THE CADUCEUS.

HONGKONG UNIVERSITY MEDICAL SOCIETY

RULES.

1. This Society shall be called the Hongkong University Medical Society.
2. A. The object of the Society shall be to hold meetings at which papers shall be read, or discussions held, on medical and general subjects; and to promote social intercourse among its members.
   B. The Society shall produce a journal to be called the "Caduceus" as a record of the proceedings of the Society, and for the publication of original articles in Medical Science.
3. All undergraduates, graduates and members of the teaching staff of the Medical Faculty of the Hongkong University shall be members of the above Society; and also such other persons as may be elected at a general meeting. Medical Practitioners registered in Hongkong shall be invited to join the Society as members.
4. A. There shall be a President, Vice-President, a Chairman of Committee, an Honorary Secretary and five other members of the Committee, all of whom are to be elected annually by members of the Society at the first general meeting of the academic year. Vacancies occurring between such meetings may be filled by the Committee.
   B. The member of the staff and the student representative on the Union Council shall also be ex-officio members of the Committee.
5. A. The management of the Society shall be vested in the said Committee consisting of the Chairman and five other members, together with the Honorary Secretary, who shall be ex-officio member of the Committee. Three members shall form a quorum.
   B. The Journal of the Society shall be controlled by the said Committee who shall appoint:—An Editor, an Assistant Editor and a Business Manager, who together with the Chairman of the Committee shall form an Editorial Board.
6. The President or a Vice-President shall preside at general meetings or in their absence, a Chairman may be elected from among the members present.
7. Each member shall pay an annual subscription of $2 which shall be payable at the commencement of the academic year. The Honorary Secretary shall also act as the Honorary Treasurer.
8. No alteration of these rules, nor any addition thereto, shall be made except at a general meeting of which not less than seven days' notice shall be given in writing to each member.

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THE CADUCEUS.

Vol. 2, No. 1. January, 1923. 3 Issues Yearly

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Subscription Rates:—$1.00 per copy, $2.00 a year local and $2.50 a year foreign. Remittances should be made payable to the Business Manager, "Caduceus."

Advertisements:—Rates furnished upon request.

THE CADUCEUS.

JOURNAL OF THE HONGKONG UNIVERSITY MEDICAL SOCIETY.

Vol. 2. January, 1923. No. 1

All medical papers and other scientific contributions intended for the Journal, and all books for review and magazines in exchange, should be addressed to the Editor, "Caduceus," Hongkong University, Hongkong.

Changes of address of members of the Society and all business communications should be sent to the Business Manager, "Caduceus," Hongkong University, Hongkong.

EDITORIAL

THE MEDICAL CURRICULUM.

It had been felt for some time that the regulations of the General Medical Council with reference to the medical curriculum had not kept pace with the advance of medical science and although freedom is desirable and certain Universities, notably Cambridge and London had already revised their courses, it was felt that the time had come once more to standardise the curriculum and that this could only be done through the medium of the General Medical Council.

Since the new standard laid down must soon involve changes in the medical course of this University, we feel it may be of some interest to call the attention of our readers to this subject.

The most important change from the parents' point of view is what looks at first sight to be a lengthening of the course to 5½ or 6 years. This is due to the fact that the standard five years curriculum cannot begin now, until a pass has been obtained in Chemistry and Physics subsequent to an examination in general knowledge, in other words subsequent to matriculation.

But this work may be done in a Secondary School so that the period at the University is not necessarily lengthened, if the schools rise to the situation.

The next important change is that three years clinical or hospital work subsequent to passing in Anatomy and Physiology are now compulsory. Cambridge University has always insisted on this and since Elementary Pharmacology and General Pathology are allowed to be taken during the first clinical year there is no reason why this requirement alone should lengthen the curriculum.

The third change, without going too much into details, demands that the laboratory and clinical subjects shall be more carefully co-ordinated and that courses in Applied Medical Chemistry, Physics, Biology, Anatomy and Physiology (especially the last two) shall be taken during the clinical years and that Anatomy shall be taught from the living as well as from the dead subject.

The practical issue for parents if the cost of training is not to become too heavy a burden, is to encourage their sons and daughters to make up their minds early with regard to their professions, pass their matriculation at the age of 16 or 17 and then spend two more years at school specialising more particularly in Chemistry, Physics and possibly Biology, so that these subjects in their general and elementary form may be completed before entering the Medical School of the University.

When the Schools recognise the general educational value of the basic sciences it should not be difficult for any student to qualify for entrance into a medical school at the same age as heretofore and to pass out as a graduate in Medicine and Surgery without any increased cost to parents or guardians.

A GENERAL PRACTITIONER AND HIS RELATION TO THE FUTURE OF MEDICINE.

We heartily welcome the news that the local Chinese practitioners have already inaugurated a hospital at Happy Valley for those sick patients who cannot be adequately treated in a consulting room. That such a step opens a stupendous field for preventive medicine cannot be doubted.

The practice of medicine during the past few years has been completely revolutionised by the advance of bacteriology, medical chemistry, the invention of X-rays, and a vast number of fine instruments for the detection of human disease and the examination of human functions. Alongside with these discoveries, there has appeared a tendency to specialisation. Experts work in laboratories exclusively. They seldom see or meet a patient but for consultations of a specialised and limited character. As a result of this craze for specialisation, the general practitioner, whose duty it is to treat all kinds of complaints, gradually disappears. The community, in which he is practising, begins to doubt whether he is of any service. It argues that he is there just to earn a living as anybody else and might possibly be a source of danger by the mal-practice of his profession. It is here that most of us err. It is to clear up this misconception that Sir James Mackenzie (practising physician), pioneer on heart diagnosis and treatment, wrote his famous book on the Future of Medicine, in which, while advocating strongly, modern laboratory methods, brings home the fact that the human body must not be divided into departments, that as such it can not be successfully treated and that specialists, however efficient, cannot take the place of skilled doctors who treat patients as a whole.

Preventive Medicine, according to Sir James, can, to a great extent, be carried out by studying the causes and beginnings of disease. The general practitioners, who have the opportunity of studying these

through their early association with patients, will undoubtedly play a prominent part in the future progress of this branch of medicine. Sir James says how can you find the original cause of a disease, if you only study a patient in a hospital where he is brought with more or less acute manifestations of his ailment or on a post mortem table after he is dead? In his opinion, only the observant general practitioner is in a position to detect minor diseases as the possible ultimate cause of more serious complaints and to keep a record of each patient over a series of years. Much that has been said would appear to suggest that Sir James underestimates the value of laboratory work. That is, however, not the case. Throughout his book, he alludes to the wonderful part that bacteriology and chemical analysis have played in the relief and prevention of human suffering. The two—laboratory expert and general practitioner—must co-operate for a common end—each supplementing the work which the other is not able to do. The man still counts for as much as the laboratory. Sir James' recent publication on the heart and its affections—an unique work in medical literature—had its nucleus in observations on his own heart cases during a period of twenty-eight years as a general practitioner at Burnley.

To-day at St. Andrews, there is an institute founded by Sir James Mackenzie with a staff consisting of the general practitioners of that town. In this institute, he hopes to give effect to his ideas for tracing the causes and beginnings of disease. Their work will be mainly on the following lines:—

1. The investigation of diseases before the occurrence of any structural change in any organ of the body, with the view of providing a diagnosis at a period earlier than is possible by the methods now in use.

2. The investigation of minor symptoms and maladies which interfere with efficiency or comfort, with the object of determining:—

(*a*) the mechanism of their production

(*b*) their bearing upon the future health of the patient.

3. The study of the conditions under which the patient lives (food, work, surroundings, etc.).

4. The recording of cases and the keeping in touch with patients who have been seen, with the aim of discovering the relation between environment, ailments and subsequent disease.

5. The following up of patients in order to observe the outcome of complaints.

To-day, in this island at Happy Valley, we have Yung Wo Hospital which has as its staff the prominent local Chinese practitioners. It has a brilliant future, for Hongkong offers a rich field for preventive medicine. We earnestly hope too that the promoters of this hospital will give Sir James' ideas a trial. Some day, perhaps Hongkong will be made a healthier place and some day perhaps the world will be benefited by its discoveries.

OUR OBSTETRICAL DEPARTMENT.

Midwifery and Gynaecology have made remarkable strides during the past twenty years and a medical school without proper facilities for adequate training in these subjects cannot indeed be said to be efficient. Midwifery departments, in the remote past, have been chiefly concerned with the training of midwives. Many years ago after their compulsory introduction into the medical curriculum, medical men began to realise that they themselves must replace the midwives whose lack of general medical knowledge limited their value in these important branches of medical science. Modern advance in midwifery and gynaecology is mainly on preventive lines. The ante-natal care, the minimum of interference during labour, the most rigid attention to asepsis and the timely surgical intervention after the puerperium, when necessary, form the crux of modern preventive midwifery and gynaecology.

The recent regulations of the Conjoint Board in England state among other requirements, including attendance on twenty labours, that the following certificate must now be signed for each student.

> "It is hereby certified that . . . has attended as Clinical Clerk in the Obstetric and Gynaecological Wards and Out-patient Department for a period of three months, and has under my supervision carried out his Clinical Studies, including the examination of such a number of pregnant women and Gynaecological patients as in my opinion qualifies him to present himself for the Final Examination in Midwifery and Gynaecology."

It is clear, therefore, that, if medical students are to be fully trained, Midwifery and Gynaecology must claim as much attention as Surgery and Medicine and that this will only be possible in Hongkong when we have a maternity hospital under the control of the University with a "unit" organised on the same lines as in Surgery and Medicine.

It is here also that we particularly feel the need of a medical hostel, since Clinical Obstetrics means "night" work and clerks and dressers must be on the spot, if they are to receive the full benefit

of the Clinical facilities. For three to six months they should literally live in the Obstetrical and Gynaecological Clinics for it is only in this way that they can fully appreciate the importance of these subjects in all their bearings.

The University appeal recently issued contains the following statement:—

"For reasons connected with hospital organization it is probable that the creation of the proposed Chair of Obstetrics and Gynaecology must in any case be temporarily postponed, and the grant necessary for its creation will certainly be conditional upon the fulfilment in the meantime of the conditions for which the University is responsible."

We therefore hope that those interested in what after all is perhaps the most important branch of preventive medicine, since it controls in no small measure the future of the race, will respond to this appeal so that we may be in a position to accept the generous offer of the Rockefeller Foundation for the endowment of a Chair in Obstetrics and Gynaecology.

CHINA MEDICAL MISSIONARY ASSOCIATION CONFERENCE.

We learn from the last number of the China Medical Journal that the "biennial" conference of the C.M.M.A. is to be held in Shanghai at the Chinese New Year, February 14th to 20th. The conference which should have met last year, [the last meeting being held in Peking during February, 1920], was postponed so as not to come too soon after the opening ceremonies of the Peking Union Medical College.

At the Peking Conference, the practice was introduced of having sectional meetings in the various medical sciences and this practice is to be continued and further developed this year, there being no less than ten separate sections as follows:—

Surgery, Medicine, Obstetrics and Gynaecology, Ophthalmology, Ear, Nose and Throat, Pathology, Parasitology, Public Health, Pharmacology and Clinical Physiology.

In addition to the above, general morning and evening sessions are to be devoted to discussions on Public Health, Medical Ethics, Medical Education and Hospital Administration and as this year is the Pasteur centenary there will also be addresses on the work of Pasteur and Lister.

The whole conference is to be "fed and housed" in the new McTyeire School Building and the provisional programme promises a very successful meeting.

Professor Earle is attending the conference as Chairman of the Section of Clinical Physiology and has promised us an account of his experiences for the next issue.

SOME OBSERVATIONS ON VACCINE THERAPY

By C. Y. Wang, M.D., M.R.C.P., Professor of Pathology, University of Hongkong.

Prophylactic inoculation against small pox by transferring the virus from a patient suffering from the disease direct into a healthy person through an abrasion of the skin or mucous membrane was originally practised by the Chinese in ancient times, but it was not until Jenner made his discovery that cow-pox will afford protection against small pox, that a satisfactory method of immunising the body against small-pox was introduced. To the material which conferred the protection against the virus of small-pox through an attack of cow-pox in man, the term vaccine was first applied. This material contains the virus of small-pox in an attenuated form, the attenuation being obtained by its passage through the body of the calf. Within recent years other modified viruses against a variety of diseases have been widely used in medicine and to these also the term vaccine is now given. Thus vaccines are either suspensions of attenuated bacteria or viruses, or extracts of bacterial protoplasm.

Preparation of Vaccines.

The requirements for preparing vaccines are:—

1. The infected material.
2. Pure cultures of the bacteria from the material.
3. Attenuation of the bacteria.
4. Standardisation of the bacteria.

1. *The infected material.*

Every precaution must be taken to obtain the material which is truly representative of the focal matters. The aim is to secure the material containing the causal organisms without, as far as possible, the advent of extraneous bacteria. Thus if urine furnishes the material it should be withdrawn with a sterile catheter after the meatus and the neighbouring parts have been thoroughly cleansed; blood is taken with a sterile syringe under aseptic precaution; pus collected in a sterile tube or swab. In all cases the specimen should either be put in a sterile receptable for transit or better inoculated direct on the medium for growth.

2. *Cultivation of Bacteria.*

This procedure may be attended with considerable difficulty, as some organisms require special media for growth, while others will grow only under certain conditions. In every instance, however, the

material should be sown on the chosen medium as soon as possible after collection. This is particularly important, for delicate organisms, such as the Gonococcus and Meningococcus, will not thrive for any length of time outside the body. When, as is sometimes the case, the nature of the organism responsible for the disease condition is not known beforehand, it may be necessary to use a variety of media for growth and incubate them under both aerobic and anaerobic conditions.

3. *Attenuation of Bacteria.*

After the necessary period of incubation and when sufficient growth appears the organisms are emulsified in saline, care being taken not to incorporate in the suspension fragments of the medium. In some cases, especially when dealing with organisms which cannot be readily emulsified, such as the micrococcus catarrhalis siccus, it is necessary to submit the suspension to a mechanical shaker until the bacterial masses are broken up. Before using the bacterial emulsion as vaccine it should be so modified or attenuated that while its injection into the body is unattended with danger it can still stimulate the production of antibodies and induce a high degree of immunity. Long back the Chinese found that the virulence of the infective agent of small pox was decreased by applying the virus to the mucous surface of the nose and the resulting attack of the disease was usually mild and conferred immunity against further attacks. But here occasionally the virculence of the virus was not modified and the infection then assumed a more severe form than was desirable. It was left to Jenner to show by closed observation and much experimentation that the virus of the disease after passing through the cow became so modified that it could no longer produce small pox, though yet capable of conferring a high degree of immunity against the disease. Later Pasteur discovered that attenuation of a virus can be attained by other means, such as heat, antiseptic, light, prolonged cultivation, etc., and thus laid the basis of immunisation and vaccine therapy. When, as is often the practice, sterilisation is effected by heat in a water bath I have found it a good rule to add to the tube or flask containing the bacterial emulsion a few drops of chloroform which on heating vaporises and hastens sterilisation. Often a suspension of a staphylococcous, which has resisted heating at 55° C. for an hour will readily be sterilised in less time if a little chloroform has been added prior to heating. Whichever method is employed for attenuation of a vaccine the object is to expose the virus to just sufficient treatment as to render it harmless for inoculation, without at the same time abolishing its antigenic effect.

Standardisation of Vaccines.

This is the determination of the number of organisms in a given volume of the suspension. The enumeration may be conducted by one of several methods, the commonest of which are:—

(*a*) By Haemocytometer chamber. The counting here is precisely the same as that for red blood cells, and may be carried out in the ordinary chamber or by Glynn's improved method. In order to facilitate counting it is important that the bacteria should be allowed to remain in the cell for at least quarter of an hour prior to enumeration. For accurate work this method is to be preferred.

(*b*) By Wright's method. This consists in mixing a given volume of blood drawn from the finger with a known volume of the bacterial suspension. A count is made of the number of red cells and bacteria in successive fields of the miscrosope, and taking the red cells at being five millions per c.mm. the number of bacteria in a unit volume can be readily ascertained. The great advantage of this method lies in its simplicity.

(*c*) By Opacity. Organisms being not transparent to light an emulsion of any bacteria will therefore give certain opacity, the larger the number of organisms in the suspension the greater will be its opacity. With a set of tubes which have been standardised to the densities corresponding to that given by different suspensions containing varying known numbers of organisms it is possible to judge the strength of a bacterial emulsion by matching it against the standard tubes. This method though convenient is liable to error within wide margin and can only be recommended if great accuracy in the determination is not essential.

(*d*) By Dreyer's method. The essence of the method is that by mixing a known quantity of the emulsion with a standardised suspension of chicken's blood, the relative number of the blood cells to the bacteria may be determined and a count made. The chief point to recommend itself is that the standard chicken's blood suspension prepared according to directions is stable and can be stocked for months.

Administration of Vaccines.

(*a*) Site of inoculation. Vaccines are usually given subcutaneously, the part chosen being as a rule the front of the shoulder or the flexor aspect of the upper arm. Aseptic conditions should be maintained throughout, the syringe should always be sterilised by heat and the skin at the point of inoculation painted with tincture iodine. Recently it has been demonstrated by Vaillant that oral administration with the Typhoid vaccine is equally efficacious, if bile is given along with it.

(*b*) Dosage. One of the great difficulties in vaccine administration lies in the fact that it is often impossible to predict what the initial dose of a vaccine should be. The difficulty arises in the uncertainty as to what effect the first dose of any vaccine will have on the patient and is due firstly to the differences in virulence of different stains of the same organism and secondly to the differences which exist in the

response given by different individuals. It is therefore a wise rule to begin with a small dose and according to the degree of the local and general reaction developed, the subsequent doses are adjusted. In general it may be stated that in acute infections, in delicate persons and with virulent organisms smaller doses are usually indicated, and an increase in dosage is contra-indicated when there are signs of general or marked local reaction.

(*c*) Intervals between injections. The opsonic index of a patient indicates in some measure the extent of his phagocytic defence against an infection and a condition of immunity is usually attended by an increase of opsonin in the blood. Theoretically, speaking, therefore, the size and frequency of doses of a vaccine should be governed by a systematic estimation of the opsonic power of the patient's blood. It was first shown by Wright that following an inoculation of a vaccine there is a fall in the opsonic index, called by Wright the negative phase. After a variable length of time, the variation depending on the amount of the vaccine injected, being usually from a few hours to several days, this is succeeded by a rise in the opsonin contents above the starting point. This Wright has called the positive phase and is usually attended by a corresponding improvement in the patient's health. If now a second injection of the vaccine is given the negative phase followed will be less pronounced and shorter than before, and soon succeeded by a higher positive phase than the first. According to the indication given by the opsonic determination the treatment should be so spaced as to correspond in time with the positive phase just before it declines. In a case of successive inoculations timed according to the opsonic index of the patient's blood there will be a summation of positive phases which may ultimately attain as high as or even a higher level than that of a normal individual. As the opsonic determination involves much time and the employment of an elaborate technique, and many uncontrolable factors, amongst which is the substantial percentage of personal errors even in the experienced hands, have to be taken into account, it has now been largely abandoned as a guide to the administration of vaccines. Thus the size and spacing of doses are now generally guided by the clinical reactions towards the injections. Taken generally, it may be mentioned that in chronic conditions the interval between doses is usually about a week. In acute cases no rule can be laid down.

Varieties of Vaccines.

An *autogenous* vaccine is that prepared from the actual strain of organisms which is the causal agent for the disease condition for which treatment the vaccine is to be used. Whenever possible this vaccine should be employed. In cases where there is difficulty in obtaining or identifying the causal organism or when delay in preparation is undesirable it is necessary to use a *stock* vaccine. This is prepared from a number of cultures of the concerned organisms isolated from cases of the same disease. The reasons for using multiple strains of the organism are that even among cultures of the

same species certain differences in immunising capacity may exist and that the injection of one strain may not protect against the other. With the use of a stock vaccine prepared from a large number of strain there is the greatest likelihood of its containing one which corresponds in immunising property to that possessed by the organism responsible for the disease and which will yield the highest prospect of success. Vaughan was the first to show that proteins in general can be split up into a toxic and a non-toxic product. His observation has been found to be equally true in the case of bacterial protoplasm, as Lustig's Plague vaccine and the Detoxicated vaccine by Thomson, in both the toxicity was removed by treatment with an alkali, have demonstrated. I have found also that the toxicity of a vaccine can be largely removed by depriving it of its lipoids and a vaccine after this treatment possessed a higher antigenic power and a greater capacity for combining complement in the presence of the homologous antibody. In order to ensure rapid production of antibodies and to avoid the negative phase following an injection Besredka introduced his *sensitised vaccine*. This is prepared by exposing the bacteria to the action of the appropriate immune serum for a certain length of time, the bacteria being afterwards collected by centrifuging and emulsified in saline. It has been claimed that in acute injections where ordinary vaccines are usually contra-indicated, vaccine treatment may still be administrated with the sensitised vaccine. The absorption and dissemination of the bacterial bodies, whereby an early response with antibody formation is obtained.

Effects of Inoculation.

A local reaction at the site of inoculation is evidenced by reddening of the skin around puncture, sometimes by oedema, congestion and tenderness. The intensity of the reaction varies, being influenced by the patient's susceptibility to the vaccine, the dose and the nature of the bacterium. With judicial administration and where the dose is appropriate, the local reaction should be slight or entirely absent. A marked reaction usually indicates that either the dose is excessive or the patient in unduly sensitive. The processes underlying the reaction are similar in nature to that caused by living organisms in infection, only here the inflammation is localised and shows no tendency to spread. There is dilatation of vessels of the region accompanied by acceleration of blood flow and by leucocytosis. A general reaction is shown by headache, rise in temperature and seediness. Such effects are generally the result of excessive dosage and should be avoided in practice.

Actions of Vaccine.

It is a well known fact that after an attack of a disease a person is not often liable to a subsequent attack of the same disease. Thus those who have recovered from an attack of small pox will seldom contract the disease a second time. Such persons are said to be immuned. The immunity conferred by a disease must signify some changes or new developments in the system which are primarily

responsible for the acquirement of such resistance. Examination shows that the establishment of immunity does not involve nor arise from changes, whether macroscopic or microscopic, in the tissues of the body, there being no differences in structure between an immunised and a non-immunised individual. In his investigation into the phenomena of digestion in invertebrates, Metchnikoff discovered that foreign bodies, both living and dead, were engulfed and taken up by phagocytic cells in which a process of intracellular digestion took place. His observations and the conclusions drawn from them led him to extend his studies to the nature of infection in animals. As a result of very elaborate and extensive researches he was able to convince himself that the ultimate recovery from an infection depended on the removal of the invading organisms by the phagocytic cells of the body. This theory of phagocytosis thus formulated by Metchnikoff had led other investigators into the field of research. His conclusions, however, did not pass unchallenged for Nuttall and later Foder in the course of their studies on the phagocytic theory found that fresh serum free from cells from an animal and also other body fluids had the capacity of destroying bacteria and that this bactericidal action was independent of cells and of phagocytosis. They were able to demonstrate by experiments that recovery from an infection could take place under conditions in which there was little or no phagocytosis and maintained that the death of bacteria was primarily brought about by the body fluids and that phagocytosis by the cells only served the purpose of removing the organisms after they have been destroyed. This became the basis of the humoral theory upon which Ehrlich later founded his famous side-chain theory. Thus we have the two schools of immunity, one the theory of phagocytosis by Metchnikoff, which attributed the protection against and the recovery from an infection to the phagocytic cells, the other, the humoral theory by Nuttal, which ascribed the role to substances in the body fluids.

That neither of these theories would explain every condition underlying the phenomena of immunity was subsequently shown by Wright and Douglas. These observers following a study begun by Leishman demonstrated that while the cells did play an important part in taking up and removing the bacteria the phagocytosis was only possible or aided when the organisms had been previously acted on by a substance in the serum. This substance which acts upon the bacteria in such a very as to render them more venerable to digestion by the cells and thus facilitates the phagocytic process is called opsonin by Wright. Whilst the subject of immunity is as yet far from being fully understood and many of the controversal questions remain to be settled, it has now been sufficiently established that in the presence of an infection, the body endeavours to defend itself and to remove the offending agents by a variety of means. These consist in the production of leucocytosis and of specific antibodies which may be antitoxin to neutralise the toxin of the bacterium, bacteriolysin to fix the complement to the bacterium for destruction, or opsonin to sensitive the bacterium for phagocytosis. Depending on the nature of the infection one or more or all of these protective forces may be created.

Now the object of a vaccine is to stimulate the bodily activities to produce these protective forces which are the direct agents in bringing bacterial action to an end. Unlike ordinary drugs which either stimulate or suppress a function of a tissue vaccines thus act only indirectly by augmenting the production of those substances which alone destroy the bacteria.

Uses of Vaccines.

Vaccines may be administered for two purposes, prophylactic and curative.

(a) *Prophylactic.*

The aim of vaccine work as a prophylactic measure is to produce, or to increase the production of, anti-substances in the body against the specific virus. Such anti-substances will either protect the individual against an infection by the organism concerned or to modify the cause of the disease should an infection subsequently occur. The duration of protection varies with the nature of the vaccine and with the individual suspectibility, but it is generally true that the immunity is probably never as perfect nor as lasting as that following an attack of a disease. Prophylactic vaccines have been administered with success against a number of diseases, of which the commonest are Small-pox, Rabies, Typhoid, Cholera, Plague and Phneumonia.

Small pox. Although preventive inoculation against the disease has been practised in olden times it was not until Jenner made his discovery that a scientific principle was imparted to the practice. The inoculation is usually made by scarification but recently Goodall introduced a subcutaneous method of injection and obtained with it an equally good result. Usually one dose is given, but if the immunity is to be lasting and absolute re-vaccination is necessary.

Rabies. It was to the brilliant work of Pasteur that we owe our knowledge of this form of treatment. Although the virus of the disease has not been identified prophylactic inoculation to those exposed to the infection has been attended with marked success. The inoculum may be an emulsion of the dry cord of a rabid rabbit, as practised by Pasteur, or of fresh frozen cord as advocated by Harris, or of fresh untreated rabid cord which was first used by Hogyes. The last method is that adopted by us at the Bacteriological Institute in making rabies vaccine, evidently with favourable results. However the vaccine in prepared it is most important that protective treatment should be instituted at the earliest possible moment and that the course of injections, consisting of a number of doses should extend over a period of days.

Typhoid. Preventive treatment with vaccines against the disease was first introduced by Wright and independently by Pfeiffer at about the same time. The vaccine consists of two doses and it is now the practice to combine it with the Paratyphoid A and B vaccines. Though the immunity is not absolute and its duration variable experience has shown that the inoculation affords in a large degree some

real protection against the disease, at least for a few years, and that an attack among the inoculated is usually attended with a lower mortality rate than among the uninoculated.

Cholera. The earliest protective vaccine against cholera was that prepared by Ferran but the results he obtained were discouraging. Later Haffkine by using two vaccines, one attenuated, the other exalted, succeeded in placing the practice on a sounder basis. In the light of more recent knowledge it appears that one single dose of the exalted vaccine is equally effective. The immunity lasts for about a year and the value of the vaccine has been fully confirmed by independent workers.

Plague. Haffkine was the first to use prophylactic vaccine against this disease. Of the value of the vaccine against bubonic plague there can be no question but it has been found to be of little use against the pneumonic type. The immunity seems to manifest soon after inoculation and is of short duration, usually one of several months only. Thus during an epidemic, if the vaccine is to be effective repeated inoculations are necessary.

Pneumonia. A protective vaccine against Pneumonia was started on a large scale by Wright in 1912—1913, but as no attention was paid to the differences in the types of the Pneumococcus the results obtained were not definite. Later by recognising the differences in immunising capacity of the various types of the organism Dochez and Gillespie, and independently Lister, conclusively demonstrated that a definite immunising response can be obtained against Types 1, 2, 3.

Prophylactic vaccination against other diseases, such as Dysentery and Cerebro-spinal meningitis, has been tried, but the observation has not been sufficiently extensive to allow any definite inference to be drawn from it.

(b) *Curative.* In the presence of an infection there is an immediate struggle between the invading organisms and the defensive forces of the body, and the ultimate termination of the infection depends on the outcome of such a combat. If the protective mechanism of the body is able to overcome and destroy the bacteria recovery will ensure. On the other hand when the protective powers are insufficient and overwhelmed the infective process will extend. If the struggle is about equal, that is, when there is a balance of power between the offensive and the defensive forces, the infection will take a slow, chronic localised form. Basing on these observations and as a general guidance to vaccine therapy cases may be conveniently classified into four groups:—

1. General infection in which the bacteria are present and multiply in the blood stream, as in Septicaemia.

2. General infection in which the bacteria are present in the blood stream, but the majority is confined to certain organs, as Pneumonia, Typhoid, and Acute Phthisis.

3. Local infection in which there are one or more localised foci but with occasional passage of bacteria into the blood stream as in Gonorrhœa and Rheumatic Fever.

4. Local infection in which the causal organisms are strictly localised, as in Boils, Acne and Sycosis.

GROUP 1 CASES.

In all such cases vaccine treatment is as a rule contra-indicated. In exceptional instances, as when there is a likelihood that some parts in the body have not already exercised their maximum immunising capacity, it may be still permissible to administer a vaccine. I have observed cases of Septicaemia following osteomyelitis which had been favourably influenced by vaccine in small doses.

GROUP 2 CASES.

Here vaccine therapy is admissible in chosen cases. The doses and the intervals between injections should be carefully judged and the effects closely watched. Experience can only tell what cases of this group will yield to vaccine treatment and no fixed rule can be laid down. Being less toxic and usually more potent in their immunising property than ordinary vaccines, sensitised vaccines should be employed by preference. The results which have so far been reported as to the value of vaccine treatment in Pneumonia and in Typhoid are on the whole encouraging.

GROUP 3 CASES.

In many of these cases vaccine treatment is strongly indicated, and succeeds best when the involved part is kept at rest in order to avoid or to minimise auto-inoculation. When there is pus formation, treatment is as a rule difficult and futile until the abscess has been opened and drained.

GROUP 4 CASES.

Such cases are ideal for vaccine treatment. The causal organism is commonly the staphylococcus. As a rule a vaccine prepared with this organism begins with a dose of 100 millions, but I have seen cases which responded better with a much smaller dose, starting from 10 millions. Space forbids mention of all the conditions in which vaccines may be employed for therapeutic purposes, and the rules above outlined are intended merely to serve as a general guide. It must be emphasised here that a vaccine is a potent substance capable of doing good when properly employed, or doing harm if injudiciously administered. Wassermann and his pupils have demonstrated that different tissue cells may participate in the production of antibodies against any particular invading organism, and the administration of vaccine as a curative remedy is to stimulate or augment their productive capacity. So long, therefore, there is any tissue cells which

have not still exercised their full immunising capacity vaccine therapy may be useful. On the other hand, if all the defenses of the body are overwhelmed by the invading forces and where the immunising power of every issue is fully taxed, vaccines in such cases are not only useless but harmful, and may be likened to the application of a whip to a tired mare.

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SPECIALISATION

A Paper read before the Hong Kong University Medical Society by
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Specialisation.

I did intend to-night to speak to you on the subject of Man's place in nature and of his origin as a definite species of animal. The subject however is too large to deal with in one evening's discourse and so I have chosen the reverse side of the picture.

For many years scientific men have been devoting themselves to the question of man's origin and to the study of those animals which would appear to be the nearest to the line of man's ancestry. I am going to attempt to give some explanation of the departure of animals from that line.

I feel that one fact has not been sufficiently impressed by scientific men on the popular mind, viz. That any animal species existing at this moment cannot be the ancestor of another animal species at the same moment. In other words all animals existing to-day are of the same geological age, and it follows from this that man cannot be derived from a gorilla unless a gorilla has remained unchanged, since the period when it gave rise to an infant with such variation that it could be the ancestor of man.

The question I deal with to-night is not, therefore, what was the common ancestor but why did one group of the descendants of the common ancestor go in a different direction from the other. Before, however, I deal with the problem at issue I regard it as necessary to make a clear definition of the terms which I am about to use fairly frequently.

Specialisation has almost come to be deified by those who have departed from primitive simplicity. It has become fashionable for men of all branches of learning to devote themselves to a special branch or division of a general subject or pursuit. It may be rightly asked how otherwise could we unravel the vast number of problems at issue.

Specialisation in relation to biology can be defined as a passage from a more general to a more particular form. To express the conception of specialisation in diagramatic form let the rectangle A.B.C.D. represent the generalised condition.

Let the figure be divided into so many squares representing either the primitive organs going to make up the whole body, or in the case of knowledge let the figure A.B.C.D. represent general knowledge and each square represent some particular branch of knowledge. A man whose mind is represented by those squares in equal proportion

would be regarded as a man of good general education, i.e., providing each square was of sufficient size, but it is obvious that no man is capable of equally enlarging the squares until each square represents a vast amount of knowledge on each subject.

Darwin in the origin of species P91. says, " All physiologists admit that the specialisation of organs inasmuch as they perform in this state their functions better, is an advantage to each being" which being diagramatically represented means that the first square is greatly enlarged as representing one organ.

This statement of Darwin's is generally regarded as correct. In point of fact the being is represented by the whole figure A.B.C.D. and the advantage to the being is dependent upon the parallel growth of the remainder of the squares.

For example the corporate body of the university is represented by all the faculties of that university and if the university devotes its energies to improving one department, *e.g.*, anatomy, what benefit does that confer on the corporate body and furthermore will anatomy improve if English be neglected, for how can one teach the description of a bone when the learner cannot describe an object of common use, such as a teaspoon. Further the wider the teachers knowledge is of general medicine the greater the advantage of the original parallelogram to the developing square.

Specialisation may therefore be defined as the building up of peaks on generalisation. As a rule the larger the generalisation the more efficient the specialisation will be.

I will rather put the cart before the horse and give you the conclusion of the paper before laying before you the evidence for that conclusion.

Man's pre-eminence as an animal is due to the fact that he is one of the most primitive and generalished mammals and has been almost unspoilt by specialisation. His brain is generalised but the parallelogram A.B.C.D. has grown evenly and at no time has one sense been permitted to exercise a dominance over the other senses. The cerebral cortex acts in virtue of stimuli received from all the various senses. The evil effects of our specialished methods of teaching are apparent when we appreciate how much the discovery of the X rays has reduced the exquisite sense of touch developed by the fathers of medicine.

I hope now that you will have appreciated what I mean by specialisation as this term is generally understood and further that you have appreciated the factor time in relation to it.

Now it is postulated that all animal forms as we know them have been derived from a single unicellular organism such as amoeba. organism such as amoeba.

As to the origin of life itself, I refer you to Osborn and other writers. The law of nature is that matter is indestructible and therefore every object in nature must have always been and there we arrive at the infinite which is beyond our intellect.

Osborn says, "Creation in contradistinction to evolution is the production of something new out of nothing, the act of producing both the material and the form of that which is made. Evolution is the production of something new out of the building up and recombination of something which already exists." It is from this point that we commence, viz., the single cell. I show you a picture of an amoeba and also one of the human ovum. The similarity is at once quite apparent. Most scientific writers are agreed that life only once started and such being the case the amoeba and man are exactly the same geologic age. Why is it that the amoeba is still in the form of an unicellular organism. The chalk cliffs of England are merely the skeletons of related unicellular organisms and as far as we can ascertain they in no way differ from similar existing species of the present day.

What are the chances of variation? Lull in organic evolution gives some very interesting figures, "Professor Woodruff has maintained a five-year pedigreed race of Paramecium the descendants of one individual. In the five years there were 3,029 generations. They were as healthy at the end as at the beginning of the culture and had given evidence of the potentiality of producing a volume of protoplasm approximately equal to 10,000 times the volume of the earth. It has been estimated that at the end of the 9,000th generation the mass would exceed the confines of the known universe and the rate of growth would be extending its circumference into space with the velocity of light." Again "An oyster may have 60,000,000 eggs. If the progeny of one oyster survived and multiplied and so on until there were great great grandchildren, these would number 66,000,000,000,000,000,000,000,000,000,000,000 and the heap of shell would be eight times the size of the Earth" Huxley has estimated "that the descendant of a simple green fly if all survived and multiplied would at the end of one summer weigh down the population of China."

The chance of survival of a ling's egg is one in 14 million. What opportunities of variation from the parent stock here exist and as far as we can determine they have not taken place. The fossils of scorpions and cockroaches millions of years old show the same essential structure as do these animals to-day. Clearly these questions require answering. The environment must have altered during the long periods—alteration in the direction of warm currents in the sea—increased rainfall with increased food at the river mouths. Darwin says "On our theory the continued existence of lowly organisms offers no difficulty; for natural selection or the survival of the fittest, does not necessarily include progressive development—it only takes advantage of such variations as arise and are beneficial to each creature under its

complex relations of life." "And it may be asked what advantage as far as we can see, would it be to an infusorian animalcule—to an intestinal worm or even to an earth worm to be highly organised." It may well be asked why did not the mammoths stop growing their tusks and the prehistoric deer their antlers? What advantage so far as we can see were these organs to those animals. I have perhaps misled you into thinking I had an answer to the problem. I prefer to turn over one page of Darwin's origin of species and read, "But no one ought to feel surprise at much remaining as yet unexplained on the origin of species, if we make due allowance for our profound ignorance on the mutual relation of the inhabitants of the world at the present time and still more so during past ages."

I have brought these questions forward to show you what difficulties confront us in determining the exact and complete method employed in bringing about the evolution of various species of animals.

When one comes to deal with the vertebrate stock the problem does not present such overwhelming difficulties. Darwin's studies on domestication of animals have proved conclusively that variations do occur and that by selective breeding species can be made to alter. The discoveries of Palaentology have given us a tolerably clear picture of the changes which have come about in the evolution of species and have permitted us to classify animals with a considerable degree of accuracy.

The exact species of animal which gave rise to the vertebrate phylum is not known, but the relationship of the various lower vertebrates is fairly well known. The primitive vertebrate can almost with certainty be assigned to the water, as a water living form, and I show you a table for which I am indebted to Professor D. M. S. Watson. You will notice that the arrow leading away from amphibia points to the direction of man and the diagram indicates that the side branches have failed to attain to this height of evolution. It must be understood, however, that their own evolution may be of a considerable height as far as they themselves are concerned.

The question before us now is wherein have these side branches missed the opportunity accorded to their ancestors of becoming manlike? The answer is to be found in the fact that they adapted themselves with such a wonderful degree of efficiency to their environment that they were incapable of passing out of it to the land.

The primitive type was so constructed that it was capable of being acted upon in such a way as either to develop into land living forms or water living forms. The solution of our problem lies therefore in a careful study of the primitive organs of our primitive ancestor. But since we do not know what were the organs of our primitive ancestor we are driven to an analysis of circumstantial evidence and to a certain amount of speculation.

The organs of respiration in all these forms are in the nature of gills which being bathed with water absorb the oxygen from it and so carry on the essential metabolism of the body.

The human embryo has gills and so have all known vertebrates embryos. By this one feature we can thus harmonise all these various animals but wherein did the change occur which converted a water breathing animal into a land breathing animal. That such a transition did occur is evidenced to by the metamorphosis of the water breathing tadpole to the air breathing frog.

You will observe that the branch immediately preceding the amphibia is that of the Dipnoan fishes. These are also known as lung fishes or mud fishes. The very term mud implies a transition from water to land and apparently the ancestors of the amphibia were subjected to alternating periods of wet and dry weather. Those which could develop an accessory organ of respiration in the shape of an air sac, such as is to be found in the Dipnoans and is apparently homolgous with the lung of land breathing forms, were alone capable of surviving on land.

Let us now consider the nervous system of these various animals and see if we can gain a clue as to why they did not leave the water. Physiology teaches you that the nervous system is peculiarly susceptible to lack of oxygen. You are all familiar with the unconsciousness which sets in fainting fits. The respiratory centre in the brain is very sharply attuned to any alteration in CO_2 content in the blood.

Herrick in a paper dealing with the evolution of the cerebral hemispheres points cut how nature has provided for the transition from water to land by increasing the blood supply to the brain in the mud fishes.

I now show you the brain of one of the simplest of vertebrates Petromyzon. You will observe in this simple form that we can clearly distinguish the fore brain, the mid brain, and the hind brain. I want you to bear in mind the appearance of the dorsal aspect of this third part of the brain. The roof is composed almost entirely of blood vessels contained in that structure known as the Choroid plexus. If you look however at the point where the hind brain meets the mid brain, that is immediately anterior to two nerves the 4th and the 5th, you will see that at the level where the 5th nerve is inserted into the side wall of the hind brain there is a definite roof of nervous tissue in the form of a flat band. This structure is known as the cerebullum.

The hind brain of Ceratodus might easily be mistaken for that of Petromyzon. Observe the rich vascular roof, the band like cerebellum and the relationship of the 4th and 5th nerves. Finally look at the hind brain of the amphibian which has almost exactly the same

appearance. One is almost entitled to say that the primitive or generalised condition of this part of the brain has been retained during the passage from water to land. I will not weary you with the internal structure of these forms and with the intimate relationship of the 5th nerve with the cerebellum. Now I show you the cerebellum of the Dog Fish. Observe the large size and complicated nature of its cerebellum; comparing it with that of man you might almost think it an ancestral type to man. There is fortunately no need for me to prove to you that the selachian brain is dominated by the sense of smell. Elliot Smith has done more than any other writer to unravel the olfactory connections of the brain and the general conclusion come to is that the selachian brain has departed from its primitive simplicity and has become an efficient organ to regulate the behaviour of the dog fish in the water. It is very important to appreciate that in water this animal reigns supreme. The olfactory organ is so nicely attuned to the various other organs that the jaw apparatus, the body musculature and the fin musculature act in beautiful harmony with its stimuli whether for obtaining its food or seeking out its mate. Observe that the cerebellum formerly more closely related to the fifth nerve has now posteriorly come to include a great system the lateral line system. Anteriorly it has very intimate connection with the anterior part of the brain by means of the lobi-cerebellar tracts. The exact connections of these with the sense of smell is uncertain. It can however be said that the great elaboration of the cerebellum here gives us the cause of the beautiful precision and co-ordination of the muscles adapting this animal almost perfectly to its enviroment—the sea.

Now for one moment, glance at the cerebellum of a Teleost fish. How different it looks and in some cases, as Franz and other writers have shown, it lies in great part in front of the 4th nerve. How wonderful is the vision of a trout. But still more wonderful is the response of the whole animal to this sense as shown by its ability to catch the fly. Here there is one group of animals dominated by vision, another by smell and each is tuned to its environment. Specialisation of these senses has led to this result and at the same time has led to the dominance of the whole animal by the specialised sense. Elliot Smith expresses the conception in the following words. "Premature specialisation leads to immediate success followed by inevitable failure."

This highly specialised departure from the primitive simplicity of the cerebellum of the animals, I have shown you, has for ever prevented their following along the difficult path which leads to dryland for how could such a system be oxygenated. They have become slaves to their environment and have lost the opportunity of so developing their brains as to attain the peculiar attribute of man, viz., mastery over the environment which includes all other animals.

Let us now take another example of the same law and in this case passing over the stages leading from the amphibia to the mammals we will examine into the structure of the horse's forelimb. If it is

certain that mammals have a common origin then it is also certain that the primitive generalised forelimb was capable of a great variety of modification. These modifications in the forelimb, inter alia, permitted mammals to occupy every possible form of habitat, man's ancestors took to the trees, the whales to the water, bats to to the air, moles to the ground, horses and a great many others to the earth's surface itself. To get a proper perspective of the situation in which these early mammals found themselves you must picture the earth at that time peopled with gigantic carnivorous reptiles and the survival of the mammals became a matter of the survival of the fittest to escape. Man's ancestors being small insignificant creatures made their natural abode in the trees. Horses find themselves on the land and in constant danger of extinction, not only from natural enemies, but where their fossil remains are found the country gives evidence of being subjected to periods of drought. Two changes in structure took place to overcome these difficulties firstly a gradual change in the forelimb from a five toed to a one toed type. This gave speed to excape natural enemies and to cover long distance in search of food and water. The other changes took place in the teeth for the purpose of making the most out of the food supply available. The ones longest of wind and limb survived. Specialisation of the forelimb has led to the immediate success of adaptation to herbivorous life on the surface of the earth. The forelimb of man is almost bone for bone the same as that of the amphibian. Man's hand has been referred to as the more beautiful example of progressive specialisation. Such is not the case. It is the very fact that it maintains the plastic primitive and generalised type which permits of such variation in its activities.

To appreciate the loss sustained by the horse by such premature specialisation. I will show you a picture of a chimpanzee threading a needle. Let us analyse this picture closely and see what is there by entailed. Two things firstly the eyes must focus on the eye of the needle secondly the hand must act in immediate obedience to the stimuli of vision. We are only just beginning to appreciate this extraordinary advance which has been made by man in vision. How different from the vision of the Teleost however for there we find that the dominance of vision has led to a corresponding failure in the other senses. With man however each sense has helped the other in a gradually progressive fashion. We hold an object in our hands and determine by the sense of touch that it occupies a definite position in space that its surface in smooth or rough, and above all that it has dimensions.

The co-ordination of the muscles of the body is brought about mainly by the cerebellum acting in obedience to the cerebrum. In the case of the Selachian and the Teleost the cerebellum acts mainly in obedience to the stimuli of smell and of sight. Is it possible in the case of man to eliminate those impulses which reach the cerebellum from the cerebrum and thus to determine the type of cerebellum which is given to man, to elaborate and make use of?

A VISIT TO THE SURGICAL CLINICS OF AMERICA.*

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Gentlemen,

I had promised your secretary to read a paper on visits to Surgical Clinics abroad but on referring to my notes I found it was impossible to cover them and yet do them justice in the short space of time at my disposal as they covered the clinics of Great Britain, France, Switzerland, Austria and Germany. So I had decided to confine myself to the American Clinics. For this I must ask your pardon.

To begin with I must admit that in estimating the merits or demerits of any clinic one is apt to be misled by technics and appliances whereas the true criterion should be the end results. Short visits do not permit the gathering of complete informations nor to see all there is to be seen.

Hospitals.—America that is to say the United States is well supplied with hospitals. In a population of 110 millions there were no less than 2,000 of large size. The number of people to each hospital-bed varies from one bed to every 77 people in the State of Oregon to one for every 1,222 in the State of Mississippi. New York however has one for every 171 persons.

The American hospitals are generally well planned, well equipped and are modern and efficient in every respect. This may be expected after all in a country that is new, rich, progressive, and not tied down by traditions.

In the general uplift and standardization of hospitals through-out the States, great credit must be given to the monumental work of the American College of Surgeons. In this work the College laid down a minimum standard for an efficient hospital. *What then is an efficient hospital?* Briefly speaking the College required that there must be first of all a competent staff and that this staff must meet at least once a month in order to review the clinical experiences in the various departments. Next, complete case records must be written and filed for all patients. The record includes the case history, physical examination with clinical, pathological and X-rays findings when indicated, the working diagnosis, treatment, progress, condition on discharge, with the final diagnosis and, in case of death, the autopsy findings. Finally facilities must be available for chemical, bacteriological, serological, pathological and radiographic services in charge of trained technicians. Of this standard,it was estimated that over one-third of the hospitals surveyed by the College came within these requirements.

* A paper read before the H.K.U. Medical Society on 28th November, 1922.

Unlike those in England, the American hospitals are essentially everybody's hospital; in their public and private wards both the rich and the poor are cared for. It is a feature in my opinion we should do well to follow.

Medical Education.—Not many years ago there was a general impression that the American Medical Schools were under-standard. This is no longer true to-day. In England medical education is controlled by the General Medical Council. Unfortunately there is no such body in the States, consequently the standard was not uniform, as each state has its own standard with which one must conform or pass before a licence to practice is granted.

Only sixteen years ago the United States had as many as 162 medical schools, or more than half of the world's supply. To use an American expression it came to " Mass production."

Latterly through the gigantic effort of the Council on Medical Education of the American Medical Association this number is now merged to eighty-six with the result that marvellous and immediate improvement in standard and efficiency were brought about.

The American standard now consists of two years of pre-medical and four years of medical work while some schools in addition required one year's internship before a diploma is conferred.

In connection with medical education, a very interesting and much discussed question is the advisability of engaging full time Professors. The general concensus of opinion is that although these appointments are still in the experimental stage there is much to be said in favour of the part-time teacher, at least for the professors of the clinical branches. Because after all the prime object of a medical school is the training of students to become general practitioners, more-over experience has taught that under the circumstance it was difficult to get the best men. Such is the opinion of de Schweinitz, J. B. Deaver, the Council on Medical Education of the American Medical Association, etc.

The Progress of Surgical Practice.—During the last two decades American Surgery has advanced by leaps and bounds. My own opinion is that it is destined to lead in the near future; indeed it leads in many aspects to-day.

The average American surgeon is thoroughly conversant with his work. He is intensely sociable and democratic. He is passionately fond of travelling to see the work of others not only in his own country but to Europe where there is always a few hundreds at any one time. He is strongly bent towards specialization, so much so that a large number had reached the plane what might be called ultra-specialists.

Group-clinic which took its origin in the States is springing up like mushrooms all over the country. It is simply a group of specialists who had associated themselves for practice. The Mayo Clinic is the prototype and model.

Although there is much to be said in favour and against such a practice, the group-clinic has opened a new era in medical practice and it certainly has come to stay; only if the patient is dealt with as a patient and not as a case, perhaps with less machine-like methods and if we would always keep his interest foremost, then we should not hesitate in welcoming it.

Time does not permit me to describe all Clinics visited in America. Suffice it for me to mention those visited but which I shall omit to describe. They are those of San Francisco, Los Angeles, Washington, Kansas City and in Canada, Victoria and Vancouver.

SEATTLE.

One of the most accomplished surgeons along the Pacific Coast is Dr. Harry Shaw of Seattle. He is head of a group-clinic, one of the best operators I was privileged to see. It was at the Providence Hospital that I saw him operating. For uterine retrodisplacement he adopted the Gilliam technique. The skin was prepared with MacDonald's Solution. I was much impressed by the rapidity and neatness the skin and adipose tissue were incised down to the muscular plane by the use of the Murphy knife. Neither abdominal retractors nor gauze packings were used, as he considered them sources of irritation which may cause subsequent adhesions. The same was said about Iodine in preparing the skin. The appendix was excised by cautery close to the caecum in order to prevent stump trouble, a point many overlooked. In order to prevent adhesions and inversion of the peritoneal wound, only its inner surfaces were brought together which were rendered secured by locking one stitch after every three. The skin was closed with Michels' Clips. After the second case of Perineorrhaphy the third case was that of a Chinese whom I saw a day previously. Extraordinarily enough, this was the third case of carcinoma of the Liver occurring in Chinese I saw in Consultations in America. In this connection Dr. Munro of the Vancouver General Hospital informed me that his experience was, that the condition was comparatively frequent amongst Chinese seen at his hospital; and that often-times in spite of the most careful search at the autopsy no primary growth was revealed. In this case the Liver was so studded with nodules that the abdomen was closed at once without endeavouring to locate the primary growth.

PORTLAND.

On the 1st of June, this year, I had the opportunity of revisiting Portland. In this impressive city Dr. R. C. Coffey is the leading surgical figure. He is surgeon and chief of the Portland Surgical Hospital, which is a group-clinic institution.

Many of his techniques were widely known and adopted, such as the submucous transplantation of the Ureter to the Colon, plication of the Round Ligament to the anterior surface of the uterus for retrodisplacement, pancreatectomy, etc.

His work on abdominal surgery is one of the finest in the United States.

He operates thrice weekly reserving most of the interesting cases for Saturdays as it was the special day for surgeon visitors. To my great regret I was unable to remain for that day. However as a consolation he showed me some hundreds of beautiful paintings by his artist in water colours covering mostly surgery of the abdomen and his special techniques. He then demonstrated, amongst other things, two most useful articles a surgeon can possess. One was his modification of the Wakefield Laparotomy Sheet with continuous sponges. It is really an ordinary Laparotomy Sheet made with pockets into which the end sponge was anchored. It is one that is widely used in America and has proved a success. With its use the catastrophy of leaving a sponge in the abdomen is eliminated. Moreover time is saved by doing away with sponge counting before closure of the abdomen.

Instead of using a continuous piece of long gauze as sponge, as was introduced by Wakefield, Coffey used about a dozen sponges attached to a tape at intervals of about fifteen inches, thus avoiding the obscuring of the field of operation as well as the proper use of instruments by the redundant gauze.

The other demonstration was his "Quarantine Drain" which he used for twenty years with the utmost usefulness.

It is somewhat a mutiple cigarette drain surrounded with a large piece of oiled silk or rubber tissue with eight to twelve strands of twisted gauze.

In case of a suppurating focus in the abdomen the rubber tissue is spread out over the gauze wicks, thus insolating the focus whilst keeping the intestines and omentum out of the way. He said it is particularly useful in draining the pancreas as the secretion is thus conducted out of the peritoneal cavity avoiding thereby fat-necrosis.

CHICAGO.

Chicago is the second largest city in the United States. It has therefore a great wealth of material and is a great medical centre. Here is situated the headquarter of the American College of Surgeons, an exquisite building, built in memory of the late J. B. Murphy, a great American Surgeon of Anastomotic button and arthroplasty fame. Although it was founded as late as 1913 the college has already over 4,000 fellows. Admission into Fellowship is usually based on the examination of at least 50 case records of major operations performed by the candidate and 50 assisted by him.

In Chicago Dr. A. Ochsner has the most material. He is Professor of Surgery at the University of Illinois and Surgeon-in-chief to the Augustana and St. Mary's Hospitals. He is editor of a four volume book on Surgical Diagnosis and Treatment. At the Augustana Hospital the operation room was always full of surgeon visitors. One morning I met three from Japan. The operation room planning and equipment here was not so up-to-date as one might expect in American Hospitals. Both Cap and Mask were not worn. Gloves were used in some cases. For artificial daylight blue electric bulbs were used with splendid effect.

Two tables were in use. As soon as the main work in one was finished the table was sent to the other side of the room for the assistants to complete and then the next case was wheeled in, completely anaesthetised. By this means a large number of cases were successively dealt with in the shortest space of time.

Two cases were seen under nerve blocking anaesthesia, a thyreoidectomy and a rib resection case both with splendid results. For haemorrhoidectomy the ordinary old iron cautery was used.

The Cook County Hospital is one of the largest in Chicago. The Hospital was well known for it's X-rays work and instruction. Here I was very much impressed when I saw the radiologist at work. He was reading aloud plate after plate as he passed along while the stenographer typed down the readings unerringly. Not more than two minutes were spent on each plate and there were quite a few dozens on the shelf. In this hospital I was very much impressed with the work of Dr. C. Culbertson, a gynaecologist. For abdominal work he invariably used the Wakefield Laparotomy Sheet and sponges. Of the four cases seen operated upon I was most interested in the case of uterine retrodisplacement for which he adopted the Webster technique. The Broad Ligament was punctured from behind with a pair of forceps, the Round Ligament was then caught and pulled through the rent and anchored to the back of the uterus, thus bringing the Fundus Uteri forwards. But, in addition, he shortened the Utero-sacral Ligaments which has the effect of pulling the Cervix backwards.

He said without this step the mere shortening of the Round the uterus, and not merely flushed with the surface.

In the case of salpingectomy the tube was deeply excised from the uterus, and no merely flushed with the surface.

At the Presbysterian Hospital I saw the reputed surgeon and educationist Dr. A. B. Bevan. Local anaesthesia was extensively used. For tension sutures he used ordinary bone buttons threaded with silkworm gut which he left for ten to fifteen days.

BALTIMORE.

Baltimore can boast at having the best medical School in America and may well be proud of having such great surgeons as Halsted, Finney, Kelly, Young and Bloodgood.

At the Johns Hopkins Hospital, I was privileged to attend the class lectures of the renown Halsted who is Professor of Surgery. It was he who introduced the use of rubber gloves in surgery. Who does not know the stitch that goes by his name?

The Halsted technique in excision of the breast and the repair of Hernia are too well known. What Kocher was to Europe may be said of Halsted to America. Seldom was there such invaluable and voluminous contributions coming from one man. Quietly and steadily his teachings were infused into many schools and clinics. He has brought up largely American surgery to what is to-day. As the patients were wheeled in one by one, the students were called down by fours from a list. His questions were searching and always to the point but he was always considerate, amicable and patient.

Dr. J. M. T. F. Finney is Professor of Clinical Surgery of John Hopkins. Finney's method of Pyloroplasty is well-known.

For the skin he used Iodine, for sutures and ligatures he used silk exclusively. Ether was employed for anaesthesia; (there is hardly any one using Chloroform for general work now). In a case of Carcinoma of the breast an ordinary eliptical incision was made with a secondary one extending to the clavicle. He said he was not afraid of shock if haemorrhage was controlled, therefore there was no need to operate quicker than the assistant can follow with the haemostats.

In the second case of excision of the breast a cut was made into the tumour to ascertain the nature of the growth.

He maintained this is sound practice and that Bloodgood who investigated it, came to the conclusion that it is harmless. Of course this is contrary to present day teaching in Great Britain.

To two geniuses we owe the surgery of the prostate to what it is to-day, one is Freyer of London, and the other is Young of Baltimore. The former for the suprapubic route and the latter for the perineal route. For this operation Young placed his patient in the Trendelenburg position. The perineum was opened with a V shaped incision. The prostate was hooked forward by his special retractor, preparatory to enucleation. He claimed by his technique the patients were able to get out of bed much earlier, which in elderly people is a great advantage. Again anatomically the prostate was nearer the surface than the suprapubic route hence it is the more scientific operation.

Dr. Gaerty is Dr. Young's Chief Assistant. It was he who introduced the Phthalein test of renal function which without doubt is the simplest and most reliable. The detection of stone in the Ureter by wax tipped bougies also went to his credit.

PHILADELPHIA.

Like New York, Philadelphia has many reputed surgeons. The greatest figure is Dr. J. B. Deaver who is Professor of Surgery at the University of Pennsylvania. He is author of numerous volumes the latest of which is surgery of the Upper Abdomen.

To see him operate is to see a master surgeon. His short lectures given before and after operation were lucid and impressive though at times one might say dramatic but inspiring.

In Philadelphia his material is more than that of any two men. I have seen him with a list of twenty major operations in one day and this I was told was often the case. Yet at work he was full of mirth and anecdotes. I saw him both at the University Hospital and the Lankenau Hospital. In the latter the operation room was beautiful and impressive, the benches were constructed with white marble. For the benefit of the visitors the table was brought quite near to the front benches. In connection with excision of the breast he spoke very warmly of the work of Sampson Handley of London, and stressed the point that though the skin may be excised for four or five inches the fascia must be at least for eight or ten inches. In dealing with duodenal ulcers, the ulcers were excised, as this, he said eliminates subsequent haemorrhage. The gastro-hepatic omentum was sutured to the area as a re-enforcement. In doing gastro-enterostomy he made it a practice to make the stoma as near to the pylorus as possible.

At the Jefferson Hospital, Dr. J. T. Rugh is the orthopaedic surgeon. In a case of congenited dislocation of the hip he reduced it by the method of Lorenz. For Tuberculosis of the spine the Albee technique was adopted. His experience was that it is more certain than the Hibb method. Moreover it is easier to perform and may be done in less than twenty minutes. If there is no suppuration or dissemination the result is good in eighty to eighty-three per cent. of the cases operated upon. The object is to immobilize it so as to leave nature to encapsulate it.

Dr. J. C. da Costa is well known through his popular text book of surgery.

In a case of gastro-jejunostomy he first made a hole in the meso-colon introduced one finger then two and finally three fingers. This is the size it should at least admit he said. He had a firm conviction that gastro-jejunostomy should not be done unless clearly indicated. He lamented not only others but he himself did too many unnecessary ones in the past. He believed it is the cause of jejunal ulcers as the acid gastric juice unmixed with bile is corrosive. He did a posterior no loop operation.

At the Howard Hospital I met Dr. B. C. Hirst who is Professor of Obstetrics at the University of Pennsylvania and author of a beautiful atlas of Operative Gynaecology. His technique is one of the neatest I have seen. The skin was prepared with phenoco, ether and lysol. The skin was incised by one stroke of the knife after which it was discarded. A sheet of rubber tissue was thrown over the incision the centre of the rubber was then cut with scissors to the extent of the wound. The edges were then sutured by three or four stitches on each side to the skin wound. Obviously the chances of skin infection were thus practically barred. He claimed of having obtained ninety-eight per cent. of primary union. This is a method introduced by him some fifteen years ago. He said he does not use the Trendelenburg position if he could avoid it because of the strain to the heart.

He is a great advocate of the Alexander operation for uterine retrodisplacement. He combined it with the Pfanenstiel incision, an operation he practiced for seven years without a single case of failure. It was a series of over 250 cases. I saw two of these operations most neatly and quickly executed. His special point in perineorrhaphy is the suturing of the Transversus Perinei together, in addition to the Levatores Ani.

Dr. John Clark is Professor of Gynaecology. The Wertheim Clark technique for cancer of the uterus is now widely adopted. Clark is a great teacher, with him the student enjoys the benefit of the lecture and the operation at the same time. His operation room was painted bluish grey. Nitrous oxide was largely used.

NEW YORK.

Dr. Fred H. Albee of New York obtained his reputation most deservedly through his bone craft surgery, particularly in the treatment of Pott's Disease by spinal bone grafts.

He is Professor of Orthopaedic Surgery at the Postgraduate Hospital and School. Of all cases I was naturally most interested in the case of spinal bone graft, an operation which he quickly and artistically executed. He pointed out the unfortunate idea of many surgeons who

not only maintained but taught that his motor saw generated so much heat that it killed the graft. He spoke of an experiment which demonstrated that the heat was not more than 1/10 of a degree. The Albee operation is now universally adopted in the States.

Of general surgeons in New York Dr. John Erdman ranks first. In him was to be seen speed, technique, teamwork and all that is calculated to give the best results in surgery.

He has the most abundant material which he dealt with, with incredible speed and yet thoroughness. To see him operate is to court infection with surgical enthusiasm.

Dr. Eugene Poole is another great surgeon and fine technician. Bentley Squier is the recognized leader of genito-urinary surgery in New York. Lewisohn by virtue of his work in blood transfusion has compelled wide notice. Blood transfusion is an invaluable adjunct to modern surgery. To America we are grateful for its perfection and popularity.

By means of the stock serum of groups II and III we are enabled to classify the blood of the donor or recipient within a few minutes. Blood transfused to be of use must be strictly compatible.

In a paper of this nature it is difficult to do justice to so many well-known surgeons of New York. There is one that I should like mentioning, that is Dr. Dickinson, a retired but prominent gynaecologist who is deeply interested in Medical Education in China. He has very kindly conducted me through many interesting Clinics. The American Surgeons are truly democratic. They take it to be an honour to have visitors in their midst. It is a rareatmosphere, though not found in all countries.

BOSTON.

To Dr. Harvey Cushing we owe many techniques for surgery of the brain such as cerebral decompression, operations for pituatary tumours, trifacial neuralgia, etc. Seldom to one man we owed so much in cranial surgery. He is the greatest brain-surgeon to-day. He became Professor of Surgery at the Havard University after vacating a similar post at John Hopkins.

At work he seldom spoke. The atmosphere was all quietness and solemnness.

The electric motor was freely used and the wound was constantly irrigated with saline. Haemorrhage from the Dura was arrested by small metallic clips which were to be left permanently. For cerebral oozings, pieces of excised muscles were applied, while bleeding from the scalp wound was largely controlled by finger pressure applied by the assistant.

In the excision of well defined tumours of the brain instead of sharp dissection, the tumour was gently coaxed out by applying pressure around with a pledget of cottonwool. Athough Dr. Cushing is surgeron-in-chief to the Peter Bent Bringham Hospital he has restricted himself entirely to neurological surgery while his assistant Dr. Cheever did most of the general work.

The Massachusettes General Hospital of Boston is a model of American Hospital administration for which the hospital was famed. Yearly a number of students was enrolled here to learn this perfected art. I was very much interested in seeing the original ether sponge used by Morton in the hospital's museum. It was at this hospital in the year 1846 that the first case of surgical anaesthesia was induced.

CLEVELAND.

Dr. George Crile is surgeon-in-chief to the Lakeside Hospital and Professor of Surgery at the Western Reserve University. His contributions to surgery were many. The most notable being his theory and practice of anoci-association which has found general acceptance. He is credited as being the finest surgeon for Goitre operation to-day and he had the envious record of performing over 400 thyreoid operations without a death. The mortality of his general cases however was 1.6 per cent.

With him is to be seen the perfection and refinements of modern aseptic surgery. Over 90 per cent. of the cases were operated upon under nitrous oxide-oxygen anaesthesia combined with local novocaine. No adrenalin however was added to the novocaine solution as his assistants reported that the healing of wounds was less satisfactory with its use. Here is the greatest training centre of gas-anaesthetists. Crile preferred women anaethetists as they are very sensitive and have a high sense of responsibility. The nitrous oxide was manufactured at the basement of the hospital from which the operation rooms were fed by pipes. A special feature in its manufacture is that gas was caused to pass through a tank of sulphuric acid whereby the impurities were absorbed. It was shown that these impurities were the cause of gas-cyanosis so commonly met with in commercial products.

As used here gas was only administered to the degree of analgesia and not unconciousness. The patient may still hear and talk but anxiety, fear, emotion and pain were completely abolished.

For skin disinfection a five per cent. solution of picric acid in alcohol was used. In goitre work Michel's clips were exclusively used for closure of the skin. When taken off on the third day they hardly leave a scar.

An extraordinary procedure was adopted to eliminate fear and excitement in the operation of goitre patients. A method which may be called " the stealing of the goitre," that is to say each morning while

in bed the patient was given a little gas until one morning unknown to the patient the thyreoid was taken out. As a preliminary to thyreoidectomy the superior thyroid artery was ligated at a previous operation. As a rule these ligations took less than five minutes and was performed in the patient's own room. It was a treat to see the thyreoidectomies performed. Crile invariably left a piece of the gland behind viz:—that portion which lies between the trachea and oesophagus in order that it may carry on the endocrine function and at the same time to protect the parathyreoids and the recurrent laryugeal nerve. In America this technique was ascribed to Crile whereas in Europe to Kocher who advocated it some twenty years ago.

Conservation of blood was the theme of his work, consequently haemostats were applied almost as rapidly as they could be handled by the assistant, so that at the end of the operation some few dozens of haemostats were left hanging on to the neck, which he rapidly tied off with left hand knotting.

Like the Mayo Clinic, before the patient was off the table, the pathologist entered with the excised speciemen in hand. While he read out the findings to every one, the Registrar took them down in short-hand.

In the practice of anoci-association he emphasized the necessity of food, rest, freedom from pain and the elimination of factors which interfere with the internal respiration of tissue cells. The use of novocaine was to block the nerves, thus helping to isolate the brain from the area of trauma, thereby diminishing or preventing shock. For the prevention and treatment of shock, blood transfusions were freely used either before or after operation according to the nature of the case.

Dr. Crile has just opened this year his elaborate and fine clinic building. The patients were all examined and diagnosed here before being sent to the Lakeside Hospital for treatment.

On the top floor of this building was a library where this surgeon-philosopher frequenty lectured to visitors in the afternoon. Here after having gone through a heavy morning's work I found him amazingly fresh and enthusiastic over the subject of cellular electro-conductivity, a subject he had worked for years. Just to illustrate his humble and democratic spirit he invited criticisms and suggestions from us all.

THE MAYO CLINIC, ROCHESTER.

Before the advent of the Mayo brothers Rochester was unknown, in fact it was only a village. To-day it is a hospital city a surgical Mecca and a great Centre for surgical contribution. By virtue of its work, organization and research, surgeon visitors were drawn from many countries. Of the two, Dr. William Mayo is the elder and Dr. Charles Mayo the younger. The Mayos are great scholars. They

travelled extensively not only in America but every few years to Europe. The two brothers are alike, in that they are ever active and indefatigable. Their reputation was indeed justly earned.

The clinic building stands by itself and was endowed by the two Mayos to the extent of nearly $2,000,000. It is a combination of an outpatient clinic and a series of laboratories. There were numerous departments, divided and subdivided, each devoted to its special line of work and investigation. With the abundance of material at their disposal, experimental work was carried along bacteriological, pathological and surgical lines while statistics were recorded and kept by a system that is well nigh perfection. Each case was registered under three reference systems, viz:—alphabetical, numerical and geographical. Thus the value and facility given to clinical reference and research cannot be over estimated. There was a head of the bureau of records and statistics, a head of the section of business management and a director of the clinic who is also Director of Medical Education of the Mayo Foundation.

At the Hospitals the number of operations was numerous; it varies from thirty to fifty per day.

These operations were performed by men who were recognized specialists. I saw one surgeon had seven protatectomies in one day and there was hardly a day without a few cases of thyreoidectomy, which in the year previous was over a thousand.

The Mayos operate at St. Mary's Hospital where the six operation rooms were kept busy simultaneously from eight in the morning to noon time. Rooms I and II were usually occupied by one of the Mayos as he operates alternately in each room. Usually the assistant cuts down to the field of operation just before his arrival from the next room and when the major part of the operation was dealt with by him, the case was again left to the assistants to complete; he then passes back to the next room where another case is similarly prepared for him by his second set of assistants.

Their abdominal diagnoses were works of great precision, the accuracies being 96 per cent.; this is very high indeed. The mortality in all operations was 1.7 per cent. As a rule, unless some special part of the operation demanded their full attention, they lectured throughout the operation. One was at once convinced of their great store of knowledge and wealth of experience. Such subjects as embryology, comparative anatomy and surgical pathology were frequently brought into discussion.

The quotation of a long list of statistics as to occurence, cure, failure, mortality, etc., in the particular case under operation not only is a proof of their retentive memory, but is very instructive to the inquisitive mind.

In abdominal work the Mayos excelled. The cautery was used in excision of ulcers of the stomach and duodenum. They said some of the ulcers were cancerous and if the knife was used the cancer cells might be liberated and thus transplanted to distant tissues.

Dr. William Mayo while working on the duodenum repeatedly called attention to the normal ischaemic area—which he originally described—below the transverse duodenal vessels when the duodenum is pulled upon. He said this area was frequently taken by the novice for the scar of an ulcer.

Dr. Charles Mayo condemned the use of silk sutures in gastro-enterostomy as they are the cause of marginal ulcers which mean the return of symptoms.

The return of symptoms in their series was only between two and three per cent. In dealing with the appendix, he condemned the McBurney incision as being too small for exploration thus endangering the reputation of the surgeon. In laparotomy cases the appendix was invariably examined but its excision was not advised unless there was definite indication. Rosenow who is pathologist to the clinic however held that the appendix was a potential infective focus like the tonsils and teeth and may cause disease elsewhere by elective focal infection. This view is now gaining ground steadily.

The great feature of the operative work at this clinic may be summed up in the following words:—asepsis, haemostasis, thorough exposure and team work.

Apart from the technical side the success of the clinic lies in the fact that its service is opened to all without having regard to financial status, race or creed. While it is willing to accept the needy poor, each patient who is able to pay is required to do so and that all monies received by the clinic beyond a reasonable return to the staff, are used to create endowments, the incomes of which are used to perpetuate the work.

EPITHELIOMA ARISING FROM A SEBACEOUS CYST.

True epithelioma arising from a sebaceous cyst seems to be a rare condition and many authorities are reticent on the subject. With lack of suitable references and the limited time at one's disposal, only a few authorities are quoted here.

Bland Sutton in his book on Tumours, states that "occasionally, especially in old persons, a sebaceous cyst suppurates and fungates producing a foul offensive mass which is mistaken clinically for cancer."

Rose and Carless in the well-known Manual of Surgery, referring to sebaceous cysts write as follows:—" Should the contents only escape partially, the remainder is liable to undergo putrefactive changes, giving rise to an offensive ulcerated surface with raised edges, which may readily be mistaken for epithelioma. True malignant disease of an epitheliomatous nature is said occasionally to supervene."

Thomson and Miles in their popular Manual of Surgery, writing on sebaceous cysts, state that " Suppuration may ensue and be followed by cure of the cyst, or an offensive fungating ulcer forms which may be mistaken for epithelioma. True cancerous transformation is rare."

It can be seen that the authorities quoted hold the view that sebaceous cysts rarely give rise to epithelioma, but they agree that true cancerous transformation may arise from a sebaceous cyst.

The reason for their guarded statements may be due to the fact that epithelioma of the scalp is probably a very uncommon affection in European countries, but in South China it is not so rare a condition. Of the four cases recorded by the Hongkong University Surgical Clinic, every sebaceous cyst that fungates is reported pathologically as an epithelioma.

In the four cases the *situation* of the tumour is on the occipital region of the head, midway between the external occipital protuberance and the back of the right ear. The position of the tumour is very significant. Earthen-ware head-rests or pillows, used by the Chinese when sleeping and the constant friction produced on the right due to resting the head on that side, may account for the frequent occurrence of the cyst over this area of the scalp than elsewhere.

The smell in all these cases was typical of epithelioma and so characteristic is the smell, that Prof. Digby is of the opinion that by that smell alone a diagnosis of epithelioma can often be made.

The mass presents a cauliflower *appearance*, projecting out from the surrounding tissues. The surface is sloughy and irregular, bleeding readily when roughly handled. The *edges* are hard and everted and the base is inflamed spreading for half an inch around the mass.

It is a type of tumour where the superficial outgrowth is excessive and the destructive process limited thus giving rise to a projecting mass.

Epithelioma of scalp is slow growing and does not involve neighbouring glands so readily as epithelioma elsewhere. The glands when enlarged are just palpable and fairly hard. The group of glands usually involved are, the posterior auricular, occipital, superficial cervical and the inferior deep cervical. Unfortunately glands were only sent for section from the one case and this did not show typical epithelioma.

Epithelioma of Scalp.

The *operation* for tumour is associated with much shock probably due to excessive bleeding and to the extent of raw surface exposed for later skin-grafting. Of the four patients three refused to undergo a second operation for skin-grafting and the removal of glands. It is very difficult to convince this class of patients that a second operation gives a better prognosis.

Section of the tumour in each case showed epithelioma.

D. K. SAMY, M.B., B.S.

House Surgeon, Government Civil Hospital, Hongkong

Case i.

Male, Age, 72, Farmer.

Admitted for fungating lump in the back of the head.

Family and personal history of no importance.

Present History.

Two years ago patient had a small lump on the back of the head (size of a peanut). The lump had been growing gradually, attaining the size of a hen's egg when it fungated discharging a foul necrotic pultaceous material.

Condition on Admission.

The ulcerated malignant wart is situated on the occipital region between the external occipital protuberance and the back of the right ear. The projecting cauliflower mass is soft with an irregular sloughy surface and everted edges and situated on an inflamed base. Characteristic smell of epithelioma.

Case ii.

Male, Age 45 farmer.

Family and personal history nothing of importance.

Present History.

Patient had a small swelling on the scalp just behind the right ear four years ago. It gave him very little pain and was a fluctuating tumour for sometime, before it fungated ten months ago, discharging foul smelling necrotic material.

Condition on Admission.

The characteristic pungent swell of epithelioma could be smelt some distance away. The ulcerated mass projects above the surface of the scalp, presenting a cauliflower appearance and is soft and studded with bright red spots and punctuated by greenish slough. The tumour bleeds readily when handled. The glands enlarged were the occipital, posterior auricular and superficial cervical sets of the same side.

Case iii.

F. 58, Boatwoman.

Family history, nothing of importance.

Three years ago, patient had a small lump on the back of the head. This ulcerated three weeks before admission, discharging a thick yellow slough with pus and blood.

C.O.A. Position of tumour and general characters same as above two cases. Characteristic smell of epithelioma.

Case iv.

Male, Age 43.

Patient said that he was born with a small lump over the back of the head. This lump gradually grew and about two years ago reached a size of 2" x 2" and was operated on at Macao with temporary relief.

C.O.A.

The position and general characters of the growth were the same as the first two cases. The tumour which measured 3" x 3", was not fixed to the skull. The glands were enlarged on both sides of the neck and characteristic smell of epithelioma detectd.

Section of tumour showed true epithelioma.

ANNOTATIONS

"TWO CASES OF DIFFICULT LABOUR."*

(1) *A Case of Adherent Placenta.*

The patient was a poor country woman in the New Territories. When I was Medical Officer at Taipo, I was called up early one morning by a telephone message from the Police Station to attend a midwifery case. I got myself ready, and was in time for the morning train which took me to a station called Sheung Shui, where I got down. I then travelled on foot, by carriage and by an old sedan chair for two and a half to three hours before I arrived at the patient's house. I went along with a midwife who after-wards proved to be a very useful assistant to me. When we got to the house which was merely a small hut and was as dirty as you could imagine, hardly anything better that a pig-sty, we were invited to go into the house. We had to stoop down before we could step in, and the ground was found to be thickly covered with mud, mixed with excreta of fowls and pigs. I asked to be shown to the patient's apartment, whereupon I was ushered into a small compact cubicle, just big enough to accommodate two persons and not more than two. The cubicle would best make a photographic dark room for developing plates or an occulist's room for examining eyes, as there was not a single ray of light in it. It was absolutely pitch dark, and nothing whatever could be seen. One of the inmates who led me into the room, began to shout for a box of matches, and soon afterwards a joss-stick was lighted and brought into the room. I could then see my patient, with difficulty lying on a bed made of two wooden planks. The floor had a pool of coagulated blood on it, and the beddings were all soiled. Nothing could be done with the patient in that room, so I told the midwife and the house people to carefully shift the patient to the outer apartment of the house, which though dirty, was very much better and brighter than where the patient first was. A few wooden planks were secured, and not long after, a bed was ready and placed in such a position as could get most light. I got things ready to wash my hands, to sterilize my gloves and hypodermic syringe, to soak my towels and cotton wool in an antiseptic lotion, and attended to other necessaries, at the same time asking the midwife to move the patient out to the newly formed bed. I had scarcely said this, when the patient, much to my surprise, walked out herself from the dark room. The midwife quickly assisted her to the bed where she was made to lie down. It was then that I got a good look at her. She was pale, languid and very unhealthy. She was about 35 years old, a multipara, this being the sixth labour. Only two out of the five children were still living. The present child was a full term one,

* Being extracts from a paper read before the Medical Society.

born alive three days ago, but the placenta refused to come out ever since. So the organ remained in the uterus for three days before they thought of sending for a doctor. You can imagine from this instance, something as to the ignorance, of the country people. In the first two days, they tried all sorts of measures, including the use of charms and other superstitious ways in order to get the placenta out. Failing all these, they turned to the Western doctor as the last resort, thinking doctors trained in the Western method, could do miracles and so they got me. After the patient was put in the lithotomy position, I made a vaginal examination. A bit of the cord was still hanging in the vaginal canal. The os uteri was very contracted and tight, so much so, that I could hardly put my index finger in. I, therefore asked the midwife to give chloroform to alleviate the pain that would ensue in the manipulation that was going to be done, and secondly to reduce the contractility of the cervix. After the patient was under, the first thing I tried to do was to dilate the os. I began by forcing in the index finger which I kept there for sometime. Then I put in the middle finger as well, and next the thumb. Then the other fingers of my hand were successively inserted, the thumb and fingers being spread apart as widely as possible. By this time, the os was gradually dilated and eventually big enough to permit the insertion of my whole hand. I then explored the uterine cavity and was satisfied that the whole of the placenta was still in the uterus, more or less firmly adherent to its walls with only a small part of it detached. I then slipped my hand in between the uterine wall and the detached part of the placenta, trying to separate the adherent organ from the uterus and remove the whole thing *en masse*. But is was very friable and broke on the slightest touch. So all I could do was to take the after-birth out bit by bit until it was entirely removed. I succeded in doing this, but the haemorrhage following was something terrible. I at once put my douche nozzle in the uterus and gave it a thorough douching with very hot weak izal solution. After this, I gave an injection of ernutin and the bleeding was then almost completely arrested. The patient took the anaesthetic very well, and was alright throughout the whole operation. Before I left her, she was coming round. I gave her an injection of ¼ gr. of morphine and 1/150 gr. of atropine, and told the midwife to go and give her a daily douche. I also gave instructions that should there be a temperature or more untoward symptoms arising, she must not delay in informing me so that I might be able to do what would be necessary.

I never saw that patient again after that, but learnt that she had made an uninterrupted recovery. This was very remarkable in several ways:—

1. That the patient survived with the placenta in her uterus for three days.

2. That she did not succumb after such terrible haemorrhage both before and after delivery of the after-birth.

3. That she showed no signs of septic infection after the inevitable introduction of micro-organisms into the uterine cavity. Besides she made a smooth recovery. Personally I think the Chinese as a whole, can stand sepsis marvellously well.

(5) *A Case of Difficult Labour due to Contracted Pelvis.*

A country woman of about 34 in the neighbourhood of Taipo. Membranes have been ruptured for two days and the birth of the child did not follow. Some women in the locality who were supposed to be old hands at obstetrics were given the first chance. When they too were at their wits' end, I was then asked to go. Upon my arrival, being accompanied by the midwife stationed at Taipo, I made the best out of the dark small hut, and placed my patient in such a position as to obtain the best light. The woman was fairly healthy and robust. After the necessary disinfection of my hands and the genitalia of the patient, I began to make a vaginal examination, and found the head of the child lodged in the brim of the pelvis. Doubtless it was a case of contracted pelvis, either of the simple flat type or the justo-minor one. I had no pelvimeter with me at that time, otherwise I would have known exactly what the different pelvic measurements were. I thought that forceps might extract the child, and so I applied it until I could grasp the head of the child with considerable tightness. I tried hard to pull it out, but however hard I pulled, the head gave not the slightest response. I tried again, again and again without any avail, until I was tired out and had to give up this procedure. You know well that a pair of old rusty forceps were all the obstetrical instruments that were in Taipo.

Having failed in forceps delivery, I turned my mind to Craniotomy, but where could I secure a cranioblast, a cephalotribe and other necessary instruments. It suddenly occured to me that I might be able to get them from Kowloon Medical Officer. I lost no time in phoning him up and asking him for the craniotomy instruments. The answer was in the negative. Such instruments did not exist in Kowloon too. However, on receiving my message, the Kowloon Medical Officer promised to be in Taipo himself to attend to the case. I did nothing but waited for him to come. Before long he made his appearance, and we went together to see the patient. The M.O., wishing to satisfy himself, tried the forceps again, but I can tell you not long after, one of the blades broke into two. Then we had to give up totally and no other way was left, except sending the patient to Hongkong to the Government Civil Hospital. This we did and I accompanied her. It was after dark that we arrived at the Hospital, where I told the Superintendent everything about the case. The latter decided to have an immediate caesarian section done. The abdomen was opened and a dead child was taken out through the abdomen, after opening the uterus. The wound was sutured, and the patient was sent back to the ward. The woman stood the anaesthetic well, and everything was well during the entire operation. I heard nothing more about the woman since then, but afterwards understood that death supervened the next morning after operation.

In private practice it is doubtful whether an operation like craniotomy should be done in the house of the patient, but in an out-of-the-way country, it is essential that craniotomy instruments should always be at hand. In the case just alluded to, the patient might not have to lose her life, if prompt extraction of the foetus could be done. In this particular case, craniotomy would be more justifiable, as it would be performed on a dead child. If the mother has to be saved, any additional risk or suffering by the rapid delivery of the multilated child, as in craniotomy, is not only justifiable but able advisable. On the other hand, one has to consider more in performing the operation on a living child. In cases of difficult labour, if the pelvis is contracted or the child overgrown and the physician must make a choice between caesarian section, symphysiotomy, or craniotomy, if he has no skill in surgical work and is unable to procure expert assistance, it is better, unquestionably, to sacrifice the child for the mother's sake, rather than to attempt a serious surgical operation amid unfavourable surroundings.

Chau Wai Cheung, M.B., B.S.

A CASE OF RETAINED PLACENTA.

The Patient was a Malay woman, M.H., aet. 17. She was married at fifteen and was delivered of a still-born child the next year, but the labour was normal. On September 2nd, this year, at 3.30 a.m., a full-term child was born and delivered by the patient's mother. The placenta did not follow, and various Malay "medicine men" and midwives tried to extract it by massage, prayers and drugs. As a last resort I was called in at 3.30 p.m., almost exactly twelve hours after the birth of the child.

I found the room in which the woman was lying absolutely crowded—nearly fifty persons comprising relatives, friends, midwives and onlookers in a space measuring 20 by 20 feet, all talking together and all trying to do something. There were two windows—both shut. My first act was to throw open the windows, my next to gently but firmly ask all except the mother and two other women to leave the room. (N.B. The house which was a Malay *attap* was situated over a mosquito-infected swamp) I found the woman *in extremis*—imperceptible pulse, respiration very shallow and rapid (40 to the minute), face extremely pale and covered with great beads of perspiration. I found to my surprise that the child was still attached to the mother by the cord which was cold and shrunken. I tied the cord and had the child removed. I then gave the woman a little brandy, palpated the abdomen and found the uterus relaxed and atonic; there was no hourglass contraction. I at once made preparations for a P.V., having first got the woman on the bed in the lithotomy position—she had previously been lying on the damp floor. The woman refused chloroform—indeed she was too ill to stand any anaesthetic. My assistant was thus freed to help me in other

directions. I traced the cord up to the fundus where I felt the placenta firmly adherent to the posterior wall. It at first resisted my efforts to strip it off, but gradually I worked my fingers round until the whole mass was removed *en bloc*. At this stage the patient collapsed; my assistant administered brandy, and I injected 1 c.c. pituitrin into the thigh. There was now no thought of further exploring the uterus. I contented myself with a thorough intra-uterine douche (1% lysol), and two drachms of liquid extract of ergot. I gave instructions that the patient be kept very warm, and that only milk should be given. The haemorrhage was negligible. The placenta was shrunken and dark in colour. A great deal of blood clot was also removed with the placenta.

Next morning I found the woman very weak and pale, with a pulse of 120 and a temperature of 102. I gave a hot intra-uterine lysol douche, ten grains of quinine hydrochloride, 1 c.c. of Mixed Injection Phylacogen, and an ergot mixture.

On the 4th the patient was slightly better but the temperature was still high (probably partly due to the reaction from the vaccine) 102.5°F. I gave 2 c.c. of the M.I. Phylacogen, another ten grains of quinine, and the douche. The woman complained of pain over the uterus which was found to be firmly contracted. The abdomen was not rigid or tender, and the lochia was not foul.

On the 5th the patient refused the douche although I strongly advised it at least until the temperature had gone down. I gave another 2 c.c. of the vaccine. The woman's general condition was improved. I then received a delicate hint not to call again unless sent for. I pointed out the gravity of her condition to the husband and mother, but these good people seemed to think that since the placenta had been got rid of, all that was now required was a vigorous feeding-up of the patient, and she was bound to get well, and all my subsequent ministrations were merely a doctor's sly way of increasing the bill! However, before I left I gave specific instructions to the husband to send for me if the fever did not go down in two days' time, if the discharge was very foul, or if the woman complained much of pain or tenderness in the abdomen.

I received a daily bulletin as to her condition which continued to improve, and when I saw her again on the 12th the temperature had come down to normal, the pulse was regular and 75 to the minute, and the woman was able to look after the child. I had a lurking suspicion that the improvement was attributed to my absence!

Observations.

1. The youth of the patient. Asiatic women marry young, and usually become grandmothers when they are still on the sunny side of thirty.

2. The resistance to infection. Since the above case, I have had several calls and obtained the opportunity ot trace the cases over a

period of several weeks, and in none of them did puerpural septicaemia develop, although I was in nearly every case called in only after every "midwife" in the district had had a "hand" in the affair.

3. The value of vaccine prophylaxis. I make it a rule to give a course in every case in which I was not consulted in the first instance.

4. The length of time the placenta was inside the uterus. I have not been able in this out of the way place to look up the literature, but I fancy it must be quite a rare thing for the placenta to remain *in utero* for twelve hours with a live child attached to it during that period.

C. Y. Wu, M.B., B.S.

A STUDY OF TWO UNUSUAL CASES.

Aneurism of the Innominate Artery.

That Aneurism of Innominate Artery is of rare occurrence has been recognised by various writers, including Sir W. Watson-Cheyne and F. F. Burghard, who began their discussion on the subject in "A manual of surgical treatment" with these words—"Aneurism of the Innominate Artery is not a common affection, and is not easy to diagnose." The difficulties in diagnosing the condition are clearly brought out in the following case.

T.P., male, aged 44, came into the Civil Hospital on October 30th, 1922, with dyspnoea (64 respirations per minute) and marked stridor. His voice was very hoarse, but he nevertheless managed to say that his condition had existed ten days, that it was liable to exacerbations, and that at the moment he was in one of the exacerbations.

The temperature on admission was 100.5 F., and the pulse at both wrists was feeble and rapid (120 per minute). The heart showed a galloping rhythm, while its feeble sounds were more or less masked by the harsh and noisy breathing. The lungs were full of coarse rales and rhonchi, and the percussion note was the same on both sides. No membrane was visible on the soft palate or uvula, nor was any membrane or obstruction seen by means of the laryngoscope.

The patient was put to bed in Fowler's position and although diphtheria was unlikely in view of his age, anti-diphtheritic serum, 8,000 units, was given hypodermically—cardiac stimulants were also administered, and mercury and potassium iodide were prescribed. The patient felt slightly better after a few hours, but died suddenly in bed the day following. The post-mortem examination revealed the presence of a tubular aneurism of the Innominate Artery, about the size of a pigeon's egg, partly filled with blood-clot. Except for a right-sided engorgement, the heart was otherwise normal.

The lungs were congested and so were the liver and spleen.

The larynx, however, was in every respect normal and was not obstructed.

Now, reviewing the case in the light of the post-mortem findings, it appears that death was the outcome of cardiac failure and deficient aeration,—cardiac failure due to pressure on the vagus leading to its paralysis, and deficient aeration from compression of the right recurrent laryngeal nerve with or without pressure on the trachea itself.

It may not be out of place to mention here that, according to most books, oedema of the right arm and right side of the head and neck, and variation in force or rate between the radial pulses, commonly occur in patients with Aneurism of the Innominate Artery, but these signs were absent in this particular case. There was also no suggestion of a tumour externally. As for the exacerbations mentioned by the patient, they were probably brought on by over-exertion.

Aneurisms, in whatever region of the body, occur much more commonly in men than in women, the proportion according to different writers, varing from seven to ten males to one female. The reason for this greater incidence in men is not far to seek. The development of all aneurisms, other than those of traumatic origin, is invariably due to pre-existent disease of the arterial coats. Syphilis and high blood pressure are the commonest causes of such pre-existent disease, and they occur more often in men than in women.

The patients are generally of middle age.

Hysteria.

Hysteria is a condition which chiefly affects girls between 15 and 25. It is not equally common in all countries. The Latin, Slav, and Jewish races are specially susceptible and western peoples seem to be more affected than the eastern peoples. The occurrence of Hysteria among the Chinese is therefore uncommon and this condition in an adult Chinese male is certainly rare.

The following case which came in for treatment at the Government Civil Hospital may therefore be of some interest.

C. K., a lad of nineteen was brought in for admission on August 31st, 1922, as a case of total paralysis. The condition was said to have started two years previously with weakness in the upper extremities, which later involved his lower extremities as well, so that finally he could not move one step without being assisted. After various questions, I elicited the information that the weakness came on soon after the patient had witnessed a public execution in Canton.

On examination the patient was observed to be intensely anaemic. The whole body and limbs were rigid, and the patient was unable by himself to walk or move. The sensations were normal with regard to pinpricks, but there was difficulty in distinguishing heat and cold in the lower limbs. The speech was stuttering; the knee jerks were brisk; Babinski's sign was negative; and Ankle-clonus was absent.

I diagnosed the condition as Hysteria, and was later confirmed by the Hon. Visiting Physician. The patient was put on a light but nutritious diet and a mixture of Iron and Arsenic was prescribed for his anaemia. I told him that the mixture was so very effective that after three days he certainly would be able to walk, and impressed this on him whenever I went on morning or evening rounds.

On the fourth day, when I went round in the morning, the dresser told me that the patient had walked the whole length to the bathroom to wash his face. I therefore asked the patient to get up and walk again and though not very steady, he managed to walk from one end of the ward to the other and back again—a distance of some thirty yards. From that day onwards he was made to walk a short distance each time I saw him. On one such occasion, however, his uncle came to see him; and at the sight of this over-sympathetic relative, the patient laid hold of the nearest bed, stiffly clung on to it and could not proceed further. For the rest of the day he again could not walk or move. This little incident clearly illustrates the great importance of isolation in Hysteria, as advocated in the Weir-Mitchell Treatment.

In conclusion, I wish to record my thanks to the Hon. Visiting Physician Dr. G. E. Aubrey, for kind permission to publish these cases and my observations thereon.

S. F. Phoon, M.B., B.S.
House Physician, Government Civil Hospital,
Hongkong.

HYDROCELE.

By hydrocele is meant any collection of fluid, other than pus or blood, in the neighbourhood of testis and cord. The commonest form met with in genito-urinary surgery is an acquired vaginal hydrocele—a chronic distension of the tunica vaginalis with fluid, unconnected with disease of the testis or epididymis. This short article is a study of eleven cases of acquired vaginal hydrocele treated at the University Surgical Clinic from 1915 to 1921 inclusive, an interesting feature being the history of two cases which point to spontaneous suppuration in the hydroceles—a rare event indeed.

In most text-books the cause of hydrocele is very vaguely touched upon. Two views are held at the present day. One which the English surgeons advocate is that it is simply a passive effusion into the sac from some unknown cause. The other attributes the effusion to associated chronic inflammation of testis or epididymis. Trauma, venous stasis and climatic conditions are also considered causual factors. Another view held by our Surgical Chief and not

usually found in text-books has its kernel in lymphatic blockage. The lymphatics of the testis and tunica vaginalis run in the spermatic cord and drain into the aortic glands while those of the scrotal skin empty into the inguinal glands. It is therefore conceivable that any blockage in the upward passage of the first set will lead to reflux effusion into the tunica vaginalis. This blockage may be brought about by trauma, operation or filaria. Again this view has strong support in operations for varicose veins. It is a well known fact that the excessive removal of varicose veins at an operation may give rise to hydroceles later on. The explanation is not far to seek—lymphatics which run in the cord must be unavoidably removed at the same time. There is, however, the fact that the removal of varicose veins increases capillary pressure which may of itself lead to effusion.

A glance at the table below will indicate that only two cases had a traumatic history, while another case started after glandular involvement, the rest having no apparent cause.

The character of hydrocele fluid needs a passing remark. It is regrettable that no exact chemical analysis or bacteriological examination has been made. The fluid, however, of most cases was pale yellow in colour and in one case cholesterin crystals were found—the presence of cholesterin crystals has always been detected in old standing cases of hydrocele. Pus was evacuated in the suppurating cases.

The treatment of hydrocele can either be palliative or radical. Palliative treatment consists in tapping with trocar and cannula under aseptic conditions. This rarely results in a cure and the risks are puncture of testis, incomplete emptying of sac, haematocele and septic complications. Radical treatment includes tapping combined with injection of irritating fluids or various operative procedures. Tapping and injection of iodine and carbolic acid do not ensure cure and may lead to excessive inflammation, suppuration and carbolic acid poisoning. The operation which we employ is excision of the parietal layer of the Tunica Vaginalis and eversion of the cut margin of T.V. It is about the simplest and is largely free from risks. We consider this operation to be really one of lymphangioplasty.

The visceral layer of T.V. is brought into intimate relationship with the superficial lymphatics of the scrotum, which will drain away any effusion that may collect after the operation. Hydroceles have also been claimed to be cured by autoserotherapy introduced by Gilbert in 1894.

A word or two on spontaneous suppuration of hydrocele will not be out of place. Such a condition is always considered rare but the very fact that we had two definite cases out of a total of eleven points to a commoner occurrence, at least out here in the East. How is a hydrocele infected? The following are possibilities:—

1. Auto-infection through lymphatics or blood vessels.

2. Extension of inflammation from testis or epididymis.

3. Infection through the over stretched and devitalised scrotal skin, favoured by uncleanliness.

It was most unfortunate that no bacteriological examination of the pus was carried out, for particular orgarisms present might possibly throw light on the route of infection.

I am indebted to Mr. Digby for his kind permission to refer to old reports and for his suggestions.

Yue Man Kwong.

A Table of 11 Cases of Hydrocele.

No.	Age	Occuption	History	Treatment, Findings Result	Remarks
1	20	Tailor	Admitted 1 11.15 21 months ago, patient noticed swelling of left side of scrotum	Removal of parietal layer of tunica vaginalis. Fluid greenish yellow ; testis shewed cystic degeneration. Recovery	Hydrocele may have been due to testicular change
2	47	Coolie	Admitted 17.5.16 Left-sided scrotal swelling for 10 years. A month ago, swelling burst with discharge of reddisd yellow fluid which later became purulent	Unilateral castration Recovery	May have been a case of spontaneous suppuration. Spontaneous rupture may occur
3	62		Admitted 4.10.16 Scrotal swelling for 20 years.	Refused operation	
4	28	Coolie	Admitted 9.6.17 3 years' history of right sided swelling after an injury to the scrotum	Excision of parietal layer of T. V. Clear yellow fluid ; recovery	Traumatic history
5	28	Coolie	Admitted 13.6.17 left-sided swelling for a year. 17 days ago, pain in back over sacrum and had rigor. The next day the scrotal swelling burst with discharge of pus.	Hot fomentation red lotion ; recovery	a clear case of suppuration.

6	48	Coolie	Admitted 14.6.17 Repeated attacks of enlarged scrotum for 20 years. 9 days ago patient had vomiting and rigor; scrotal swelling bigger; pain slight; micturition interfered with	Incision and drainage pus evacuated recovery	Spontaneous suppuration
7	38	Coolie	Admitted 17.10.17 10 years ago, scrotum enlarged after the inguinal glands and the testicles enlarged.	Removal of parietal layer of T. V. Fluid yellow in colour Recovery	after testicular involvement
8	44	Coolie	Admitted 24.1.18 Bilateral swelling for 1½ year	Removal of P. layer of T. V. Yellow fluid, Recovery	
9	68	Coolie	Admitted 17.8.20 Left sided swelling for a year. Had piles and beriberi.	Operation considered inadvisable.	
10	21	Sailor	Admitted 15.11.20 Bilateral swelling for 3 months; had left sided hare lip	Removal of P. layer of T. V. Yellow fluid Cholesterin crystals	
11	49	Coolie	Admitted 14.10.21 Left sided enlargement for 2 years after falling on it.	Removal of P. layer of T. V. Yellow fluid Recovery	Trauma

NEWS AND COMMENTS

New Professor and Demonstrator of Anatomy.

Our new Professor of Anatomy, whose arrival had been awaited with keen anticipation by the medical undergraduates of the second and third years, has proved himself to be a capable man possessing a genial and amiable disposition, which is reflected in the smiling face and the courteous greeting that he extends to anyone he comes across. He gives demonstrations every other day of the week and the full attendance at every one of them, shows the great interest he has created in the students towards a subject which is far from being interesting when tackled in the ordinary way. Whether his instructive demonstrations and useful tips will work wonders or not will be shown by the results of the second M.B., B.S. examination, this May. The Professor is also carrying out a research on Chinese brains, an account of which, we hope, will be contributed to the future issues of the Caduceus.

Our new demonstrator in Anatomy is a quiet unassuming person. He is a marvel in the dissecting room, being our best exponent in clean and careful dissection.

SOME GOOD LECTURES.

The society has reason to congratulate itself in the way of brilliant lectures given by men who may be considered authorities in their sphere of work. Even at this early part of the session, we have had no less than four lectures, all of which were attended by large gatherings of friends and members of the society.

We seldom have the opportunity of listening to such a well delivered lecture as that given by Colonel Evans on "Physical Reconstruction." This subject was ably treated under two headings—electrical and mechanical. Electrical "reconstruction" may be subdivided into physiotherapy and massage, while manual labour constitutes the chief form of mechanical "reconstruction." The examples quoted whereby work is provided for the maimed, e.g., teaching the blind how to make use of their hands as in telegraphy, gave us an inkling into the extent of useful work Colonel Evans and his colleagues are doing in relieving the world of its unemployed.

Prof. C. Y. Wang's presidential address on "Vaccine Therapy" was very illuminating and impressive. Every one knew that the subject was being tackled by the right man. His description of the various methods and theories of immunisation and the practical uses of vaccine therapy were of great interest, especially to students, in that questions on these subjects usually make their appearance in examination papers.

A no less interesting lecture was given by Prof. Shellshear when he addressed the Society on "Specialisation." He discussed the evolution of man from such unicellular masses as the amoeba, tracing the gradual changes and progress first from water to land especially in regard to the development of an air breathing apparatus, and then through the stage of arboreal life, to present conditions. The lecture was illustrated by many interesting lantern slides and created a deep impression on the students who warmly applauded when the announcement was made by the chairman of Prof. Shellshear's willingness to give a short course of lectures on the evolution of man, should there be a sufficient demand.

The last meeting of the autumn term took the form of a paper by Dr. S. F. Lee on "Gleanings from surgical clinics abroad." On account of the short time at his disposal, he was obliged to dispense with the notes on the European clinics of Great Britain, France and Germany and to confine his remarks to those of America. He described in turn the equipment and methods used by the surgeons of the various

clinics, which he visited in America. We hope that the Rockfeller travelling scholarships will provide our graduates with the means of visiting these surgical clinics abroad.

Medical Students and Sports.

It is of much interest to note that the medical students of this University are maintaining their position as members of the premier faculty by taking a lead in the realm of sports much to the envy of their younger brother faculties. Whether in football, basketball, tennis, cricket or general sports as running, jumping, hurdling, etc., we form the majority both of the competitors and the onlookers. This is rather a broad statement but still nevertheless a statement of fact.

Lantern Slide Lectures.

The main aim of a lecturer on any branch of science is to enable his audience to obtain as clear a conception as possible of the object he has in mind. The best method undoubtedly is by practical demonstration; but dealing with such things as human embryology, specimens of which are difficult to obtain, one of the best means of illustration is by the projection lantern. By this method we have the nearest approach to three dimensions in space, which exist in real specimens. Well known photographs or drawings on the subject can be projected to much advantage in the course of the lecture. Prof. Shellshear has an extensive collection of photographic plates on Embryology and Neurology, and his lantern slide lectures on these subjects are sources of great interest and enlightenment to the students.

To Our Graduates.

We tell YOU the latest news about YOUR Society.

We publish the latest findings of YOUR teachers.

We shall publish YOUR communications and YOUR researches if YOU care to send us any.

We pay YOU $100 if YOUR contribution merits it.

We shall tell YOU all YOU want to know if YOU care to ask.

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Won't YOU help?

1st General Meeting.

The first General Meeting of the Society for this Session was held on Monday, October 9th, 1922, at 5.15 p.m., in the Union Assembly Room with Prof. H. G. Earle in the chair.

Finance.

We are pleased to note that the financial standing of the Society is sound. The report given by the Hon. Treasurer was very satisfactory.

Alteration and Additions to the Rules of the Society.

Alteration of Rule 4 and additions to Rules 2, 4 and 5 were effected at this meeting. For these rules, refer to page 1. The present Rule No. 4B requires special mention. By it, the representative members of the Society for the Union Council are made ordinary members of the Committee, thus creating a closer relationship between the Society and the University Union.

Officers for Session 1922-1923.

The result of the election of officers for the Session 1922-1923 was announced by the Chairman. A list of them will be found on the first page. A hearty vote of thanks was proposed to the retiring Committee, especially to our former energetic Secretary.

PROFESSOR OF SURGERY LEAVES.

Many marked changes are taking place in the new Academic year. The Professor of Medicine is coming, but alas! our Professor of Surgery left us at the end of last month for at least the greater part of a year. The Senior stduents, no doubt, miss considerably his genial personality in the operating theatre, and at the bed-side of the patients. We wish Prof. and Mrs. Digby a pleasant sojourn in England and hope they will return to us full of vim and vigour.

On the eve of their departure for home, a tea party was given in their honour and some small souvenirs were presented to them by the Hon. Secretary on behalf of the students of the faculty.

PROFESSOR EARLE.

We are sorry that Prof. Earle who has been associated with the Medical Society for so many years, has been unable, owing to his multifarious duties, to continue for another two terms as the Chairman of the Medical Society. At present Prof. Earle is the Dean of the Medical Faculty. He has contributed many valuable papers at the meetings of the Society and he is also one of the sponsors of the "Caduceus." We hope that, though engrossed in his work, he will still be able to take part in student activities and to contribute articles to the pages of the "Caduceus."

The vacancy has been filled by Prof. J. L. Shellshear and we are sure that under his able leadership, the society will continue to prosper.

GRADUATE NEWS.

We hear that Dr. R. A. Basto, who left for England last summer, has had no difficulty in passing the final Conjoint Examination (M.R.C.S., L.R.C.P.) and that he found it easier than the M.B. B.S. Hongkong. We congratulate Dr. Basto on his success and ourselves on the standard of the final examination.

NEW CHAIR OF MEDICINE.

The following is an extract from a September issue of the British Medical Journal, which we insert here with the hope that it will interest our readers:—

The Hongkong Chair of Medicine.

"In our advertisement columns there appears this week a brief statement of the conditions attached to the newly created Chair of Medicine at Hongkong University, and prospective candidates may welcome some further information that has been supplied to us unoficially with regard to this appointment. The University of Hongkong was established in 1912 upon the initiative of the Governor of the Colony, Sir Frederick Lugard, and in 1921 received further endowment from the Colonial Government which has placed it on a secure financial basis. The University is for the education of Chinese students in European knowledge; its faculties are those of medicine, engineering and arts. Wealthy Chinese have given generously towards its buildings and its establishment, and British commercial firms in China have also made large contributions. The University has absorbed the old medical school that owed its origin in 1887 to the energy of Sir Patrick Manson who laid the foundations of his great reputation in tropical medicine by work in Formosa and Hongkong. The Prince of Wales during his recent tour in the East, was made an honorary LL.D. of the University and on that occasion (April 7th, 1922) it was announced that the Rockefeller Foundation in America had resolved to give half a million Hongkong dollars (approximately £60,000) to the University for the creation of a modern school of medicine with professors of medicine and surgery who should devote their powers to teaching and research. A further donation of a quarter of a million dollars is in prospect for a chair of obstetrics when the school is ripe for this extension. Training for research into disease is plainly one of the aims which must be fostered by this Hongkong School of Medicine. The great opportunities of this school were finely expressed by Sir Patrick Manson in his inaugural address as a dean of the old college in 1887: "I can conceive no grander position or opportunity for any man

to have than that we offer here. At his back the whole of European Science; before him 300,000,000 to whom to give it. Such a position must fire the ambition of anyone." The chair of physiology has been held for some time by Professor H. G. Earle, of Cambridge University, and that of pathology by Prof. C. Y. Wang, M.R.C.P., who was educated at Edinburgh University and held a Carnegie Research Fellowship. The Rockefeller gift has enabled anatomy to be separated from surgery; the latter chair will be continued by Prof. Kenelm H. Digby, of Guy's Hospital, and anatomy will be taught by Prof. J. Shellshear, D.S.O., of Sydney, Australia. In the appointment of the chair of medicine preference will be given to candidates not older than thirty-five and ability for teaching and research will be expected. A senior resident assistant and a resident house-officer are attached to the post. The election has been entrusted to a Committee at the Board of Education, Whitehall, which includes two very recently appointed whole-time professors of medicine in the University of London. The salary is £800 a year, rising to £1,000 payable while the professor is in the colony at the rate of 2s. to the dollar (and in addition the University pays part of the insurance premium to the Universities Superannuation fund). The salary may be supplemented by fees for consultations in the Colony, but the expectation is that the professor will devote himself chiefly to the work of the school. There is no income tax in Hongkong, and the local rates and taxes are almost negligible."

As we go to press, we learn that Mr. J. S. Anderson, M.A., B.Sc., M.D., D.T.M., who has been holding a Clinical Lecturership at the London School of Tropical Medicine, has been appointed our new Professor of Medicine and that he will be here to assume his duties by the beginning of September.

ROCKEFELLER TRAVELLING SCHOLARSHIP.

We extend our warmest congratulations to Dr. S. W. Phoon who has the honour of being our first Rockefeller Travelling Scholar. He will soon be leaving for England where we wish him every success in his work.

HO KWONG PRIZES FOR SESSION 1921-1922.

The Society is greatly indebted to Mr. Ho Kwong for the renewal of these prizes, which expired last year with the exhaustion of the original fund.

The first prize for the best paper was awarded to Mr. Tsoi Teng Ming for his paper on "Ascites." The second prize for the member who distinguished himself most in discussions was awarded to Mr. Lim Eng Hae. We were honoured by the presence of Mr. Ho Kwong during the distribution of the prizes.

CONGREGATION.

A large congregation took place on January 24th, when, amidst the customary solemnity, the following gentlemen received their M.B., B.S. degrees:—

Messrs:—E. H. Lim, L. L. Yong, S. H. Ong, K. S. Shin, and H. N. Liu.

We offer them our hearty congratulations and hope that they will continue to be active members of the Society with which they have been associated for so many years.

APPOINTMENTS.

The following is a list of appointments:—

(*a*) Post-graduate. (December to June).

House Surgeon	Dr. D. K. Samy.
House Physician	Dr. E. H. Lim.

(*b*) Undergraduate. (December to March).

Surgical Ward Clerks	Shem Albert.
	S. H. To.
Surgical Dressers	T. Y. Li.
	H. M. Soo.
	S. K. Lam.
Junior Medical Ward Clerks ..	C. C. Cheah
	S. A. M. Sepher.
	S. C. Cheah
	W. Chow
	K. K. Yip
Obstetric Clerks	M. B. Osman.
	Y. C. Teh.
	C. H. Yeoh.
Pathological Clerks	S. N. Chau.
	S. K. Tan.
Anaesthetic Clerk	M. K. Yue.

Y. K. C.

THE CADUCEUS.

HONGKONG UNIVERSITY MEDICAL SOCIETY

RULES.

1. This Society shall be called the Hongkong University Medical Society.
2. A. The object of the Society shall be to hold meetings at which papers shall be read, or discussions held, on medical and general subjects; and to promote social intercourse among its members.
   B. The Society shall produce a journal to be called the "Caduceus" as a record of the proceedings of the Society, and for the publication of original articles in Medical Science.
3. All undergraduates, graduates and members of the teaching staff of the Medical Faculty of the Hongkong University shall be members of the above Society; and also such other persons as may be elected at a general meeting. Medical Practitioners registered in Hongkong shall be invited to join the Society as members.
4. A. There shall be a President, Vice-President, a Chairman of Committee, an Honorary Secretary and five other members of the Committee, all of whom are to be elected annually by members of the Society at the first general meeting of the academic year. Vacancies occurring between such meetings may be filled by the Committee.
   B. The member of the staff and the student representative on the Union Council shall also be ex-officio members of the Committee.
5. A. The management of the Society shall be vested in the said Committee consisting of the Chairman and five other members, together with the Honorary Secretary, who shall be ex-officio member of the Committee. Three members shall form a quorum.
   B. The Journal of the Society shall be controlled by the said Committee who shall appoint:—An Editor, an Assistant Editor and a Business Manager, who, together with the Chairman of the Committee shall form an Editorial Board.
6. The President or a Vice-President shall preside at general meetings or in their absence, a Chairman may be elected from among the members present.
7. Each member shall pay an annual subscription of $2 which shall be payable at the commencement of the academic year. The Honorary Secretary shall also act as the Honorary Treasurer.
8. No alteration of these rules, nor any addition thereto shall be made except at a general meeting of which not less than seven days' notice shall be given in writing to each member.

OFFICERS OF THE MEDICAL SOCIETY, 1922-1923.

President	Prof. C. Y. Wang
Vice-Presidents	Prof. K. H. Digby.
	Prof. H. G. Earle.
	Prof. J. L. Shellshear.
	Dr. G. H. Thomas.
	Dr. T. P. Woo.
Chairman of Committee	Prof. J. L. Shellshear.
Hon. Secretary and Treasurer	S. N. Chau.
1st year representative	Y. C. Teh.
2nd year representative	K. T. Khoo.
3rd year representative	K. C. Yeo.
4th year representative	C. C. Cheah.
Final year representative	M. K. Yue.
Representatives on the Union Council	Prof. J. L. Shellshear.
	K. C. Yeo.

EDITORIAL BOARD.

Chairman	Prof. J. L. Shellshear.
Editor	Yue Man Kwong.
Assistant Editor	Yeo Kok Cheang.
Business Manager	Chau Sek Nin.