personal liberty we all value so highly for the State to say that you shall not receive advice as to your health and well-being from any person from whom you think you may obtain benefit.

We who are conversant with disease and its nature, and the pathological conditions on which it depends, can hardly place ourselves in the position of the laity. Their complete ignorance causes them still to consider disease as something foreign to the body which can be driven out by sufficiently powerful means, and they fail to recognize that the majority of the chronic ailments they suffer from are due to changes and degenerations in their own tissues, which it is beyond the power of physicians to remove.

There is no subject on which the general public is so ignorant and credulous as medicine, and this is not to be wondered at when we consider the history of our art, and how it arose. The earliest medical practitioners of whom we have any knowledge—the family of the Asclepiads—claimed to be descended from a god, and that something divine was attached to them. Although in the brightest times of Greek

learning, medicine, as we see from the writings of Hippocrates, was singularly free from superstitious observances, yet the part played in the public and domestic life of Greece by oracles, dreams, omens from birds, beasts, and the phenomena of Nature, must have caused divination to have played an important part in illness. In the later days of Greek learning, when the knowledge of anatomy and therapeutics was at its highest level, in the times of Galen and Aretaeus, we know from their writings that methods which we can only regard as superstitions were in use in the treatment of the sick. The accounts of miraculous instances of healing in the early days of Christianity and the virtues ascribed to the relics of holy men at a later period fostered the belief that the art of healing was the gift of God, and this belief is by no means yet extinct.

Healing by suggestion occupied a very prominent although unrecognized position in the practice of mediaeval times. Even Harvey appears to have had faith in the therapeutic virtues of the bone of a stag's heart, and touching for the King's evil persisted in this country until the reign of George I. Those who are students in folklore know how deeply the belief in witchery and sorcery had permeated all classes of men and was fostered by the total absence of what I may call the scientific mind among the learned of the Middle Ages. They devoted their mental powers to metaphysical questions, and, like the Greek philosophers, entirely neglected experimental investigation into the phenomena of Nature.

I fear you will think that I have wandered far from my subject. I thought that the brief sketch which I have given you of the genesis of the Medical Act and the changes which have taken place in the position and education of our profession would be interesting at the present time when the development of medicine appears almost to necessitate fresh educational methods for the fit preparation of those who intend to make it the study and business of their lives.

Of the importance of an acquaintance with the sciences, such as physics and chemistry, as a preparation for the study of medicine we are all agreed, but we are not equally of one mind how that desirable knowledge should be acquired. To me it seems advisable that the preliminary education before students enter on their medical course should necessarily embrace the principles of chemistry and physics. A student then would enter on his anatomical and physiological studies prepared by his earlier work to make the best use of his time. Biological chemistry, pathology, and bacteriology demand so much time and are so valueless unless a man has a certain amount of practical experience while studying them that the present five-years course is insufficient for any unless they are exceptional men to obtain more than a mere smattering of any of them. We must remember that for what may be termed the highest branch of medicine—sanitary science and public health—a post-graduate course is now required, only those who hold medical qualifications being admissible to the examinations held by the various licensing bodies for the diploma of Public Health.

By a process of natural development, even more than by the artificial and arbitrary regulations made by corporate bodies, the medical profession long ago fell into three great classes more or less distinct—physicians, surgeons, and apothecaries—who at a later date developed into general practitioners. The complexity of medicine is now so great that, although these three classes remain fairly well marked, the two first are being divided into smaller groups. It has, however, been wisely decided by the Legislature that no one should be admitted to the *Medical Register* who has not passed a competent examination in the three subjects of medicine, surgery, and midwifery; consequently we now all begin our medical lives as general practitioners, and it is not until after we have been admitted to the ranks of the profession that we specialize in any way. It is evident that it is impossible for any one to attain to the highest degree of technical knowledge and skill in all departments. General practitioners, the most useful and trustful of all our profession, are as a rule exceedingly well up in their work. I am filled with admiration when I consider how seldom they are found incompetent; think of the responsibility which they have—liable to be called on, especially those practising in country districts, to treat single-handed every sort of emergency, sudden illness, a broken limb, a general smash, an alarming *post-partum* haemorrhage, or a placenta praevia, or as medical officer of health to combat a sudden outbreak of epidemic disease. Yet competent as most of them are to deal with

these emergencies of practice they would be the first to repudiate the title of specialists. In the progress of the evolution of medicine, the differentiation of physicians and surgeons naturally took place, and all honour must be given to the surgeons who have raised their art from the position of a handiwork subservient to the physicians to that in which it now stands, higher possibly in the estimation of the public than medicine.

Specialism and specialists are terms which are very much misused nowadays. The true specialist, whether he be physician or surgeon, is one who, with a wide knowledge of all, has paid especial attention to some particular branch or branches of medicine, such as sanitation or public health, mental diseases, gynaecology, ophthalmology, etc.; not, as the public appear to think, the man who has fixed his attention on a single organ of the body. In surgery, where to a greater extent than in medicine manual dexterity is required, surgeons in large centres of population are able to make particular study of certain classes of operations in which by constant practice and most careful attention to details, they are enabled to improve the methods and obtain greater success. It is the success of these honoured and honourable men which has led the public to make a demand for specialists, a demand which meets a ready response, although I fear the quality of the article supplied is very inferior to that which the public thinks it is obtaining. A certain number of these so-called specialists are no doubt honest and honourable men, but by directing their thoughts exclusively to a limited range of subjects have lost all sense of proportion; and I fear that no inconsiderable number trade rather on the ignorance of the public than on any superior knowledge of their own. Of all quacks the worst are those who are duly qualified to practise, for, by their position as doctors, they bring discredit on the profession. All of us who have reached a certain age have seen how these quacks vary with the fashion of the day; at one time all ills the flesh is heir to arise from acidity or gout, and in the other sex from versions, malpositions, and ulcerations of an internal organ; at another time adenoids or supposed phimosis is at the root of all disorders of childhood; at another exploratory operations on the abdomen are the panacea for all internal derangements. Mankind is alike everywhere and in all classes; its credulity does not grow less with advancing times; if we have lost our belief in miracles and relics, we need only look at the advertisement pages of any newspaper to see that our credulity has taken another form.

The time which can now be allotted in the five-years course is too short to enable the average man to spend sufficient time in clinical and practical work. It is essential for the student not only to have general experience in the wards, but to have attended, and if possible held the post of clerk or dresser in, the special departments. Those who are fortunate enough to obtain posts after qualification in our large hospitals, especially those with medical schools attached, are virtually enjoying post-graduate study of the best kind, but it is a minority of men who can obtain the advantages of holding such posts. This country, as in other educational questions, has, I am afraid, been behindhand in organizing post-graduate teaching of any sort. In the United States a large proportion of those attending the Arts course at the Johns Hopkins University are post-graduates, and I am informed that nearly one-third of the medical students are qualified men.

The first attempt at organizing anything of the nature of medical post-graduate study in London was made as long ago as 1888 or 1889; a notice used to appear in the medical papers above the signature of Dr. Fletcher Little; but it was not until about ten years ago that the West London Hospital course was started. The earlier attempts appear to have failed mainly because they took the form of lectures and did not embrace hospital practice. It is in this respect that the West London School is able to offer so much more valuable assistance to qualified men than such institutions as the Polyclinic or the other hospitals at which occasional lectures or demonstrations are given. You have gradually built up a complete medical school, and by confining yourselves to qualified men have not interfered with or given cause for jealousy to any of the existing medical schools. The practice in the hospitals attached to the great medical schools in London is open to qualified men, but it is not possible to meet their requirements. The teaching for the junior students is necessarily different from that most suitable for those further advanced. Any considerable number of senior men attending the clinical practice of our medical schools has always—and rightly—been resented by the junior students.

That there is not only abundance of room for post-graduate teaching no one can deny; it is in truth urgently needed. After qualification a man makes up his mind in what department he prefers to do special work. If he intends entering on general practice he knows in what subjects he is weakest and can obtain with you the opportunity and assistance for strengthening his knowledge and supplying his deficiencies, for there is no way by which this can be attained equal to closely following the practice of a large general hospital. There are many subjects now which it is essential for a man to know something of which are not suitable for him to spend much time over as a junior student. As instances I might mention the application of electricity to the diagnosis and treatment of diseases or injury, and the manipulations necessary for the examination of gynaecological, orthopaedic, or ophthalmic cases. If opportunities for increasing their stock of knowledge are advantageous to those just entering on their professional life, they are no less so to those who have been placed in circumstances which rendered it difficult either to gain new knowledge or to keep up that which they possessed. Especially useful is it to those who have joined our public services; from the nature of their work it is impossible for them under ordinary circumstances to gain varied experience for want of opportunity.

In times of peace the work of the R.A.M.C. officers is necessarily without much variety; even if attached to a large home hospital the field for observation is much more limited than that presented in large civilian ones, and, excepting during war time, the larger operations in surgery very rarely come under their notice. Nothing struck me more forcibly, when visiting the hospitals in South Africa, than that in many instances the older and higher in the service the officer was, the more of a soldier and the less of a doctor he appeared to be. This doubtless arises from the large amount of official non-medical work that they have to get through. A P.M.O.'s duties are so largely executive that some of them scarcely did any true medical work themselves. This disability which many of the R.A.M.C. officers felt and complained of is now, I trust, remedied, as the Advisory Board has recommended that study leave should be periodically granted to all officers to enable them to attend civilian practice at intervals during their career. By doing this we are adopting a course which has been in practice in other countries.

In the Royal Naval service the position is much the same. Commissioned to a ship whose complement consists of healthy men in the prime of life, the officers' opportunities for gaining experience are limited. It has been my lot as one of the assessors of the Gilbert Blane medal to read the logs of a considerable number of naval officers, and excepting when they have been on active war service there is a great monotony in their medical reports. No doubt they, and officers of the R.A.M.C., when on foreign service, have opportunities of studying certain forms of tropical disease, but here again the similarity of cases is such that the temptation to fall into a rule-of-thumb treatment of them is hard to resist; nevertheless I should not be doing justice to a distinguished branch of our profession if I did not bear witness to the excellence of some of the work it has been my duty to go through. Naval officers, I am informed, have not been slow to avail themselves of the opportunities you offer them, and I feel sure that those of the sister service will do the same when it is known how much you can offer them.

In case there should be any one present who may think that in the remarks I have made I have only had present to my mind the advantage of our profession, and not given due attention to the purposes for which this hospital was founded and for which it is supported—the relief of sickness and suffering in its neighbourhood—I should like to say that there can be no greater benefit conferred on the patients who receive relief at an hospital than the attachment to it of a school of clinical medicine.

Teachers must always be learners, and there is no incentive to a teacher so great as the presence of students anxious to learn. You can have no greater safeguard against mismanagement or against slackness and inattention on the part of the staff than the presence of students; they form a body it may be of kindly but of severe and uncompromising critics, ready to expose the shortcomings and failures of their teachers. I can unhesitatingly say that the character and quality of the medical treatment in hospitals with medical schools attached to them compares favourably in every way with those in which the work is done without the publicity which necessarily exists when clinical teaching is carried out in the wards and out-patient departments.

You have an excellent staff, earnest in their work and anxious to maintain and increase the reputation of your hospital. You have the material and a certain amount of means for carrying out educational work. I trust that in the near future it may be possible for the lay authorities to give increased facilities for teaching and research; and I would venture to remind the supporters of this institution that whilst a few more beds or an increased number of out-patients might relieve a certain small amount of local sickness and suffering, that would hold but a small proportion to the benefit which increased knowledge obtained within these walls might confer on suffering humanity throughout the world.

In conclusion, I wish all prosperity to the West London Hospital and its post-graduate school.

SEVENTY-FIRST ANNUAL MEETING

OF THE

British Medical Association.

Held in Swansea, July 28th, 29th, 30th, and 31st 1903.

PROCEEDINGS OF SECTIONS.

SECTION OF OBSTETRICS AND GYNAECOLOGY.

Professor WILLIAM STEPHENSON, M.D., President.

(Concluded from p. 815.)

DISCUSSION ON THE PATHOLOGY AND TREATMENT OF TUBERCULOSIS OF THE UTERUS AND ADNEXA.

I.—JAMES H. TARGETT, M.S., F.R.C.S.

Obstetric Surgeon and Joint Lecturer on Midwifery, Guy's Hospital.

The general interest which has been excited in the subject of tuberculosis during recent years has caused the various branches of our profession to study it anew in relation to their special work. In the case of gynaecology, this subject has been much neglected; for, though the existence of genital tuberculosis has been known for more than a century, yet it was not until 1886 that serious attention was drawn to it by the writings of Professor Hegar. In 1894 Whitridge Williams gave a careful account of the various lesions so far as they affect the pelvic organs, and since that date the contributions have been too numerous to mention.

At the International Congress of Gynaecologists held last autumn in Rome the matter was very fully discussed, and, though there was some difference of opinion in respect to the minor details of pathology, it was generally agreed that tubercle affected the female generative organs much more frequently than had hitherto been supposed, and that its effects were always serious and often fatal.

In acknowledging the honour which the Committee of this Section has paid me in requesting me to open a discussion on genital tuberculosis, I will ask your kind attention to a few general considerations before proceeding to the morbid anatomy of this disease and its clinical bearings.

FREQUENCY OF GENITAL TUBERCULOSIS.

It is unnecessary to consider in detail the numerous statistics that have been published as to the frequency of genital tuberculosis. The *post-mortem* records of the Brompton Hospital for Consumption show that in 800 necropsies of females who died of tuberculosis the genital organs were affected in 7.7 per cent. (Berkeley). The operative experience of the surgeons at the Johns Hopkins Hospital, where all the diseased tubes removed by operation were submitted to a careful microscopical examination, corresponded very closely with the above estimate. In 126 necropsies on female children dead of tubercle there were 12 cases of genital tuberculosis = 9.5 per cent. (Still). We may conclude therefore that in 8 or 10 per cent. of all cases of salpingitis (in one form or another) the disease is of a tuberculous nature. From this it is apparent that tubercle is a much more frequent cause of pelvic disorder in women than has hitherto been supposed, and consequently the subject of genital tuberculosis becomes

one of considerable clinical importance in gynaecology. It must be remembered, however, that the number of cases in which the disease is apparently primary in the pelvic organs and practically limited to them is much smaller than the estimate derived from *post-mortem* experience. Yet it is this smaller class of cases which is of the greatest interest to the gynaecologist. Professor Whitridge Williams has shown what a large proportion of diseased tubes removed by operation proved to be "unsuspected tuberculosis" when microscopically examined. Dr. P. D. Turner has also found from the systematic investigation of the genital organs in a series of 27 consecutive necropsies of females who died of chronic phthisis that tuberculous lesions of an undoubted character were present in 5 cases (18.5 per cent.), and that the naked-eye changes were sometimes so slight as to have been overlooked by the general pathologist.

MODES OF INFECTION.

Of the various modes by which the female genital organs may become infected with tubercle, the following are the most important for our consideration.

I.—Infection through the Blood Stream.

In a small proportion of the cases of tuberculous salpingitis there are no signs of tubercle in other parts discoverable on clinical examination or at operation. Hence it is probable that in these cases the tubercle bacilli are introduced into the circulation through the medium of the lymphatic glands. As is well-known, they may be absorbed through the respiratory or digestive tracts, and so lead to caseation of the bronchial, mediastinal, or mesenteric glands. In this way the blood stream becomes infected, and if the Fallopian tubes offer a suitable soil through diminished resistance of the tissues, an outbreak of tubercle may occur in that locality. As the tubes are affected so much more frequently than the other genital organs in the female, we are bound to recognize them as "seats of election" for tubercle, and to class them with the synovial membranes of the joints and the epiphyses of the bones as structures in which tubercle is particularly liable to develop, often without any very obvious local cause.

II.—Infection from the Peritoneum.

There are three ways in which this may happen:

(a) The serous membrane covering the tubes takes part in a general miliary tuberculosis of the peritoneum.

(b) A localized caseous tuberculous perimetritis may result from ulceration of the bowel, and the lesion may gradually extend to the adjacent uterine appendages.

(c) The fluids in the peritoneal cavity may convey organisms into the tubes through the patent abdominal ostia. It has been experimentally shown that powdered cinnabar can be so introduced into the tubes from the abdominal cavity, and tubercle bacilli have been actually found in the tubes after death from tuberculous ulceration of the bowel, even when there was no evidence of salpingitis.

Statistics show that the association of tuberculous peritonitis with salpingitis is so frequent—probably in more than 50 per cent. of the cases—that a causal relationship must exist between them, and the morbid anatomy of tuberculous salpingitis indicates that the extension is from the peritoneum to the tubes, not vice versa—at least in the majority of instances. If salpingitis were a frequent cause of tuberculous peritonitis, as some writers maintain, the latter should be much more common in women than men, which is apparently not the case.

III.—Infection from Other Organs.

Direct infection of the internal genital organs from adjacent parts other than the peritoneum must be of rare occurrence. But ulceration of the ileum has caused adhesion to and secondary invasion of the uterus, and I have met with a right tuberculous pyosalpinx firmly adherent to the caecum and its appendix which were the seat of extensive chronic ulceration. In this instance the left uterine appendages were normal; hence the lesion probably spread from the caecum to the right Fallopian tube. In the lower genital tract infection has resulted from ulceration of the rectum or base of the bladder into the vagina or vulva, and fistulous openings have thus been established.

IV.—Infection from External Sources.

That infection is possible from sexual intercourse, the use of instruments, or contamination with tuberculous faeces and urine cannot be denied. At the same time its frequency has probably been much exaggerated. Primary tuberculosis