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CONTENTS

Vol. 6, No. 1, March, 1927.

Vol. 6, No. 2, July, 1927.

Vol. 6. No. 3, November, 1927.

INDEX OF ARTICLES.

D

E

F

G

H

I

K

L

M

N

P

R

S

T

V

INDEX OF AUTHORS

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SOME OBSERVATIONS ON THE PRACTICE OF MEDICINE AS A PROFESSION.*

R. E. TOTTENHAM, B.A., M.D., D.P.H., F.R.C.P.I.

In the course of the ages many rules of conduct have been laid down, few however have withstood the test of time as well as that maxim accredited to Confucius "Do not unto others that you would not have them to do you."

That this is as applicable to Medical Practice as to life in general is obvious, unfortunately however having embarked on one's professional career sooner or later one is brought into contact with a type of individual whose motto appears to be:—"Do unto others as they would do to you, but do it first."

Against such self-seeking persons who hold that the end justifies the means, it is essential for the young practitioner to be ever on his guard, in his dealings with patients his words and actions should be carefully considered; and in his professional relations with other medical men, his behaviour should be guided by their standing, by their attitude towards himself, and lastly by his judgment of their character.

It has been said that, where there is no friendliness between Doctors in consultation, and a possibility of any kind of personal gain exists, there is scope for the entrance of human passions.

Although it may take the form of personal gain, or advancement, money is still "the root of all evil."

* Being a Presidential Address to the Hong Kong University Medical Society, on 18th February, 1927.

Happily, however, most Doctors try to do the greatest good for the greatest number, and Medicine is still, a profession, and one whose charitable work compares favourably with even that of the Church, nevertheless it cannot be denied that the increasing struggle for existance is tending to introduce a more material element into our professional life.

When a young Doctor calls a more senior colleague into consultation, it is to his advantage to create a favourable impression, nothing is more to his detriment than having neglected obvious details in the examination of his case, if for instance he has not discovered the fact that there is albumin in the urine, or if he has not troubled to take proper notes; an adverse judgment of his capabilities may be form, in the mind of his colleague.

Consultants at present consist of two classes—"one founded upon its special operative skill, the other on special study and experience." (1).

The field of medicine is now so large that no man can hope to excel in all its branches, hence the existence of the consultants, who usually possess such qualifications as will enable them to obtain positions on the staff of hospitals where they have "opportunities for study and practice." (1).

"There is, however, and always must be, a third kind of consultation, which rests upon the opinion that 'two heads are better than one.'" "Such a consultation may be held with a neighbour in general practice, probably a senior, certainly of good professional standing and repute. but without pretension to special knowledge beyond that which he has acquired in general practice." (1). It is with this latter type of consultation that I propose to deal.

In the case of a consultation between two Doctors in general practice, the man who is called in as 2nd opinion should not try to attract the patient away from his colleague, and should refuse to become that patient's family Physician, certainly during that illness, and preferably for some considerable time to come; a Doctor who is asked to administer an anaesthetic for a colleague is in a precisely similar position.

"A consultation has been described as the best opportunity to show one's real ability in medicine. one's position as to honesty, and one's standing as a man." (2).

All difficult cases should be regarded as an indication for a second opinion. When the diagnosis is in doubt, or where

death is a probability, it is better to explain the exact state of affairs to the relatives, and express willingness to have a consulation if they wish it.

A patient taken ill in a strange city, will not know the name or the reputation of the Doctor who is attending him, in such an event a consultation may be suggested even in minor illnesses.

In small towns, where the death of a patient might seriously affect the reputation of the medical man, the advice of an experienced practitioner should be sought early; and I am sure that surgeons will agree as to the advisability of a consultation in all major injuries.

It is unwise to criticise the treatment of other medical men, the public are not always impressed, and one's colleagues are likely to distrust one.

The patients that one fails to cure, or please, inevitably go elsewhere, so that Doctors in the same locality get ample scope for mutually criticising one anothers' work, but it does not pay in the long run, nor is it in good taste.

The American Medical Association advise that a physician should associate himself with medical societies, and contribute his time, energy and means, in order that these societies may represent the ideals of the profession.

Midwifery practice presents many difficulties, owing to the emergency nature of the work one is often prevented from attending one's own cases owing to absence, or other causes; in order to provide for such an event most practitioners have an arrangement with a colleague. If one be called in to attend some one else's case, as the call may be urgent it is necessary to go but immediately on arrival of the patient's own Doctor the case should be resigned. The fee is usually a matter of arrangement.

If a Doctor is away on a holiday, his colleague who attends the case and visits her afterwards is obvously entitled to the whole fee; but where he only delivers her, and her own physician subsequently does the visiting, half the fee about represents the amount due to each, in cases of this kind it is always a good thing to get the reputation of treating one's colleagues fairly, they will not then object to doing an occasional emergency call.

It is often advisable to obtain a patient's history when the relatives are not present, important facts are often concealed by nervous patients in the presence of a third person: there are certain types of case to which this is particularly applicable.

It is said that patients are less curious to know the exact nature of their complaint, than they are to know how long they are likely to be ill, and how much their illness will cost them.

It is obviously impossible to please everybody, some patients will expect to hear a Doctor's opinion at the end of a five minutes examination, while others will expect him to spend a considerable time on the examination however minor the complaint may be. While few Doctors have the time to make a complete study of their patients' whims, a close observation of a patient may help one to avoid incurring a needless animosity.

Whatever the diagnosis may be, a physician should endeavour to convince his patient that he is interested in him, and further, that he is giving him as a patient his full attention.

A Doctor is obviously entitled to a reasonable time in which to make his diagnosis, but it should not be unnecessarily prolonged. If however as a result of an ordinary examination, the Doctor has been unable to satisfy himself as to the condition present, he must insist on a thorough examination, even at the risk of inconveniencing the patient, for it is better to give the patient a little trouble and make a correct diagnosis, than to temporarily please him, and make a mistake, which someone else will soon correct. This statement is particularly applicable to obstetrical and gynaecological conditions, for in the former certainly there is seldom a possibility of taking a middle course as there is in other branches of medicine, time usually gives the Doctor away if he has made a mistake. There is also in these cases a greater likelihood of an incomplete examination being made, owing to the patients very natural dislike of being exposed, and to the fact that a proper gynaecological chair may not be available, an examination is made often under rather unfavourable circumstances.

If after his own complete examination a Doctor is still in doubt the services of a colleague are usually at his disposal.

Unfortunately a relatively inexperienced man with a dogmatic manner often impresses a patient more than a more different colleague with five times his knowledge and experience, dogmatism is more often a sign of ignorance than knowledge, the latter does not fear exposure, while the former ever needs a cloak of bluff to hide its nakedness.

The medical man who relies on bluff to make his name, is likely to have only a very temporary success, there is the famous saying that "you can fool all the people some of the time, and some of the people all the time, but not all the people all the

time." Therefore it is unwise for a Doctor to pretend to a degree of knowledge and experience which he does not possess.

There are doubtless many cases where a certain diagnosis may be given, there are others in which the diagnosis is merely an expression of the opinion of the physician, and he may give his opinion as definitely as his conviction will allow him to.

If he definitely believes he can cure the patient he should have confidence in himself and say so, but he should beware of prophesying, particularly with regard to duration of illness, or expectation of life, "threatened men live long," and a patient with inoperable cancer, for instance may live twice as long as his Doctor thought. Self-confidence in medicine, as in other things, is a great asset, but it must be supported by knowledge, sound judgment, and a knowledge of one's own capabilities, particularly where operative work is concerned. The Doctor who does a pubiotomy for a transverse presentation, may have great courage, but he won't deliver the patient.

It is always advisable to find out the reason why a patient has thought it necessary to consult a Doctor, and what guided him in his choice of who to go to. If a Doctor has a grateful patient who sends him others, a note of thanks to him is obviously due.

It has been rightly said that success in treating children is a very valuable asset in private practice, a physician who has such a reputation will not only get most of the children's practice in the district, but much of the adult as well.

It is hoped that these few remarks may be of some interest to those who are about to start in medical practice, it is of course impossible to do more than hint at certain contingencies which may arise, and while works on medical ethics, and medical jurisprudence may help the young practitioner in certain difficulties, most of his knowledge will have to be acquired through experience.

I desire to express my indebtedness to the following:—

(1) Medical Ethics. Saundby.

(2) The Successful practitioner. Thompson.

A BRIEF OUTLINE OF THE PRESENT DAY DIAGNOSIS AND TREATMENT OF VENEREAL DISEASES IN THE ARMY.*

LIEUT.-COLONEL R. R. LEWIS.

Royal Army Medical Corps.

Mr. President and Gentlemen,

I must apologise for reading this paper a second time. I read it originally on the occasion of the recent Joint Conference of the B.M.A. & C.M.M.A'ssn, at the University. The notes were put together for the reason that they might be of some slight assistance to those general practitioners who had to include in their work the diagnosis and treatment of Venereal Diseases.

The diseases concerned are:—

Syphilis.

Gonorrhoea.

Venereal Sore until diagnosed Syphilis or Soft Chancre.

Venereal Balanitis.

Venereal Papilloma.

I will take the lesser ones first. Venereal Balanitis, so called because, previously non-existent, it occurs after recent sexual intercourse, rapidly clears up if the penis is bathed in Oxycyanide of Mercury of a strength of 1 in 4000. It occurs almost exclusively in the uncircumcised.

Warts are often seen in those who have suffered from Chronic Gonorrhoea, (and here again this condition seems to be more common when a long prepuce exists), but also occur within 2 or 3 days of exposure to Venereal infection as a separate entity.

A wart paint of equal parts of:—

Vin. Ipecacuanhae.

Liq. Arsenicalis.

Spt. Vini Rect.

applied three times daily has the effect of drying up the warts. They shrivel, become pale in colour, and finally disappear. In some individuals the effect is rapid, in others it takes longer

* Read before the Hong Kong and China branch of the British Medical Association on December 1st, 1926.

and it may therefore be best to apply pure Lactic Acid to the lesions at the commencement of the treatment. Extensive warts are cauterized under Novocaine, and it is sometimes just as well to remove the whole prepuce, also under Novocaine.

So much then, quite briefly, for these two diseases, and I will now pass on to GONORRHOEA.

Firstly with regard to diagnosis. This in the ordinary way is of course absolutely simple, but one may be mistaken sometimes. A soldier in Detention reported sick a short while since, stating that he thought he had venereal disease. On examination there was a thick yellowish green urethral discharge, and a very inflamed condition of the meatus. Microscopically nothing could be seen but myriads of pus cells, no organisms whatever. This was a case of "Urethritis Artefacta," the patient having rubbed lime into the meatus in order to cause a condition for which he might be sent out of Detention and into Hospital. He went back to Detention the same day. Furthermore, since the soldier is penalised in different ways for contracting Venereal Disease, it is essential that a scientific diagnosis should be made, and an acute case is never labelled Gonorrhoea unless the causative organism is seen. This excludes a Streptococcal, Staphylococcal or an infection due to B. Coli or other Gram Positive and Negative mixed organisms.

On admission the patient is kept in bed for ten days on Milk Diet and receives an Alkaline Mixture, he goes twice daily to the Irrigation Room for treatment; the anterior urethra is washed out first, and then the solution is taken into the bladder, and the urethra is irrigated from behind forwards.

As Colonel Harrison, late of the R.A.M.C., and pioneer of the scientific diagnosis and treatment of Venereal Diseases in the Army said, in a discussion before the Medical Society in London:—

"Genito-Urinary surgeons are divided in opinion as to whether, in purely anterior urethritis, one should confine one's irrigation to the anterior urethra, or, after washing the anterior urethra, allow the solution to enter and be ejected from the bladder. It is urged against irrigation into the bladder that the posterior urethra may become infected unnecessarily, and that such complications as Epididymitis are much more likely to occur. I should like to advance some arguments in favour of irrigation into the bladder in all cases, whether purely anterior or not. First, it is well known that, in a high percentage of cases, the posterior urethra becomes infected without any local interference whatever, and posterior infection is not unknown under purely anterior treatment.

Also, it is impossible to detect the moment when the infection is implanted on the posterior urethra. Yet it is granted by all. that the surest method of preventing infection of the urethra is to wash away the infection as soon after its implantation as possible. I think that, on these grounds alone, with the chance of infection passing to the posterior urethra always present, one should keep it well washed from the first. It will be admitted that our object in irrigation is to wash away the irritating discharge and promote drainage from the deeper tissue, follicles and crypts, opening on the urethra. With anterior irrigation, the urethra is distended as far as the Compressor Urethrae, and, when the nozzle is removed, the irrigating fluid is forced out of the urethra, merely by its collapsing walls. It slops out, in fact, and its effect in removing secretion which may be blocking the mouths of the crypts and follicles must be very slight. Then, consider the effect when the sphincter is persuaded to open and the fluid allowed to enter the bladder. After some ounces have collected in the bladder, the nozzle is removed and the patient forcibly ejects the fluid. I think it must be granted that the cleansing effect must be greater, the mere rush of the fluid past the mouths of the follicles in this direction must lead mechanically to remove the plugs from them and assist their drainage.

Regarding the risk of Epididymitis, there are so many causes of Epididymitis that it would be difficult to prove that posterior irrigation was a prominent one.

I admit that epididymitis can be caused by irrigation, but it is wrongly conducted irrigation, especially irrigation at too high a pressure; but in most cases one can usually find another cause in too hard work, too early prostatic massage or too early instrumentation.

I believe that the best instrument with which to irrigate the Urethra is the bladder, provided that certain conditions are fulfilled. Thus, the anterior urethra should be washed first, as well as it is possible to do so with an anterior irrigation, and then the Sphincter must be persuaded to open by a combination of trickery, and with ordinary irrigating tubing and a Janet nozzle. This should be suspended at a height of 4 feet above the penis."

During past years different irrigating solutions have been tried. I have seen what might almost be called an "epidemic" of Epididymitis which was caused through irrigating the bladder with a too concentrated solution of Eusol. We have come back to two solutions. Pot Permang. 1 in 12,000 to 1 in 4,000 and Oxycyanide of Mercury of similar strengths. The irrigation is carried out morning and evening. All cases are put on lavage with Pot Permang at first. If urethral smears shew mixed Gram

Positive and Negative Organisms, a change to Oxycyanide of Mercury is made. This rapidly clears up mixed infections but it should be borne in mind that if for any reason the patient is taking Potassium Iodide, a most irritating combination is formed which results in a stripping of the urethral mucous membrane and probably other portions of the mucous membrane of the Urinary Tract.

Progess.

The irrigation is continued night and morning, and the patient is inspected once weekly in a simple case, or oftener as may be required in special cases. A record is made on the case card each time the patient is seen. The condition of his urine which is held for four hours prior to examination is noted and remarks as to haziness, cloudiness and the presence of threads, or prostatic plugs, are entered on the card. When discharge has ceased and the urine is clear, but contains threads, these are examined microscopically.

In simple cases, after about three weeks, when acute symptoms and signs have subsided, prostatic massage and the passage of straight metal sounds is resorted to. Massage of the urethra over the latter is carried out, and at the next session the size below that introduced last is first used, and then larger ones.

The routine procedure is the following:—

The patient is given a Belladonna and Opium Suppository the night before, sounds are passed in the morning and the urethra massaged over the largest size passed. Patient empties his bladder and then partly fills it with a solution of Mercury Oxycyanide (1 in 4,000), having previously washed out the anterior urethra, and the prostate is thoroughly massaged. A note is made as to the condition of the gland, with regard to size, configuration, consistency and tenderness, and whether the vesicles are palpable.

A prostatic smear is made and examined. This procedure is continued weekly and polyvalent Gonococcal Vaccine given in increasing doses at intervals of four days.

In joint and metastatic complications, prostatic massage is carried out twice a week. An excellent lubricant for instruments, and the gloved finger further covered with a "Petticoat Stall" when prostatic massage is being carried out, is Lubafax. This is composed of:—

HgOxycyanide Grs x. dissolved in 10 ozs. of water:

Tragacanth Gr 96. dissolved in Glycerin 2 ozs.:

Solution No. 1 is added to Solution No. 2. shaking meanwhile. It is then sterlized by heat.

The case having been free from discharge for one week, all treatment is stopped for one week, unless, of course, the discharge returns. It is useful to note that a discharge which is very persistent is due sometimes to irrigation with too strong a solution, or for too long a period, or a combination of these two.

Weekly notes have meanwhile been made as to the character of the discharge, i.e., the proportion of pus to epi cells, the presence or absence of organisms and their reduction in numbers, etc. These entries give a good idea of the progress of the case.

If a patient at the end of the week "off" treatment has had no recurrence of the discharge, he is put through the tests of cure which are performed as early in the morning as may be expedient. Briefly these are the following:—

Tests of Cure.

1st Day.

The urine is passed. its character is noted and any threads examined microscopically. If no threads are found the urine is "Spun" in the Laboratory and any deposit examined. To those patients who have not received a course of vaccine, a provocative dose of 1 c.c. of polyvalent Gonococcal Vaccine is given containing 100,000,000 organisms. Others receive a provocative injection of Silver Nitrate solution, Grs v. to the oz. Any reaction is noted, and the patient is examined the first thing on the following morning for presence or absence of discharge. Prior to micturating, films are made of any such and their characters noted microscopically. On the finding depends the subsequent course to be adopted. The patient may require further treatment.

2nd Day.

The urine is held for four hours. Everything being all clear, an urethoscopic examination of the anterior urethra is made for the purpose of noting the presence of infected follicles, hard and soft infiltrations, stricture or any other abnormality.

One is sometimes rewarded by a rush of pus into the field, due to the bursting of an occluded follicle, the smears thereof shewing myriads of Gonococci. The inference is obvious.

3rd Day.

Everything being all clear, the glans is cleaned up and washed over with spirit, and the prostate and vesicles thoroughly massaged. The fluid is allowed drop on to a slide, and films are made. The presence of numbers of pus cells or organisms, determine the further course to be adopted. Cultures can also be made.

If all is clear, the largest sized Gum Elastic Bougie which will pass is introduced into the bladder. This will eliminate the presence of stricture in the portion of the urethra not visible by anterior urethroscopic examination. It can be taken as a general statement that the prostatic portion is never affected by infective inflammatory stricture.

If the patient passes all these tests he is discharged from Hospital. The period spent in Hospital of a simple uncomplicated case varies with the resisting power of the particular individual, and the occurrence or absence of complications. I have known the same patient to suffer from three fresh infections, all of which were cleared up after one month's treatment only. This is, unfortunately, the exception and not the rule.

I propose to refer to one complication only. Epididymitis is an annoying condition from the point of view of the private patient, who finds he has to get into bed just at the time when most of his friends have begun to wonder why he has suddenly turned teetotaller. In the ordinary way, he would probably have to remain in bed for a fortnight at least. Nowadays, however, this is unnecessary. Intra-venous Sulfarsenol acts like a charm. If given as early as possible, its effect is nothing less than extraordinary. Dosage begins with 0.12 Grm in 5 c.c. of freshly distilled water followed in two days by 0.18 Grm. and four days later by 0.3 Grm. The usual precautions are taken as when giving any intra-venous injection of Salvarsan substitute. Pain disappears like magic, and a swollen testicle will subside, as a rule, before the third injection is given.

This applies to at least 90 per cent. of cases. One occasionally gets a case on which it has no effect whatever. This is rare.

Experiments embracing the application of Electrical currents for the conveyance of colloidal antiseptics and vaccines into the affected tissues in Gonorrhoeal infection, are being continued at the Herbert Hospital, Woolwich. The work which is original and highly technical, is not yet complete.

SOFT CHANCRE.

Venereal Sores which are non-syphilitic, are classed under this heading. It is not a good name since in some varieties of primary syphilitic sore there is no induration whatever. These sores are clinically easily recognisable. The difficulty experienced is when a mixed infection occurs and we have a combination with syphilis. Even in these cases, however, if the sore is not too septic, a dark ground examination will, as a rule, clear up the diagnosis.

It is of course, of extreme importance that the diagnosis of Soft Chancre should never be made until Syphilis has been excluded by every scientific means at our disposal.

These sores may be single or multiple. No definitely causative organism can be held to be responsible for their occurrence; or rather there is insufficient evidence to show this at present. The sores are surrounded by a distinctly red areola and the contour is irregular. The floor is of a gamboge yellow colour, and bleeds readily. The sores are auto-inoculable. They are painful. much more so than primary syphilitic sores. There is a "warty" type which resembles somewhat a Condyloma. The Characteristics of these sores vary according to their position. On the fraenal site they may assume an hour glass shape. On the glans they are often circular and punched out. At the Praeputial orifice they radiate and withdrawal of the prepuce opens them up.

The associated adenitis is painful often leading to abscess formation. In such cases open incision is the best treatment. Tapping with a needle and syringe, and injection of Iodine has been advocated. It is seldom successful in my experience, and incision has to be resorted to sooner or later.

Taking the treatment of Soft Chancre generally, I find the best application to use locally is Lotio Acid Carbolic—1 in 80, to 1 in 60 on gauze. A wet application is far better than the use of ointment—any plain ointment can be applied at the stage when the ulcer is perfectly clean and healing is indicated by the appearance of the white heaped-up Epithelial edge. But should discharge reappear, the wet dressing should be resorted to again.

I formerly used this treatment for every kind of venereal sore except two. The first of these is the phagedenic soft sore. These cases occur almost always in the uncircumcised. A rusty, very offensive discharge, appearing at the praeputial orifice with a rise of temperature and a drowsy condition of the patient, who soon feels very ill, is an indication for the immediate slitting up

of the prepuce, a thorough scraping of the lesion with a Volkmann's spoon, and the unstinted application of pure carbolic acid. This particular type of phagedena only occurs, in my experience, in soft chancres. I have never known a case to be followed by visible secondary signs of Syphilis or positive blood reaction. Since these notes were written I have found that Nitric Acid is more effective than pure carbolic.

There is another form of non-Syphilitic sore which is extremely resistant to treatment. This occurs more commonly in the Tropics and is due to a diptheroid organism. If it could be immediately recognised its spread might be limited by incision, for in some cases I have seen, even cauterization has not been effectual with pure carbolic. Commencing on the penis, it may spread, as in a case I once saw, upwards to the skin of the neck, and downwards to the soles of the feet. It spreads chiefly superficially, but I have seen it ulcerate down through the muscle and expose bone. In this particular case, the femur could have been grasped by the hand. I now treat these sores with applications of Nitric Acid, allowing the surface to be exposed to the air for half an hour and subsequently covering them with a thick layer of dusting powder and a dressing. In two or three days a scab forms which, on being removed later, shows a healed surface underneath. After three dark ground examinations, I now treat all non-syphilitic venereal sores by this method, and find that it considerably shortens the patient's stay in Hospital. Primary Syphilitic sores heal very rapidly under intramuscular Sulfarsenol whatever local application is used.

SYPHILIS.

At the present time and because of the present methods of treatment, combined with the fact that the soldier has been educated to report sick directly he discovers that a lesion exists, we rarely see beyond the primary stage of Syphilis in the Army. There are still a few "Old soldiers" left, and it sometimes happens that they are admitted to Hospital suffering from the result of an insufficiently treated primary infection of many years before.

They are quite uncommon, and though it is disappointing not to be able to see these interesting clinical pictures in military life we can usually find them among civilians. If only this ideal state of affairs could be national and universal, there would be less misery and fewer domestic tragedies.

I will therefore speak only of the primary Venereal Sore, its diagnosis and treatment.

In any exceedingly instructive Atlas of the Primary and Cutaneous lesions of acquired Syphilis, Major Charles F. White of the Royal Army Medical Corps, and Captain Herbert Brown (late R.A.M.C.) (T.C.), classify Syphilitic Chancres generally. The classification is, except as regards those described according to their site, an arbitrary one and would not suit everybody, since some of the types tend to merge rather into others and indeed some are merely later stages of the earlier types. But it is a very interesting classification, and looking at these lesions from the clinical point of view, it is satisfactory to be able to confirm one's visual impressions by the finding of Spironema pallida therein.

After reading the classification I adopted it in my work, and after considerable experience find that it is possible to say, practically with certainty, that I shall be able to demonstrate the Spironeme in some particular type of sore. The main thing, as Major White says, is to be able to say whether a sore is, or is not, syphilitic.

Ten varieties are rescribed by Major White, as follows:—

(i)	Primary Hunterian Chancre	13.45
(ii)	Primary granulating Syphilitic Sore.	
	(a) Circular or oval	21.21
	(b) Linear	0.26
(iii)	Primary Abrasive S. Sore	2.96
(iv)	Primary Papular S. Sore	0.79
(v)	Primary Papulo-erosive S. Sore	29.31
(vi)	Primary Ulcerative S. Sore	2.28
(vii)	Primary Meatal S. Sore	2.50
(viii)	Primary Phagedenic S. Sore	0.79
(ix)	Primary Intra-urethral S. Sore	0.08
(x)	Primary concealed S. Sore	26.37

Nineteen thousand cases of Primary Syphilis were examined.

The following brief detailed description may eventually enable the observer to distinguish between the varieties; complete proficiency is naturally a matter of experience:—

1. Primary Papulo Erosive Syphilitic Sore.

(a) Usually found on the inner surface of the prepuce or in the coronal sulcus or at fraenal area.

(b) Edges sharply defined, shelving and not undermined as in soft sore.

(c) Over the surface, except at the centre where the erosion is more evident, there is often a thin membranous film which stops just short of the edge. The centre exudes serum.
(d) Marked induration.
(e) No surrounding inflammation.

This type often resembles the small Hunterian Chancre and the types tend to merge.

2. Ulcerative Syphilitic Sore.

(a) Found usually in the same situations as the Primary Papulo-Erosive Syphilitic Sore.
(b) It is a later stage of the papulo-erosive type. The sore becomes secondarily infected and ulcerated, producing a loss of surface, so that the edges look raised; but they are not undermined. The amount of ulceration varies and the floor is covered with a thin ragged pseudo membrane which tears on stretching the sore.
(c) The secondary infection may cause some slight surrounding inflammation.

3. The Primary Granulating Syphilitic Sore.

The circular or oval type is much more common than the linear type. This is probably the most characteristic of all Syphilitic Chancres. Chancres appearing on any part of the skin, genital or extra genital, are usually of this type. They may become crusted and resemble an impetiginous lesion. The removal of the crust, however, immediately shows their true character.

(a) Invariably found on the skin of the body of the penis or scrotum or on any skin surface.
(b) Round or oval in shape, and if oval the long axis runs transversely around the penis.
(c) Complete absence of surrounding inflammation.
(d) Very slight induration—sometimes imperceptible—by grasping the sore between the finger and the thumb, it can easily be bent on itself.
(e) The surface of the ulcer and its edge is flush with the surrounding skin, and has a red, raw beef, finely granular glazed appearance.
(f) Size varies from that of a threepenny piece to that of a half-crown.
(g) The general appearance is as if the sore had been "painted" on the penis.

4. The Primary Hunterian Chancre.

(a) There is marked induration giving a characteristic cartilaginous feel to the fingers.
(b) Usually occurs on the inner surface of the prepuce or in the Coronal Sulcus.
(c) On withdrawing the prepuce, the sore turns over on itself without any bending. It is as if a button were imbedded in the tissue and after eversion it presents quite a button like appearance—the old fashioned white bone button with a raised rounded smooth edge, and depressed centre, which may be slightly eroded and red in contrast with its pale edge. We are all familiar with this type.

5. The Primary Abrasive Syphilitic Sore.

This is a far less common type, but nevertheless a very distinct entity. The diagnosis has to be made from an ordinary Balanitic Epithelial abrasion. The latter, however, is more extensive, and irregular with geographical outline.

(a) It is most commonly seen on the glans penis, but may occur in the Sulcus separately or as an extension.
(b) It appears as an abrasion usually sharply defined, of the mucous membrane, with or without a slight areola, looking just like a burn produced by the lighted end of a cigarette.
(c) The diagnosis is almost impossible from clinical appearance without considerable experience, and should always be confirmed by dark ground examination.
(d) It usually heals within a few days leaving no scar unless secondarily infected.

6. The Intra-Urethral Syphilitic Chancre.

It is very rare but does occur. This variety is always sent to Hospital diagnosed as Gonorrhoea.

(a) There is generally a slight sero-purulent discharge from the meatus.
(b) On palpation along the penis a localised uniformly stony-hard swelling of the urethra is felt.
(c) Diagnosis is confirmed by the Urethroscope and dark ground examination of the discharge expressed from the urethra.
(d) The diagnosis is simplified if a Syphilitic inguinal adenitis is present, in which case gland puncture may be performed and the serum examined for Sp. pallida.

7. Meatal Syphilitic Chancre.

(a) Usually of the papulo erosive type.
(b) Nearly always situated along one side of the meatus.
(c) Marked induration. By pressing the meatus in its vertical diameter between the finger and thumb, the one sided induration is felt, the unaffected side giving to the pressure.
(d) One border of the sore nearly always extends on to the glans penis.

8. Concealed Syphilitic Sore.

These are concealed behind a phimosed non-retractable prepuce. If there is no accompanying Balanitis and secondary inflammatory oedema, the differential diagnosis is easier. Induration is a help, but it should be remembered that it also occurs in non-syphilitic concealed sores. Very often non-inflammatory oedema of the phimosed prepuce occurs with the skin presenting a livid hue. When present, this is diagnostic. Nearly always a serous fluid oozes from the prepuce. This should be examined for Sp. pallida, or a fine capillary pipette can sometimes be passed under the foreskin to the site of the sore which is gently scraped, and then the serum in the tube can be examined.

Concurrent Adenitis presents an opportunity for gland puncture and demonstration of the spironeme.

In such a case I always prefer to perform circumcision or a dorsal slitting of the prepuce. This reveals the actual condition, the clinical appearance of the sore can be noted, and a dark ground examination be made at the same time. It further removes the possibility of occurrence of phagedena, and syphilitic sores if situated on any part of the inner surface of the prepuce, can be completely excised with it.

9. Phagedenic Syphilitic Sore .

(a) Usually situated in the Coronal Sulcus.
(b) Occurs as a deep punched out ulcer, probably due to secondary infection.
(c) Phagedenic ulceration in Syphilitic sore tends to extend downwards only, giving a punched out appearance. This distinguishes it from the phagedenic ulceration which occurs in a soft sore tending to spread more superficially and serpiginously into the surrounding tissues.

I have quoted Major White's description of the Primary Sores at length, since, as I mentioned previously, the primary sore is almost the only manifestation of syphilis, which we now

see in the Army, excepting the concurrent painless enlargement of the inguinal glands which naturally varies in degree with the age of the sore.

Before describing briefly the course of treatment in use in the Army, I will dwell on a few points of diagnosis. The clinical differential diagnosis having been made, it is necessary that it should be scientifically confirmed by dark ground examination.

Colonel L. W. Harrison describes a most important procedure which should never be omitted. In cases where Sp. pallida are demonstrated, its importance will be apparent. The steps are as follows:—

1. A dark ground examination is made of the lesion.
2. The patients blood is taken and tested.
3. A provocative injection of Salvarsan substitute is given.
4. 7 days later the blood is again taken for examination.

As a result, primary cases may be classified thus:—

(a) **Early Primary.** S. pallida present, blood serum negative to Wassermann or Sigma tests, before and after provocative injection.
(b) **Medium Primary.** S. pallida present, blood serum negative prior to provocative injection, but positive after it.
(c) **Late Primary.** S. pallida present and blood serum positive prior to provocative injection, and of course positive after it or more strongly positive as the result of it.

From this it will be apparent that we have the opportunity of thus making a qualitative examination of the degree of infection in a purely primary case, dependent on the age of the lesion.

The early primary cases are the ones which can be cured. The blood as the result of energetic treatment never gives a positive reaction. The medium primary cases are better to treat than the late primary ones. In both of the latter, however, I always give a full course of treatment. For the early primary cases, a shorter course of treatment is laid down, but the subsequent routine blood examinations are carried out as in all classes of case.

I will pass quite briefly to treatment. In 1922, reports were called for from all Officers dealing with Venereal Diseases in the Army, as to the merits or demerits of the Salvarsan substitute

known as Sulfarsenol. As a result, all reports being favourable, Sulfarsenol was taken into general use by the intra-muscular method. I had used it about two years prior to this, intravenously, but discontinued its use owing to a sequence of severe side effects.

Sulfarsenol is a salt of the Salvarsan group with a sodium salt of Sulphurous Ether attached to the Arsenobenzol.

Its advantages are the following:—

(1) Compared with "606 and "914", its toxicity is low.
(2) It oxidises vary slowly and there is no increase of toxicity for several hours after the ampoule has been opened.
(3) It can be given by deep subcutaneous or intra-muscular injection. A full dose of .6 gramme will be dissolved after standing for about 10 minutes, 10 minims of distilled water having been injected into the ampoule.
(4) It causes but little pain except in the hyper-sensitive and what pain is caused, passes off very rapidly.
(5) Except in those who are intolerant to arsenic no reaction follows its use. (I have personally seen only one case of severe reaction. This followed each of two injections, and consisted of vomiting, diarrhoea, and almost complete collapse). A smaller dose given later had exactly the same effect, and the use of the drug in this case was therefore discontinued.
(6) It can be given without relation to fasting.
(7) It is most suitable for rapid out-patient practice.
(8) Therapeutically it is equal to the most efficient form of "914," and spironemes disappear from the primary lesion with equal rapidity. Its effect serologically is also quite as good.

The technique employed is as follows:—

The ampoule should be immersed in spirit in order to see that no flaw exists in it. Its colour should also be noted, and if dark, it should be rejected. The same precautions in short should be taken as before using any Salvarsan substitute.

(1) Open the ampoule and inject into it 10 minims of distilled water (freshly prepared). The Sulfarsenol will take 10 minutes to dissolve.
(2) The upper and outer quadrant of the patients buttock is painted with Iodine.

(3) The needle of the syringe (an ordinary 20 minim hypodermic will suffice provided the needle is about one and a quarter inches long) is driven into the muscle, downwards and inwards towards the cross formed by the Gluteal Fold and the line of separation of the buttocks.

(4) The syringe is detached and the dissolved Sulfarsenol taken into it by means of another needle, which in its turn is detached. The syringe is then attached to the needle in the buttock (it having previously been noted that no blood is issuing therefrom) and the injection made QUITE SLOWLY. The needle and syringe are then withdrawn and the site of the injection is massaged with a pad.

An injection of Bismostab is made into the other buttock. The site of this is also massaged. This preparation is made by "Boots" and sold in a most convenient form for use, each rubber capped container holding 5 c.c.

Briefly the scheme of treatment is as follows:—

Course For Early Primary Cases.

(a) Three intramuscular injections, at intervals of one week, of Sulfarsenol, .42 grammes, an intramuscular injection of 1 c.c. of Bismostab being given at the same time in the other buttock.

(b) Fourth week, Sulfarsenol omitted, but Bismostab given.

(c) Fifth and sixth weeks, an injection of .6 grammes of Sulfarsenol and 1 c.c. of Bismostab.

(d) Seventh week is a rest week, and no drug given.

(e) Eighth and ninth weeks, .6 gramme of Sulfarsenol and 1 c.c. of Bismostab repeated.

Then there is a rest period for 30 days. Iodide of Potassium is then given for 14 days. This brings us to the 101st day when the above course is repeated in "medium" and "late" primary cases.

The blood is examined at frequent intervals, and at the end of each series of injections. At the conclusion of the course on the 101st day, a lumbar puncture is performed and examined with regard to cell count, presence or absence of globulin, and as to the fluid reaction by either Wassermann or Sigma tests.

A period of monthly observation then ensues, and the blood serum is tested quarterly for the first year. During the second year the patient attends quarterly and the blood is examined at

intervals of six months. Positive serological findings indicate the necessity for further treatment. A single blood test should always be confirmed, and it has been noted that with a persistently negative blood serum, there may co-exist a pathological C.S.F. Therefore this operation should never be omitted and should be repeated from time to time.

For cases other than early primary ones, the above course is repeated thrice with an interval of three months between each course, the subsequent procedure as to examination and testing of the blood serum also being carried out.

I should like to say a final word with regard to the performance of:—

(a) **Dark ground examination** generally.
(b) Gland puncture to obtain material for dark ground examination.
(c) Obtaining specimens of serum for testing.
(d) Lumbar puncture.

(a) **Dark Ground Examination.** No previous antiseptic should have been applied to the sore, or if it has been, it should have been discontinued in favour of a normal saline dressing at least 48 hours before examination. The edges of the sore are lightly scarified with a small blunt scarifier after which pressure is exerted with the thumb and forefinger until serum only is exuded. The application of a little pure Alcohol at first, helps things along. When serum is oozing freely (a very small drop is quite enough) the edges of a cover slip held in Cornet forceps are applied to it in order to collect on it some of the serum. This is mixed (on the slip) with a drop of saline, and spread well over its surface. It is then placed, wet side downwards, on a very thin slide, and the excess of moisture removed by pressing it on to a piece of blotting paper. Melted vaseline is then applied to the four edges with a brush. The specimen is now ready for examination. The dark ground condenser being in position with the rings centralized, as seen under the 2/3rd power, a drop of Cedar wood oil is placed upon it, and it is slightly racked down. A drop is also placed on the under surface of the slide, and on the top of the cover slip. The slide is then put on the stage (taking care that the cover slip is uppermost) and the D.G. Condenser racked up to it until the oil on it reaches the oil on the under surface of the slide. The 1/12 power is racked down to the oil on the cover slip until it almost touches the glass. If then focussed upwards, the "dancing men" or particles exhibiting Brownian movement, come into view—also

a few R.B.C.; and the search for Spironemes can begin. If too much light comes in, it is possible that the stop which cuts this off, has not been slipped into the objective. The difficulties which are met with, are the following:—

(1) Non-centralization of the rings on the dark ground condenser.
(2) Cover slip on the under, instead of on the upper, surface of the slide.
(3) No "stop" in the objective.
(4) The use of too thick a slide.

(b) **Gland Puncture.**

In order to obtain Sp. pallida from a gland, it is necessary that the gland should be hard. In a softened gland, there is usually a process of mixed infection going on, and one is less likely to be successful. Use an ordinary hypodermic syringe, bring the gland up to the skin, and fix it with the fingers, puncture it parallel with the groin and get well into its substance. Remove the syringe from the needle and take up about 5 minims of normal saline. Inject this into the gland, and after massaging for 3 or 4 minutes, withdraw fluid and examine by the dark ground method.

(c) **Obtaining Specimens of Serum for Testing.**

A Pathologist once showed me a piece of blotting paper, with a blood stain on it, and said he had received it through the post, as material supplied for the performance of a Wassermann Test. Other specimens which arrive through the post are found to be haemolysed, and therefore of no use.

I find in the taking of blood specimens, that one can always get a serum without the slightest tinge of Haemoglobin in it.

The blood is taken from the vein with a needle fixed to the barrel of a glass syringe, into a sterile test tube. It is allowed to stand in a rack for half-an-hour, a sterile glass rod of the calibre of a moderately fine glass pipette, is then passed round the edge where the clot adheres to the tube. The clot sinks down, and haemolysis never occurs.

(d) **The Performance of Lumbar Puncture.**

In this connection I should like to draw your attention to the White-Jeanselme Platino-Iridium lumbar puncture needle. The calibre of this needle is far smaller than others intended for the same purpose. Its outside diameter measured by Sturrett

gauge, is 57. Its fineness and flexibility make the operation of lumbar puncture practically painless. Major White's modification of the original Jeanselme needle consisted in supplying it with a handle consisting of a hollow cylinder opened at both ends, and having a "window" cut in its middle. The original was made from an empty cartridge case during the war. The patient may be in either lateral position or sitting on a short stool or an operating table, with the feet resting on a fairly high chair. The arms are folded and rested on the thighs, the head is bent down and the lumbar region thrust well out. If in the lateral position, the knees and shoulders should be brought as close together as possible. A line is drawn between the two highest points of the Iliac crests and the interspinous space immediately below is defined with the thumb. One presses well in until one can clearly feel the lumbar spine immediately above and below. An indentation with the finger nail is then made at a spot almost in the centre of this space, but really the slightest fraction of an inch below it.

The indentation with the finger nail is made so that it will remain for a few minutes. The skin is sterilized with Alcohol, and painted with Iodine. The needle and stilette, previously sterilized, are taken out of the spirit and flamed. The stilette is then re-introduced into the needle. The needle is inserted in the centre of the finger nail mark alluded to above, and pushed steadily in until the Dura Mater is reached. The puncture of the membrane can be felt most distinctly. The stilette is then withdrawn and the C.S.F., begins to flow. If it does not flow readily at first, the needle should be rotated. The first few drops are caught in one test tube, say 2 c.c. and then another test tube is used to collect the further amount required for testing. That in the first tube is rejected, since the possible admixture of a trace of blood would interfere with the cell count.

The needle is then withdrawn and the puncture sealed with Collodion and gauze. The patient lays on his stomach on the operating table for 15 minutes, and thereafter in bed for two hours, in the same position. He then gets on to his back and remains for 24 hours with his head quite low.

If the patient carries out the instructions, it is my experience, that he never suffers even a mild headache.

With this needle, the operation is practically painless, no local anaesthetic is required, and it is a perfect pleasure to perform it.

I should like also, to bring to your notice an aero-urethroscope of the internal illumination type invented by Colonel

L. W. Harrison. It differs from the Campbell and Holborn models in the following details:—

The lamp stem is carried on a separate tube in the long side of the Cannula, which is cut obliquely at the distal end. This ensures a perfectly clear field, unobstructed by the lamp stem, which is apt, in the other patterns, to become bent and to lie diagonally across the Cannula. The weight of the Urethroscope with No. 24 Cannula and with operating handle and lamp in position, but without the operating instrument, is 2½ ounces only, comparing favourably with the Holborn instrument which similarly fitted, weighs six and three-quarter ounces. Several slightly larger sizes of Cannula can be supplied, and have been found most useful in investigating cases of Vulvo-Vaginitis in little girls.

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KALA-AZAR.

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One of the most interesting diseases of China is kala-azar—an Indian phrase signifying "black fever"—which was only differentiated from malaria at the beginning of the present century. The symptoms and physical signs so closely resemble those produced by the protozoon of this latter disease that Leonard Rogers and Ronald Ross, who are among the most acute observers in the field of tropical research, reported in 1898 that the two diseases were identical, while some years earlier kala-azar had been confused with ankylostomiasis.

However in 1903 Leishman in England and Donovan in India, working independently of one another, reported the discovery of a protozoal parasite in the spleen, differing entirely from that of malaria, which has since been fully demonstrated to be the actual cause of this disease. For some years kala-azar became known as leishmaniasis, which seems to me a very mistaken notion in these days, when so many able workers are concerned in the discovery of every advance in scientific knowledge, and no one man can claim the "patent rights" in even the most infinitesimal of our advances towards truth. In accordance with this custom, the Editor of the Medical Annual adopted in 1924 and 1925 that most irritating habit, which is common to many authors, of putting in the index "kala-azar—see leishmaniasis" when it would be so much easier and save the time of so many workers to merely put the page-number opposite each of the alternative names, but I find that in the Annual for 1926 the index says "kala-azar p. 271" while under the heading of "leishmaniasis" it says "see kala-azar"! so perhaps we are to revert after all to the native name by which the disease has been known in Eastern India for the past sixty or more years.

Fortunately perhaps the literal translation of many disease names is unknown to, or if known does not "jump to the eye" of those of us who daily use these terms—for instance malaria (bad air); beri-beri (Sinhalese for "I cannot," a phrase applied to not a few incapacitating diseases by the natives of Ceylon)—otherwise the term "black fever" might tend to confuse the mind and cause it to picture a case of malignant plague, smallpox or measles, but it must be remembered that the term originated in India, where the native races are pigmented, and the profound anaemia which is one of the most characteristic signs of the disease tends to throw into relief the normal pigment against

that greyish tinge of the skin which marks all forms of advanced anaemia. In this country I have not found more pigmentation of the skin than is associated with chronic malaria.

I arrived in Weihaiwei in December 1924 and in my annual report for 1925 I wrote as follows: "Kala-azar, a disease first identified in 1900 and believed to be conveyed to men from the dog by fleas and bugs, is very prevalent in the district, no less than 100 new cases having presented themselves for the treatment during the year. The aldehyde-blood-serum test was found of value in confirming the diagnosis, and these cases have been treated with success by intravenous injections of antimony tartrate, commencing with a dose of half grain; 438 of these inoculations were given during the year."

As stated by me in the above-cited report written in January 1926, it was then believed that the disease was conveyed to man by fleas and bugs in certain districts (e.g. the Mediterranean basin) if not in all, and especially in those cases occurring among children, but the latest researches published in India in February 1926 have exonerated the bedbug from blame in this matter, and also the louse (another suspect), while the verdict in the case of the flea is the Scottish one of "not proven," and it now seems more than probable that the female sand-fly (Phlebotomus argentipes) is the vector and that man himself is the reservoir.

The sand-fly is a small hairy insect with a short proboscis and fairly long legs and is able to pass through the ordinary cotton mosquito-net which has about 14 meshes to the linear inch, but probably not through the finer qualities of wire netting which have 20 meshes to the inch. It is to be found in cattle-sheds, chicken-pens and dwellings adjacent thereto, but not in horse-stables, and it frequents ground floor rooms only. It is a night feeder and the female fly shows a marked preference for the blood of man and of cattle—the male imago is not known to feed at all; eggs are laid in earth polluted by the droppings of animals or birds, and the larvae feed on ordure and dead insects, warmth and moisture being important factors in their development.

The parasite belongs to the genus Herpetomonas, natural order Protomonadina, and differs from the Trypanosomes by the absence of an undulating membrane and the possession of a single flagellum only; most of this genus are parasitic only to insects. In the human body the parasite invades the endothelial cells of the blood-vessels, especially in the spleen, liver and bone-marrow, and is extremely difficult to find in the peripheral blood—hence the search for an aimal reservoir—but that it does exist there in

appreciable numbers is demonstrated by the fact that 25 per cent. of the sand-flies fed on kala-azar patients become infected with the leishman-donovan body. The full development of the parasite in the body of the sand-fly appears to be dependent on a further feed of blood, the flagellate forms finally migrating to the insect's pharynx, from which they are presumably conveyed to the human host on the occasion of the third feed.

The appearance of the kala-azar patient closely resembles that of the malaria patient, the profound anaemia being the first sign to strike the eye, while a prominent abdomen, due to the enlargement of both spleen and liver, coupled with some emaciation, reveal themselves on a closer examination, and the patient will give a history of afternoon fever usually of some few months' duration. There is a marked reduction in the coagulability of the blood, which renders splenic puncture for the recovery of the parasite a somewhat dangerous procedure, so that the usefulness of the aldehyde-blood-serum test, which is said to depend on the presence of an excess of globulin and can be relied on to give a positive result in more than 80 per cent. of all cases of kala-azar, is apparent.

During 1926 seventy-one new cases were treated at the Civil Hospital, as compared with one hundred in 1925, and they came from practically all over the colony. The leased territory of Weihaiwei is in the province of Shantung and comprises the small Island of Liu-Kung and a belt of land ten miles in width with an indented coast line of about 72 miles, the total area being 285 square miles and the population at the 1921 census was 154,416. The territory has been divided into 26 districts, each district containing from five to thirty very small villages, many of which are in the occupation of one family only, with its collaterals. As the Civil Hospital is in the Port Edward area (No. 1 district) it is but natural that a considerable proportion of the cases should come from that neighbourhood and the following table shows the respective districts of origin of the new cases:—

District	No. 1	22
,,	,, 2	5
,,	,, 3	5
,,	,, 4	3
,,	,, 5	1
,,	,, 6	6
,,	,, 7	2
,,	,, 8	3
,,	,, 9	2
,,	,, 11	3
,,	Nos. 14 & 15	3

„ No. 18	1
„ „ 22	3
„ „ 24	2
„ „ 25	1
Island	1
From outside the territory	8
Total	71

Analyzing the cases from district No. 1 we find that eight came from Chi-chia-tan, four from Port Edward, three from Ho-ching and two each from Ku-chia-tan and Tung-tsang, and one each from Chen-chia-tan, Tung-li-kuang and Pei-kou—this yielding cases from eight villages out of a total of sixteen villages in this district.

The total number of cases treated was 85, the youngest patient being 6 years old and the oldest 55 years; the total number of injections given was 796 as compared with 438 in 1925, which shows that the treatment is appreciated by the patients.

The age distribution of the cases was as follows:—

Under 5 years	0
5-10 „	12
10-15 „	29
15-20 „	12
20-30 „	21
30-40 „	7
Over 40 „	4
Total	85

I do not remember to have seen a case of this disease during my twenty years' work in Hong Kong (1895-1915), but a number of the Chinese police employed in the New Territories of Hong Kong have been recruited during recent years in Weihaiwei and in the Spring of 1926 one of these returned here sick with well marked signs of kala-azar and gave a history of having been treated in the Government Civil Hospital at Hong Kong, so that evidently an opportunity does occur occasionally of seeing an example of this disease.

The criteria which allow one to assume that a case is cured are the continued absence of fever, reduction of the splenic enlargement so that the organ is no longer palpable beyond the

costal arch, and the generally improved health of the patient, but of course the only absolute proof of cure would be a negative result from cultures of the splenic pulp. The maximum curative dose of tartar emetic needed is said to be one drachm per 100 lbs. of body weight, spread over a period of two or three months, and we have given doses of half a grain, increasing slowly to one and a half grains, at each injection. In the case of small children, the treatment may be given intra-muscularly. My colleagues at the Civil Hospital—Dr. McGolrick, who had charge of out-patients during part of 1925 and again since June 1st, 1926, and Dr. Lu, R.M.O.—agree that these patients have derived much benefit from this treatment.

Recent researches into the effects of various preparations of antimony have shown that certain new compounds, such as stibamine glucoside, urea stibamine and stibosan (Heyden 471) will produce an abatement of the symptoms in a shorter time than the oxytartrate of antimony and potassium (tartar emetic), but in the treatment of large numbers of patients economy is often as important a consideration as rapidity of cure, and as the number of cases treated in one district in India alone (the Assam valley) totalled 80,000 in the five years 1920-24, it is surely better to continue the campaign along those lines which have already proved effective even though tedious, than to have the whole work held up for lack of funds, owing to the prohibitive cost of the very latest refinements of the curative drug.

NEGRI BODIES AND RABIES.

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Negri bodies were first described by Negri[1] of Pavia in 1903. and were demonstrated as present in the Hyppocampus major of the dog's brain: Stained with Haematoxylin and Eosin they show up as round pink coloured areas present in the cytoplasm of the large nerve cells which is stained blue. In cases of rabid animals infected with the street virus they assume amoeboid forms, which may vary from 18 to 25 u in size, but in tissues of animals suffering from the fixed virus it is very difficult or impossible to detect them. Stitt [2] however states they may be detected as small bodies 0.5 u or less in size.

Various rapid staining methods have been tried in this Colony to demonstrate the presence of negri bodies in fresh brain squash or brain smear preparations but so far without success, although Schandism and Hoffmann claim to have been successful with Giemsa's Azur-eosin-stain. So far we have only been successful when the brain tissue has been mounted in paraffin and in sections cut and stained in the ordinary way. To be able to give a positive diagnosis of negri bodies within a few hours instead of several days would be a great saving of valuable time in treatment.

The bodies are present four to seven days before the onset of symptoms and have been given the name of Neurorrhyotes hydrophobiae by Calkins, they have been found in 98 per cent. of cases of street rabies in dogs examined by many observers in many parts of the world, they are also found in natural rabies in other animals and are usually present in human cases.

It is doubtful if negri bodies have ever been demonstrated as present in the saliva or salivary glands of a rabid animal but the saliva of a rabid animal injected into another, will transmit rabies, and D'Anney[3] injected saliva from a rabbit which had been inoculated with 500 minimum infective doses of fixed virus which showed pronounced symptoms and ultimately recovered. The saliva was drawn off from the rabbit on the sixteenth day, when improvement began, and injected into two other rabbits. These developed rabies, the diagnosis being confirmed by the presence of negri bodies and by further animal experiments, but saliva drawn off on the fourtieth day proved not infective. It is remarkable to note that the animal which recovered as above was subsequently proved to be immune against 1,000 minimum

infective doses of fixed virus subdurally, although the control animals died. This points to the possibility of protecting animals against rabies by prophylactic vaccination, and Eichern and Lyon[4] give an account of the method employed by Umene and Dol (originally published in the Kitasato Archievis of Experimental Medicine) which is said to have resulted in a 75 per cent. reduction in the number of cases of rabies, the disease occurring only in dogs that were not immunised.

The negri test is only of value if positive, and Acton and Knowles [5] state that it is not the parasite of Rabies and its occurrence in the ganglion cells of the brain is met with in other diseases as it is a structure produced by the degeneration of the Nucleii of nerve cells nevertheless if negri bodies are present, and fairly numerous, diagnosis of Rabies can be made with certainty,[6] as in no other condition can negri bodies found on microscopic examination in such large definite numbers, but a negative report does not necessarily exclude rabies.

That negri bodies are not the actual causes of rabies itself is borne out by the fact that if an emulsion of infective material (brain) be filtered through a Berkefeld or Chamberland filter, the filtrate is also infective. Whatever the nature of the virus of the rabies is, it is no mere toxin, but there is evidence that it is the organism itself that is a filter passer or ultra microscopic body, as when an animal dies from injection with the filtrate, a small portion of its central nervous system will originate the disease in a fresh animal. The resistances of the virus to external agencies varies, it remains active in the central nervous system until destroyed by putrifaction, it can resist the prolonged action of a temperature of from -10°c to -20°c but on the other hand it is rendered non-virulent by one hour's exposure at 50°c. Its nature varies with the animal infected, being most virulent in the case of wolves, also with the number, depth, and position of the bites inflicted. Its potency can be altered and reduced by artificial means such as, drying, heating and applying chemical agents. Attempts have been made to make cultures from the hydrophobia virus, but no convincing results have been obtained.

Negri himself looked upon them as protozoa, and such authorities as Galzi state that they do not correspond to any cellular degeneration. Prowazek using the highest microscopic powers, observed minute bodies in infective exudates and of sufficient minuteness to pass through a filter, which are looked upon as the actual infecting agents, as entering the cells for which they have an affinity, they give rise to a reaction which causes the protoplasm to form a mantle or shell round them, within this mantle the parasite multiplies to produce such appearances as negri bodies the Klein Innuninklionen of Negri [7].

The active form in which the virus exists in the saliva is a body of very small dimensions as not only can it pass through the ordinary bacteriological filters but Levaditi and Nicolan [8] claim that it can pass through a collodion sac, it certainly appears to be in some way related to the negri body some writers describe the body as a degeneration brought about by the action of the virus others as definite phase in the life cycle of the germ of rabies. There can be no doubt that the degree of correlation between the presence of negri bodies on the one hand and rabies on the other is sufficient for diagnostic purposes. Levaditi [9] and his co-workers describe the negri body as the hyaline substance which forms a capsule round a colony or phage each of which is an aggregate of microsperidium spores. The absence of the negri bodies in fixed virus rabies may be accounted for by the fact that the rate of multiplication of ultra microscopic forms is so rapid that the animal dies before cystic forms can develop.

Attempts to produce negri bodies by subpassing fixed virus through brains of monkeys have failed [10] Manonolion and Viala [11] consider that negri bodies are due to the degeneration and agglutination into masses of intracellular forms.

My own personal experience is that I have never detected negri bodies except in dogs which the Colonial Veterinary Surgeon has already diagnosed as suffering from rabies but we have a large number of dogs' brains to examine in suspected cases, these are invariably negative. In one case the brain reached the institute in a very decomposed condition and although the dog was undoubtedly suffering from rabies when killed we could not detect negri bodies in a large number of specimens examined. this should be kept in mind by Veterinary Surgeons or medical Practitioners who send dog's heads or brains for examination I have found the best way is to cut off the dog's head and send the whole head to the Institute in a solution of 10 per cent. Formalin. this is important. as a negative report may be misleading, and lead to a neglect to institute treatment of the person bitten by an animal supposed to be suffering from Rabies. No reliance can be placed upon the examination of the brain unless it results in a positive finding of negri bodies. Most Veterinary Surgeons rightly place much more reliance on the symptoms shown by the animal and the keeping of the animal under close observation for ten to fourteen days. Finally it must be borne in mind that in some cases the rabid animal dies before the negri bodies have had time to form.

We had one death from Hydrophobia in the Government Civil Hospital recently, resulting from the bite of a dog showing negri bodies as present in its brain, but unfortunately I was unable to obtain a specimen of the patient's brain for examination.

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A NEW ERA IN THE TREATMENT OF CHOLERA.

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This disease, which has a name of Greek origin indicating absence of **Bile** from the stools, is in itself not strictly scientifically correct. Bile is sometimes present.

It may be defined as an acute infectious, epidemic disease, characterised by profuse purging and vomiting of a colourless serous material (absence of bile), by muscular cramps, suppression of urine, algidity and collapse, the presence of a specific "curved bacillus" in the intestine, and by a high mortality.

Since the days of the Ancients, cholera has been endemic in Lower Bengal, and at various periods has become epidemic in India. In 1817 it began to extend all over Asia, eastward as far as Peking and Japan, southwards to Mauritius, and westwards to Syria and the eastern shore of Caspian. About the year 1895 it ceased to progress beyond Astrakan. Europe was first invaded by Cholera in 1830 and since that time about five epidemics there have been recorded, namely 1848-51, 1851-1855, 1865-1874, 1884-1886, 1892-1895.

Great Britain was spared during the serious epidemic of 1870 to 1873 but it crossed the Atlantic, and entering by way of Jamaica and New Orleans, raged for a time in the United States of America. There were three main portals of entry.

i. via Afghanistan, Persia, the Caspian Sea, and the Volga Valley.
ii. via the Persian Gulf, Syria, Asia Minor, Turkey in Europe, and the Mediterranean.
iii. via the Red Sea, Egypt and the Mediterranean.

The great point to note is that this disease follows the routes of human intercourse, and is conveyed chiefly by man, from place to place. Examples of this are shown by the Hurdwar and Mecca Pilgrimages, where cholera is carried by the devotees to these various homes, infecting the people of places they pass through on their journey. Isolated countries, such as the Andaman Islands, Australia, New Zealand, and the Pacific Islands, etc., escape.

Cholera in the main is a water-borne disease, the bacillus of Koch, entering by the mouth and stomach, etc. It is of course carried by milk, and is also very active in the excreta of infected individuals.

The next question arises as to whether the common bacillus of Koch is the germ of cholera! Until recently many authorities questioned this, but now it is acknowledged by all as definitely the organism which produces this disease. Space does not allow of details explaining how these conclusions were arrived at, but the history of the bacteriology of Cholera which I now give in brief will assist one in seeing how this statement was proved.

In 1883 Koch discovered the "Comma bacillus" and in 1884 communicated his findings to the Cholera Conference, Berlin. Dr. Orgel of Hamburg, in 1884 proved the relationship of the organism to the disease, and incidentally died, whilst investigating the disease of Cholera, through contamination of his mouth during experiments with the Koch's Cholera Vibrio. R. Pfeiffer found the dead bacillus to be highly toxic, and that the toxins were **endo** toxins, i.e., contained in the bodies of the organism. Most were destroyed by exposure to a temperature of 60°c. Petri, Ransom, Klei, and others found toxic bodies in the filtered cultures. Mitchikoff, Roux, Taurelli-Salinbein, demonstrated the formation of such diffusible toxic bodies in the fluid media. Huntemuller obtained various strains of acutely acting **exotoxins** (extra-cellular toxins), very labile, and apparently identical with the haemolysin. The Pfeiffer reaction in the peritoneum of the guinea-pig was then discovered. Macfaden injecting **endo** toxin derived from grinding the spirilla obtained a serum which had anti-toxic as well as agglutinative and bacteriolytic properties. Greig found serum of cholera convalescents had increased the bacteriocidal action, and possessed protective properties. (agglutination 1:400 and even 1:1000). Haffkine introduced his anti-cholera inoculation in India in 1884, and later in Russia.

MORPHOLOGICAL SIMILARITIES are found in the following bacilli: —

1. El Tor Vibrio.
2. Paracholera bacillus.
3. Vibrio Metchnikovi.
4. Finkler and Priors Spirillum.
5. Miller's spirillum.
6. Deneke's Spirillum (Spirillum tyrogenum).

The morphological importance in diagnosis will be seen by the fact that in the Hamburg epidemic 50% **of the cases were diagnosed on microscopical examination alone.**

The laboratory diagnostic methods are as follow:—

Ottolenghi introduced a medium composed of ox-bile to which 3 per cent. of a 10 per cent. solution of Sodium Carbonate is added, then sterilized in the autoclave. The germ is inoculated and then incubated for 8 hours, and then examined.

Dunbar introduced a method for rapid diagnosis which depends on the properties of the anti-cholera serum. Two hang-drop preparations each consisting of a small portion of mucous obtained from a suspected stool broken up by peptone solution. To the first, a drop of a fifty fold dilution of normal serum is added; and to the second a drop of a five hundred fold dilution of an active cholera serum is added. If the spirilla are cholera organisms, they retain their motility in the first, whilst in the second they do not only lose their motility, but actually agglutinate.

Vibrio of cholera **stain** Gram negative and are best stained by Lofflers methylene blue, or weak carbol fuchsin.

Cultural methods are of great importance, and those employed by me in Canton, were: Peptone gelatine media, blood agar, and potatoe. (there are of course many others).

PEPTONE GELATINE media: puncture cultivation was employed, and a white line was produced along the needle tract. The upper portion soon liquified, and later a small basin-shaped depression formed at the upper part.

Surface inoculation on **gelatin** slope was also employed, and a granular appearance was more or less present. Signs of liquifantion soon were made evident in the centre.

In two cases BLOOD AGAR was used, and a transparent culture like a "glacier" was produced in 36 hours.

The "cholera red" reaction was carried out in one case (pure H2S04 added to a culture in BOUILLON, incubated at 37 C for 24 hours).

AGGLUTINATION against anti-cholera serum of HIGH titre: if the reaction is positive there are cholera organisms present: if negative the organisms are probably what are known as PARACHOLERA vibrio. (those will be mentioned later).

Growing suspected organisms in bouillon with a small amount of anti-cholera serum is another method. If the "comma oacillus" of Koch is present, the organisms in organic growth will fall to the bottom as a sediment.

HANG-DROP preparations were made in three of the cases using diluted (watery) gentian violet solution, and "wriggling" movements were noticed, in one specimen these being very brisk.

To show the difficulty in diagnosing true cholera, let us look for a moment at the following organisms having similar morphological characteristics to the Koch's vibrio.

EL TOR VIBRIO. Golschlich in 1905 found six different strains of this spirillum which conformed in all respects to the cholera vibrio.

Kraus, comparing the anti-serum of the El Tor vibrio with the cholera vibrio, found that the anti-bactericidal properties were similar, but that they had a difference in anti-toxic actions. El Tor anti-toxin neutralises the cholera toxin, but the cholera anti-toxin has no effect on the El Tor toxin.

PARACHOLERA vibrio. The clinical symptoms are milder than those of true cholera, and fatal results are rare. Carriers have been found. These vibrio are markedly haemolytic when tested both on blood agar, and with suspensions of red corpuscles. They differ serologically from the cholera vibrio, in the fact that they are not agglutinated by an anti-cholera serum and they react negatively in Pfeiffer's reaction.

Mackie also stated that they also differ serologically among themselves.

VIBRIO METCHNIKOVI: Gamalia obtained these vibrio from an epidemic disease of fouls in Odessa. They closely resemble cholera vibrio. Subcutaneous inoculation on animals with pure cultures of these organisms produces fatal septicaemia in 24 hours. Inoculation of the same amount of cholera vibrio produces NO result. Pfeiffer's test is negative.

FINKLER & PRIORS SPIRILLUM: In cholera nostros after several days' decomposition of the dead body, this spirillum is often found. It tends to be rather thicker morphologically than the Koch's Cholera Vibrios, and there is a marked difference in the cultures, the germ growing much more rapidly in gelatine.

MILLER cultured a SPIRILLUM from a decayed tooth in a human subject identical with the Finkler & Prior Spirillum.

DENEKE'S SPIRILLUM (spirillum tyrogenum) which is found in old cheese closely resembles the cholera vibrio, but is rather thinner and smaller morphologically.

Like Finkler & Prior's spirillum it is very rapid in liqualifying the gelatine media. The growth is distinctly yellowish and not whitish.

Pathology in Brief.

In fatal cases the organs are dried and shrivelled up and the blood is often almost solid in character. For further details a text-book of Pathology such as Adami and McCrae's should be consulted.

Clinically there are three **types of Cholera.**

1. **AMBULATORY** in which the symptoms are:—

Ordinary diarrhoea with malaise (tired feeling), depression of spirit and perhaps noises in the ears.

(Koch's comma bacillus is present in the faeces.

2. **CHOLERA SICCA** in which the symptoms are:—

No diarrhoea.
No. Vomitting.
Anuria.
Muscular cramps.
Collapse.

(This is usually fatal, unless treated immediately, as mentioned later in my text).

3. **HYPERPYREXIAL CHOLERA.**

Temperature above 105°F. Under the armpit the temperature is 107°F. In the rectum the temperature is 109°F.

The symptoms are usually not so marked as in the other two types where the temperature is usually normal 98.4°F and 37°C) or sub-normal.

The common type of Asiatic Cholera seems to be an acute form of the first type.

The incubation period (i.e. the time it takes for the germ to develop in the body and produce the characteristic symptoms) is usually 3 to 6 days, although it may be anything from a few hours to ten days from the time of contact with an infected person, faeces, or water.

The symptoms may be summarised and classified as follows:—

i. Ordinary diarrhoea with malaise, depression of spirits and noises in the ears.

ii. Sudden onset with profuse stools with OR WITHOUT griping, and watery stools with material similar to softened small corn flakes. They may also be frothy.

Vomiting usually occurs about one hour later.

Several cramps may be either abdominal, or in the extremities (arms and legs): the affected muscles may stand out in contraction.

Collapse may occur as soon as two hours after the onset of symptoms in **untreated cases.**

Prevention: Eat and drink nothing that has not been recently cooked, boiled or otherwise sterilised.

DO NOT CONSUME:—

1. Fruits, vegetables, salads, melon, cucumbers, ete, which have not been cooked or otherwise sterilised.
2. Food on which flies has settled.
3. Milk or cream which has not been sterilised for fifteen minutes.
4. Ice-cream, unless made from boiled materials under personal supervvision.
5. Water which has not been boiled or filtered in a germ-proof Pasteur-Chamberland filter, the candle of which should be boiled regularly once a week.

   Owing to the uncertainty of the germ free state of the vessels used at the table, all water, even if previous ly sterilised, should have just enough Condy's Fluid as to **only just** colour the water a light pink. Five minutes later the water is safe for drinking purposes.
6. Only the best reliable aerated waters should be used.
7. Shell-fish to be avoided.

Fruits, tomatoes, etc., except melons, and cucumbers, CAN BE STERILISED so that they can be safely eaten raw, and without spoiling the flavour, by dipping for AT LEAST TEN SECONDS in BRISKLY boiling water.

Treatment: If one argues that a case is not cholera because bile is still present in the stools or because ALL the main bacteriological tests are not present; it might be just as fallaceous to argue that a case was not tuberculous because the tubercule bacillus was not found in the sputum, etc. It is obvious that COMMON SENSE (which is very uncommon nowadays) should be used as well as highly scientific procedure.

For two centuries the natives of India have used a mixture known as "Cholera drops" and this had for many years fallen into disuse.

In the early nineties Oil of Cajeput alone was used with very good results and Colonel Freeman, R.A.M.C., testifies to this. However, nothing more was mentioned of this until about three years ago Dr. J. W. Tomb, M.O.H., to the Asansol Mining District, Bengal, introduced the following mixture which is a modification of the old "Cholera Drops."

R	Spirit Aetheris	m xxx
	Oleum Caryophylli	m v
	Oleum Cajuputi	m v
	Oleum Juniperi	m v
	Acidum Sulphuricum Aromat	m xv

One drachm, in half an ounce of water every half hour in cholera cases until the symptoms are relieved.

One drachm, in half an ounce of water daily as an excellent preventative.

Owing to the nasty taste Dr. Tomb then omitted the Oleum Caryophylli and replaced it by Oleum Anisi. and by request wrote an article in the Lancet in October, 1926. We have corresponded on this point and now Dr. Tomb has reverted to the original prescription which is given above.

The efficacy of this treatment is now beyond all dispute.

The records of the thousands of cases in India and of the few in China, which have responded quickly to this treatment speaks for itself.

Tomb says: "This mixture should be given immediately, when practicable, but it is claimed that 95 per cent. of cases recovery will be secured within a period of seven hours from the onset of symptoms. No special care need be paid to the subsequent dieting of the case. Vomiting, purging, and intestinal pains, appear to be immediately controlled by this mixture. As little supervision is requisite, the value of this method in mass treatment of natives is obvious."

Manson-Bahr and others state that the cholera vibrio may be found in the stools for as long as 44 days after the patient has commenced convalescence. Bacteriological examination (as detailed previously) so far show that after treatment with Tomb's Mixture, the vibrio apparently ceased to exist from a

period of six to twelve hours after treatment had commenced, with one exception of a Naval Officer who was seen by me for the first time in the algid stage, and almost "non est," when Tomb's mixture (only) was given half hourly in sips and within fourteen hours the patient began to feel quite himself again. The Surgeon Captain of the Hong Kong base reports in this case the presence of the vibrio in the stool up to the fourteenth day. Probably if this patient had had further treatment with Tomb's Mixture this may have been cut down considerably, if not to the twelve hour limit. Should it be found that with effective treatment the period of infection from the stools is cut down in every case, this is a matter of considerable importance, especially from a shipping point of view, as the ship need not be kept in quarantine for more than twelve hours, as every case on board (passengers and crew) could be treated as potential cholera cases and given a dose of the mixture every half hour for eight doses, (which has been found sufficient to cure a case of cholera).

One case of Typhoid fever which came under my care in an uninoculated person, shewing positive Widal reaction (shewing that the case must have been in progress about a week when first I was consulted) and a positive Russo's test (methyline blue 1 per cent. turns a vivid green on adding an equal quantity of urine: normally no change in colour takes place). Treated with the Essential Oil Mixture the case showed negative results within twenty hours, with marked improvement in the patient.

The only cases of cholera which occurred here, were those who had not taken the Mixture once daily as a preventative. Most of the cases although when first seen had marked choleric symptoms with the typical "rice water" stools, and on bacteriological examination (methods mentioned before) which is some cases was confirmed by Surgeon-Commander Buddle of the Royal Navy, the cholera vibrio were found to be present in large numbers, in every case. Only one case died, and he refused treatment until it was too late. All other cases recovered in from seven to twenty-four hours of commencing treatment, those recovering in seven hours had immediately resorted to treatment by the Essential Oils (no other treatment being given), and those who took longer to recover had awaited until their symptoms were so marked, that treatment had to be strictly enforced (and anyone who has tasted this mixture can understand this). As a matter of interest I append a few brief statistical outlined cases:—

A.G. aged 35. No. 1538—violent cramps, vomiting, and rice water stools. Micro. Exam. cholera vibrio present. Tombs Treatment given within two hours of commencement of symptoms. Six hours later no vibrio.

J.W.L. aged 32. 1545. M. symptoms as 1538 but no vomiting. Cholera vibrio present. Tomb treatment given within five hours of onset of symptoms. Ten hours later no vibrio.

Lieut. B. R.N. aged 26, 1546, symptoms as 1538. Opiates had been tried by his doctor first, but when he collapsed Tomb's treatment given. After eight doses at half hour intervals the patient began "to feel himself again." Although both the Surgeon Commander and I had confirmed the diagnosis by microscope, etc., when the patient was examined at the Naval Hospital on arrival in Hong Kong, eleven hours later, no vibrio were found. However they appeared in this case about a week later and did not disappear until the fifteenth day.

M.B. aged 26 F. 1547, symptoms as 1538 and also marked tenderness over McBurney's Point. Tomb treatment given when the case was brought before my notice thirty hours later after the symptoms had commenced and the patient was in a very weak condition, and passing stools every minute or so. Within twenty-four hours the patient was convalescing and no vibrio were found in the stools.

Chinese coolie aged 48 1548, typical symptoms as above occurred at 4 p.m. when Tomb treatment was given, and at nine o'clock, the same evening the patient went home, the stool exam. being negative.

Customs Officer W. aged 32 Honan. 1551., symptoms as 1538. Nine hours after, no vibro.

F.H.B. Commissioner, 1554, symptoms as 1538 only without any marked cramps occurred at 3.30 a.m. cholera vibrio in stools in excess. Tomb treatment given at once. At 6.30 a.m. the patient felt that he "had taken a turn for the better" and was up, the next morning by 10 a.m. Stools examined and found negative. At 2 p.m. the same day the Commissioner resumed work, although feeling rather weak.

N.D. nurse 1555, symptoms commenced with marked vomiting, then diarrhoea which rapidly took on the appearance of "rice water" stools. Pains around the umbilicus were marked and the patient was so certain that she was dying that she didn't want anyone to come near her and take risks. Tomb treatment was given and before sunrise the next morning the patient was well on the way to recovery. Within twenty hours the stools were negative.

I have found astounding results with this Mixture in so called "food poisoning," with speedy recovery.

Personally I believe the secret of the treatment lies in the Carbolic acid contained in the oil of cloves which is present in the Tomb Mixture. There is reason to believe that this treatment saved both Shameen and Canton from a severe epidemic of CHOLERA.

Bear in mind that in cases where an **acute gastro-entero-colitis** has already been well established, a full dose may be vomited and a second dose required immediately. This was largely obviated in my own experience by halving the dose and also halving the interval between doses, i.e. half of drachm in two drachms of water every ¼ hour (instead of one drachm in half ounce of water every ½ hour).

It will be extremely interesting to learn of the success which others will have in using this mixture, which has already proved its worth in India. There are many possibilities such as the action of the oil of cloves on gastric ulcer in the early stages.

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THE STUDENT AND RADIOLOGY.

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The whole question of specialization in medicine as it affects the student and the newly qualified graduate has for some years past received much but probably insufficient attention.

It is not my purpose to generalize but rather to consider the general question through the particular instance of Radiology. The form of reasoning which I am employing will, I believe, apply to the majority of specialized studies.

It becomes yearly more obvious that the average student—and the adjective "average" is used in no derogatory sense—cannot hope at the end of five or six years to have a complete knowledge—quite apart from practical experience—of the vast and ever increasing number of subjects which he is compelled to study during his student years. At best he can hope to have certain basal facts and principles clearly defined in his mind from which to elaborate along the path or paths which his desires or circumstances demand particular knowledge and, with experience, skill.

As with all definitions—even those of lawyers—the humble suggestion which I have propounded as the student's guide requires careful consideration and subdivision.

Very broadly I hold that it suffices for those who desire to work upon subjects in which the variable human factor can be reduced to its smallest value.

The pathologist decides that a tissue shows malignant changes with little reference to the general condition of the patient.

The public health authority formulates rules which consider mankind en masse.

Some other branches of medicine may be equally exclusive but most certainly the radiologist cannot or should not claim this immunity.

The approach to his abiding place lies through that harsh and misunderstood country—general practice.

In the past the General Practitioner received his due honour but specialization advanced and until quite recently it had almost been forgotten that the G.P. is the foundation of the profession and its real glory.

It must, of course, be understood that by G.P. is not meant the gentleman who, from the time he obtains the qualification which enables him to sign a death certificate, commences his great life task of diagnosing Phthisis because the pathologist reports the presence of the Tubercle Bacillus and Typhoid fever because the Widal (what ever that may be) is positive.

That honourable title cannot justly be claimed by the practitioner whose happy belief it is that all fractures both great and small can alone be diagnosed by the radiologist.

The "chill on the liver, bicarbonate of soda and proprietary preparation" specialist is not a G.P. but . . . he may "do well."

In order that I may make my meaning plain I will assume that a newly qualified graduate determines that his road to glory is Radiology.

We will also assume that he undertakes the necessary technical studies and eventually buys an outfit.

He commences to "take pictures"—that lothsome phrase.

His first patient is suffering from an injury to the arm.

He makes a radiogram—a photographically excellent radiogram—and he is satisfied.

If he passes this to a competent surgeon who is also a competent radiologist in all but the technique of "picture-making" the patient will also be satisfied. Our radiologist has actually functioned as a radiographer.

He has accomplished exactly what any intelligent layman can do by means of six or twelve months' careful training.

What he—if he be a radiologist—should be able to do is in the first place so to handle and examine the affected limb that he may obtain the most instructive demonstration of the potential lesion and at the same time cause no further injury to the patient.

Having discovered as far as radiography may avail the nature of the injury his surgical knowledge should lead him to

make any further examinations which may help in diagnosis and treatment.

In his report he should be able to point out not only the lesion, but many other details which, though of no diagnostic value, may have the most serious bearing on treatment and prognosis.

To state that a Colles fracture is present but to omit the fact that marked atrophy of bone is also present is to mislead the surgeon. Nevertheless the radiologist lacking general experience will omit this as unimportant and feel no guilt when the surgeon in attempting reduction causes a further fracture.

This example is, of course, the most simple it is possible to give but when more complicated diagnoses are undertaken (e.g. pulmonary or intestinal disease) a "pure" radiographic diagnosis is fraught with the gravest danger.

Very much discredit was thrown upon radiography during part of the late war on account of the great frequency and almost equally great inaccuracy of the radiographic diagnosis of Pulmonary Tuberculosis.

The terms peribronchial and hilus tuberculosis were applied to the bronchial markings and calcified hilus glands seen in the radiograms of almost every patient's chest.

It is reasonably certain that the average radiologist with a sound and extensive general experience to guide him would have been so amazed by a widespread involement of lung tissue in many individuals who showed little if any other evidence of Tuberculosis that he would have refused to make such a serious diagnosis until careful research had been undertaken.

The possession of that common sense knowledge of humanity which general practice usually ensures for a practitioner saved a well-known English radiologist from a serious error.

A patient was sent to him for examination and a tentative diagnosis of carcinoma gastri had already been made.

An opaque meal revealed what was apparently a well-marked filling defect—an almost certain sign of cancer.

The usual dietetic instructions had been given but this specialist knew men as well machines and with a little deft questioning (including some invaluable "bluff") elicited the

shame-faced admission that two well-poached eggs and toast had been added to the cup of beef tea which should have formed the morning meal—hence the "filling defect."

"What utterly trivial nonsense," says the bright young graduate.

Possible that is so but it prevented a wrong diagnosis, a serious and unnecessary operation and—quite incidentally, loss of radiological prestige.

So much for the G.P. who becomes a radiologist but there still remains the knowledge which the G.P. should have who is not a specialist in this art.

One finds by painful (sometimes joyous) experience that there are three well-defined classes of practitioners who ask respectively for:—

(a) a "picture" .....they will do the rest ..... "May be" as it is intensively said in the land of the Coolidge Tube.
(b) a diagnosis, prognosis, all details of treatment and the undertaking of all responsibility for results. One sometimes quietly wonders why this "doctor"—the term "practitioner" seems inapplicable—does not also ask the radiologist to carry out the treatment.
(c) a diagnosis and any further information **from time to time** that we can and should reasonably be expected to supply.

In fact he justly demands an harmonious union of forces for the help of the patient and the advancement of medical science.

This type of man is usually not only heard from but seen and welcomed in the X-ray room.

In order, however, that the last mentioned type of practitioner may make the most of this partnership I believe that he must have a very fair knowledge of radiogram and screen findings.

There are two main points as it appears to me on which he must concentrate.

(1) That radiography is essentially a simple but truly important form of pathology.

In order to recognize disease one must be intimately acquainted with health.

The histology of the normal precedes the examination of diseased tissue in the ordinary curriculum and in Radiology the examination of innumerable radiograms and screening of the normal is the first essential.

These must be studied with a sound knowledge of anatomy and the abnormalities such as unusual sesamoids, extra ossicles and other developmental irregularities must ever be present in the mind. It is the present day student's misfortune that his experience is derived almost entirely from radiograms of the abnormal.

This is unfair to the student and is in process of being changed.

When pathological changes are present the student must have recourse to his pathological teaching but he must remember that radiology demonstrates the results of pathological changes rather than the aetiological agent.

For example histological knowledge of the structure of an endosteal sarcoma will not greatly help in radiographic diagnosis but acquaintance with the common sites of such growths and their effects upon neighbouring tissues will commonly elucidate most difficult problems.

It is hardly necessary to stress the value of knowing what a pathological process actually does as opposed to what it may intrinsically be.

An X-ray examination will rarely give exact information as to the structure of some complex growth but it will tell what affect it is having on the tissues and whether it appears to be malignant or benign. An operation for the removal of part of a growth for pathological examination does not accomplish much more than this.

(2) That provided he does not propose to make radiograms or screen examinations it is quite unnecessary for him to know anything whatever about the causation and effects of X' radiation.

Voltage, milliamperage, and Ängstrom units and so forth are highly interesting things but they do not help in the least degree when the "picture" is taken or the screen has ceased to flouresce.

In conclusion I wish to mention that radiotherapy has not been included in this brief review because while I consider general

experience as of the greatest value in its application it must also be admitted that a very great knowledge of electro-physics is also essential.

So much is this true that in the important clinics therapy is usually controlled by a physician and a physicist and indeed in Germany the physicist is the more important of the two.

THE AUTOPSY—ITS PLACE IN MEDICINE.*

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Sir William Osler, in one of his addresses counselled his hearers as follows: "In this dry period he (the young physician) should see autopsies daily, if possible. Successful knowledge of the infinite variations of disease can only be obtained by a prolonged study of morbid anatomy. While of special value in training the physician in diagnosis, it also enables him to correct his mistakes, and if he reads its lessons aright, it may serve to keep him humble." This piece of advice I pass on to you for your consideration.

"There are innumerable roads on all sides to the grave" (Cicero) and for countless eons man has sought to solve the riddle of death. Cold philosophy shed a glimmer of light on his path, religeon in its various guises illumined his sad heart, but neither availed to lift the heavy pall of mist beyond; and from generation to generation, dogma and superstition, fantasy and speculation gripped his heart when he looked and beheld the pale horse whose rider's name was death. But in the fullness of time, long expected, long delayed, at last Science emptied upon him from the horn of Amalthea blessings which cannot be enumerated. Then, suddenly the heavy clouds of uncertainty parted and even like a prophet of old Morgagani appeared. He smote the rock and the waters of progress gushed forth. In 1761, he published his monumental work on "The Seats and Causes of Disease Investigated By Anatomy," and it is only since then that postmortem examination has been made in a thorough manner on a large scale. But it is more recent still before it became established as an invaluable method for the study of disease and injury, for the control of diagnosis and treatment.

The new era had begun and those who were awake saw signs of the dawn. The spirit of Science was brooding on the waters. The researches of Morgagni had, as Virchow remarked, introduced anatomical thinking into medicine. Observation began to be substituted for speculation and the relation of structural changes to the clinical phenomena were being slowly brought to light. And there was great rejoicing in the Land of Science for unto them Morbid Anatomy was born; and she grew up with a wise and understanding heart so that there was none like her before her; and when scientists from many lands heard of the

* Read before the Hong Kong University Medical Society on 8th March, 1927.

fame concerning the name of Morbid Anatomy they came unto her saying: "Open thou our eyes, that we may behold wondrous things, more wondrous than the shining worlds can tell." Thus did she become the guiding spirit of investigation and practice of medicine, increasing vastly the knowledge and understanding of pathological processes, aiding directly the identification of diseases.

Then like one inspired came Harvey. He brought a message he desired to tell. He desired "to relate from the many dissections of persons, diseased, worn out by serious and strange affections, how and in what way the internal organs were changed in their situation, size, structure, figure, consistency, and other sensible qualities from their natural forms and appearances and in what various and remarkable ways they were affected." With soul-winning patience and the earnestness of an intrepid cavalier Harvey had wooed Morbid Anatomy. He wrestled on and on, for in persistency lies victory; and with the morning came the wished-for blessing. He found the trail and blazed it; the gold mine of the post-mortem room was discovered, rich with huge nuggets of facts of great value.

From thence onwards there was no looking back. The autopsy as a means of investigation, of education, as a public service came to the fore front and to-day it serves as a criterion of hospital efficiency, of diagnostic skill, of therapeutic efficacy. Through it structural characteristics of diseases, injuries and anomalies are explained; new methods of observations introduced; and valuable contributions to medical science made. It was during an autopsy that Opie found a gall stone impacted in the ampulla of Vater. In this particular case the pancreatic duct joined a little above the usual position. There was fat necrosis in the pancreas. The cause of this condition had up to then been a mystery and a puzzle. The thought occurred to him that possibly bile had found its way into the pancreatic duct and the escape of the lipolytic enzymes into the tissues was responsible for the condition. With an enthusiasm which is the fever of reason, the intoxication of earnestness, he spent the following night on research on dogs. By the next morning the proof had been secured, the puzzle solved, the mystery explained.

The progress of medicine from the dark days of empiricalism and superstition to the experimental methods and rationalism of to-day is punctuated, with miles-stones of such achievements as these. Chapters even more interesting, more entrancing than the Arabian Nights fill the Golden Book of medical triumphs. That is why a post-mortem examination should be performed whenever possible or feasible. It is an essential part of the scientific investigation of all fatal cases of disease. We recognise

to-day the limitations of our art, our clinical methods; and by these means alone we cannot know all there is to be known about our patients. It will be wise for us to remember constantly that disease is not a thing but a process. It is rather an abnormal activity of certain of the physiological functions of the body in response to an injury. It is those agencies and conditions to which the body has not adapted itself, which, swaying its normal capacities now one way and now another, induce functional aberrations and structural alterations by which disease is manifested. These changes which make up the lesions and signs and produce the symptoms of disease, however, cannot involve the expression of new functional capacities which the normal body does not possess. These may be diminished or exalted; they may be perverted or abolished; or the cells may now and then revert to forms and to phases of activity which the body has long since out-grown or largely suppressed in its slow adaptation to conditions of life which now constitute the normal. Clinical methods with all the wonderful assistance from the laboratory and the x-ray room have reached a very high standard indeed. But it is not much to say that however accurate your diagnosis may be, however simple and commonplace the condition may be, some additional light will be thrown upon the case at the post-mortem examination. No ante-mortem methods have yet been devised which will permit us to acquire a complete and accurate knowledge of the nature, extent, distribution and complications of a morbid condition. In a very considerable number of instances, conditions quite unexpected during life will be found, and, in a few, the diagnosis of the clinician will be entirely upset by the pathologists' investigations. Furthermore a post-mortem should be as complete as possible and should be followed by microscopic, and if necessary, bacteriological examination of the diseased organs and tissues. It frequently happens that the pathologists view of a case obtained by naked-eye examination alone is greatly altered by the subsequent microscopic or bacteriological investigation. I give here some instances where microscopic examination was instrumental in bringing about a clearer understanding of a lesion. There was a stricture of the small intestines which from the clinical history as well as from the gross appearances was diagnosed at autopsy as being malignant. Microscopic examination revealed its tuberculous nature. In another case, the only post-mortem finding was haemorrhagic infiltration of the mediastinal tissues and the true nature of the condition was only found after a bacteriological cultivation when a pure culture of b. Anthracis was obtained. When I was at the Mayo Clinic, Dr. Mills, one of the pathologists there, showed me some remarkable lantern slides and micro-sections of lung tissues swarming with amoebae. With the curiosity bred of attention and interest he had taken a loopful of some purulent material in the pleural cavity of case

that died of mediastinal malignant disease. I leave you to imagine his surprise and gratification at the sight of crowds of amoebae moving about under the microscope. Quite a lot has been written lately about pulmonary osteo-arthropathy and the temptation to believe that Dr. Mills is near the solution of another pathological puzzle is very great indeed.

There is no need for me to multiply instances of this nature. The autopsy brings before you first-hand objective knowledge of the internal alterations caused by injury and disease. It will tell you the why and wherefore of the sudden death of a patient inspite of all your care and treatment. It will point out to you in what particular direction you may have erred in the examination of the case. It will broaden your conception of diseased processes and counsel you against a repetition of mistakes. It acts as a form of auto-correction with the lack of which a sense of positiveness bred of self-delusion may come over you. It will act as a knife and a cautery which will cure the intumescence and moral necrosis in Gall and Spurzheim's centre of self-esteem where exits a sore spot after you have made an error in diagnosis. It will bring you wisdom with experience.

The greatest diagnostitions of the past past and this generation have been those who spent years studying their fatalities at the autopsy table. By comparing the conditions disclosed at post-mortem examination with the picture obtained in the wards, they control their diagnosis, check their treatment, expand their objective knowledge of disease and increase their value to the public. The educative stimulus of the autopsy removes from their conception of the changes at the seats of disease all that is vague and shadowy and render it more vivid and real. But even with these great masters their clinical diagnoses show a not inconsiderable percentage of error. The findings of Cabot in his study of 3,000 autopsies is a startling object lesson. If such represent the condition with the better diagnosticians, I should hate to imagine what must be the condition with those physicians who never check their clinical diagnoses with post-mortem examinations. Think of all the poor physicians and unreliable clinicians of your acquaintance and you will find that they have but the barest rudiments of pathology. And yet it is from the returns of such physicians that our vital statistics are compiled. It has been said that not more than 2% of all deaths in the United States were submitted to a post-mortem examination. It has been said also that fully 10% of the aged die of undiagnosed cancer. Such being the case you can readily appreciate the futility of their figures. Wells has shown how misleading and inadequate are the statistics regarding that dreaded and dreadful disease called cancer. This probably holds true with every other disease. Oertel quotes Professor Bashford of the London

Imperial Cancer Institute as having said that the American statistics are not as good nor as reliable as those of Ceylon. If such has been said of the returns on a country like America where statistical study has reached a standard of high scientific excellence, one is strongly tempted to be rather sceptical as regards those of Hong Kong. A glance through the Annual report of the Medical Department of this country may probably suggest a revision of the nomenclature of some of the diseases. It will also be noticed that the returns of the Victoria mortuary included a great number of undiagnosed conditions. I venture to suggest that with a more improved technique there is every possibility of reducing the number of such returns. There are, I know, quite a number of the undergraduate members of this Society who maintain that the post-mortem examination is a perfectly useless procedure where the amount of time spent is totally disproportionate to amount of benefit derived.

But I must hasten to impress upon them that the autopsy as it should be done is of very real value indeed. It is essential to investigation, essential for the expansion of knowledge and essential for the education of student and physician. But the autopsy must be done according to standard methods. Too often, it happens that "the hungry sheep look up and are not fed;" for the bread of a thorough autopsy investigation they were given the stone of a hurried examination. These things will, of course happen in the best of places. There is again the impossibility of adhering strictly to a definite outline of terminology in the interpretation of findings. One enthusiastic new pathologist may find such lesions like fatty liver, cloudy swelling or chronic nephritis in nearly every autopsy while another, perhaps fatigued with long service, would ignore such commponplace things as apical scars in the lungs, calcified tubercles or even ureteral injection in the presence of nephritis or cystitis. Nor do the misgivings of the students end here. It frequently happens also that suddenly some one takes to emphasising a special point like chronic passive congestion of the liver or enlargement of the suprarenal. And so the student goes on, one autopsy expert whipping them with the whips of (let us say) beri-beri while his successor with the scorpians of broncho-pneumonia.

And yet the autopsy can made very interesting indeed. When, inspite of all your skill, your care and your treatment, the departing spirit of your patient should go the way whence he shall not return, there should at once awake in you a critical spirit of inquiry. The breathing miracle has into silence passed. For you a new voyage of discovery should begin. Your spirit of adventure should infuse enough perseverance, enough enthusiasm to drive you on and on seeking that you may find, until another voice on another pinta will call out: Land! Land!

Gather all the possible data, clinical and laboratory, about the case, get the necessary permission for an autopsy and make your way to the post-mortem table. Begin by taking the weight and length of the body and as you do that you can revise mentally all the signs of death. Then you should make a general survey of the body. This need not necessarily occupy much time but the external examination may reveal some important indications of disease. This procedure is all the more important when you are called to do the examination without a previous bed-side acquaintance of the case. Note the position and attitude of the body on the table, its apparent age, general state of nuitrition and muscularity. Corpulence may suggest alcoholism or some form of heart disease; emaciation, malignant disease especially of the oesphagus, extensive tuberculosis, starvation or in the infant, congenital syphilis. Oedema and other departures from the normal may suggest equally characteristic lesions. Observe also the colour of the body: post-mortem lividity, the darkened skin of Addison's disease, the yellow discoloration in pernicious anaemia, septicaemia and others. The state of decomposition and of rigor mortis also need observation. Examine closely all the various orifices of the body. In fact gather as much information as you possibly can from the external examination of the cadaver. Then you can proceed to open the various body cavities. It would be helpful if you adopt a systematic way of so doing, although it is not by any means absolutely necessary. Indeed you sometimes have to modify your method of approach to suit the case. But no matter how you begin you should make as thorough as possible an examination of the various visera. Take the weight and measurements whenever possible and careful notes of their gross appearances both externally and on section should invariably be made. It may be necessary to take pieces for microscopic sections and in this connection should be mentioned that Zenker's fixative is best for all routine staining. Sometimes spirochaetes may require demonstration. In that case formalin should be used. Fats. etc., would of course require appropriate fixing solutions. It also frequently happens that a special investigation is reqested for a particular part. Sometimes bacteriological cultivation from the heart blood or from a specified lesion will have to be made. In fact, there is no limit to the carefulness and minuteness of a real post-mortem examination.

Then comes the making out a report of your findings. This should contain a full description of everything seen macroscopically and microscopically as well as bateriologically. Your anatomical diagnosis may then be sent to the clinician or you may invite him to a discussion with mutual benefit. A full and complete investigation of this nature is of more value than all the book-reading in the world. The physician on the one hand

supplies you with the clinical phenomena observed during life while you on the other, have demonstrated the internal changes due to the various pathological processes which have produced them. A correlation of all this information cannot but bring about a more rational general conception of the nature and course of disease; and cannot but lead to a better appreciation of the true purpose and scope of diagnosis, of treatment, and of prognosis. If we adopt this procedure of investigation in all our fatal cases we shall not only reduce to a minimum our diagnostic errors but we shall also increase vastly the usefulness of our therapeutic measures; and our statistical figures too would be more interesting, more instructive and more valuable. The sooner we begin the sooner will all these come to pass. Ever since the emancipation of medicine from caste and priest-craft, observation and experimentation have been the warp and woof of our truly progressive art. It is through this spirit of observation and experimentation that all the great revolutions in medicine have been made.. It is the same spirit that gave us anaesthesia, antiseptic surgery and the blessings of preventative medicine. Is it too much to hope that the same spirit will one day solve in Hong Kong some of the mysteries which surround a few of our local diseases and put on a scientific footing the clinical and anatomical manifestations of that wierd and wearisome Beri-beri.

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Editorials.

Eclampsia—Now and Then.

"It is surely not unworthy of a scientific society occasionally to look back to what has been done by those who have been pioneers in those obscure paths of enquiry which we would ourselves explore". (More Madden, 1874).

Writing in the year 1835 Dr. Collins describes how he treated the thirty cases of convulsions, i.e. eclampsia, which came under his care during the seven years of his Mastership of the Rotunda Hospital. Fifteen of them were delivered naturally, one was a footling presentation, six were delivered by forceps, and eight were extracted by perforator and crochet. Out of these 30 cases five died, and these were all delivered by the last named method; as a result in all probability Collins was lead to the following conclusion:—"In the treatment of a patient labouring under convulsions, the main object being to gain time, and meanwhile guard the female against a frequent return of the fits, and what is even of more importance, their violence, I would strongly caution junior practitioners to avoid hasty measures for the delivery of the child, which, perhaps, alarm for the mother's safety, might induce them to have recourse to. When the case is such as to admit with propriety, the application of the forces, no delay should be made."

"From a perusal of the eight crochet cases it will be seen, that **necessity** alone induced us to resort to delivery, and that the patient's life under such circumstances is unavoidably exposed to extreme danger."

Continuing he writes:—"even the most satisfactory evidence of the child's death will not warrant the practitioner's hurrying delivery there being other points of paramount importance to be attended to, viz., the state of the os uteri and soft parts; as the convulsions could hardly fail, in every instance, to be greatly aggravated, by forcing the child through these parts when undilated and unyielding. The after consequence of a delivery thus effected would prove far more dangerous to the patient than a repetition of the fits, so long as she had strength to bear them with even tolerable safety."

It must be mentioned that, to his great credit, Collins appears to have been one of the pioneers of conservative treatment, for, he says:—"When convulsions occur at an early stage of labour, or perhaps before there is a symptom of labour, the case is rendered very embarrassing; particularly when the fits are violent and frequent, and the patient remains insensible

during the interval; as when the practitioner wishes to effect delivery, he finds it difficult, or impossible to do so, with safety to his patient. In such cases, I have almost invariably adopted a plan of treatment, with the most marked benefit, of which, as it is not recommended by any writer on the subject that I am aware of, nor indeed did I ever know of its being pursued by any individual in practice previous to my using it in the Hospital." His treatment was briefly as follows:—bleeding freely, acting briskly on the bowels with calomel and jalap, and protecting the patient from injury during a paroxysm; she was then brought under the influence of tartar emetic, "so as to nauseate effectually without vomiting.

A tablespoon of the following mixture being given every half hour:—

R/ Aquae Pulegii, oz. viii.
Tartar Emetici, Gr. VIII.
Trae; Opii, gtts. XXX.
Syrupi Simpl; dr. ii.

Out of 115 Cases reported from the Rotunda Hospital between 1826 and 1873, there were in all 26 deaths, the largest series were those of Dr. Shekleton (1847 to 1854) who had 63 cases, with 13 deaths.

In the United States of America caesarean section appears to be a very popular operation, and is unfortunately frequently resorted to in cases of eclampsia, a fact which some of their obstetricians have frequently deplored. Our contemporary the China Medical Journal, February 1927, with regard to eclampsia remarks very truly that:—"it (i.e. caesarean section) is really the worst possible remedy, and should never be adopted except in cases where birth per vias naturalis is impossible."

For those who still doubt the correctness of this statement the following statistics may be of interest:—
Vaginal Caesarean Section for Eclampsia

Cases 530 ..... deaths 124 ..... Mortality 23.4%

Abdominal Caesarean Section in Eclampsia

Cases 500 .....deaths 174 ..... Mortality 34.8%
(Peterson)

Cook County Hospital Chicago, 1923, there were 19 cases of eclampsia with 7 deaths, the details of treatment are however lacking.

Bellevue and Associated Hospitals, New York, 1922, there were 46 cases of eclampsia, with 22 deaths; details of treatment lacking. It is worthy of note that the mortality from eclampsia in these hospitals in the year 1922, was apparently higher than that of Dr. Shekleton (1847-1854) who had (as already mentioned) 63 cases with 13 deaths.

Boston Lying-in Hospital, one year.

Eclampsia cases 11, deaths from 6.

The total deliveries in this hospital for the year in question was 1,133, there were 92 cases of Caesarean section, seven of which died, four of these seven deaths were in cases of toxaemias of pregnancy.

Jefferson Hospital, Philadelphia, 1924.

Total cases 362, deaths (total) 13.

Caesarean section (or variations) 55, or approximately one caesarean section for every 6.3 cases.

The average paper published at the present time on eclampsia, may be said to be an attempt to modify one or other of the two well-known treatments, i.e., the Dublin method described first by Tweedy in 1896, or that of Stroganoff, whose original paper appeared in 1897.

It is a great compliment that Tweedy's treatment which has held the fort in Dublin for now over 30 years is at last being taken up by Midwifery schools throughout the world, but we wonder how many of them have succeeded in equalling his series of 74 cases with only 6 deaths, in which there were 29 consecutive cases, with a maternal mortality of nil.

RESPICE, ASPICE, PROSPICE.

With the present issue of the Caduceus, we commence another year's activities, and three thoughts seem to arrest our attention. Resuice, Aspice, Prospice—they seem to say;—Look back to the past, with its successes and failures; look at the present, with its problems and opportunities; look at the future with its hopes and fears.

Respice—Look back.

As an institution, it is natural that our first and last thoughts should be of our Medical Society and its activities, and when we view these in retrospect, we note with much pleasure the results obtained.

On January 21st., the Annual General Meeting was held with the President, Prof. Tottenham, in the chair. Despite the heavy and unprecedented expenditure of last year—the major portion of which is due to the publication of this Journal—the Annual Report of the retiring Honorary Secretary, Mr. S. P. Li, was most re-assuring—a substantial balance of a few hundred dollars in hand, with a considerable sum still uncollected, stand to the Society's credit. The Report in detail will be sent out later but the Chairman and Editor feels that a word of appreciation is due to the members of the retiring committee, which should be recorded here. With the exception of the student representatives, all the members of the staff of the past Executive Committee have been asked to serve again, and this is a high compliment that our supporters fully appreciate our past efforts on their behalf. That they may not be disappointed is our constant hope; but having re-organised the management of this Journal, and had the pleasure of seeing it pass through such a successful year, we would rather a fresh set of people had taken this responsibility from off our shoulders, and we trust such an enthusiastic set will be forthcoming at the next election.

But the Latin word Respice suggests to us also another thought.

With the close of the last year, there are those who have left us for good, whose final examinations are over. They are the lucky ones of whom it may be said in the words of the University Anthem—*Finis hoc operum!*—they have reached the end of their toils, and crowned with the laurels which they have so well-won, by dint of hard work through many a sleepless night and laborious day, they leave us with our best-wishes, to commence their professional careers.

We hope they will remember, however, that the pronouncement of "Finis" of a university does not imply the "Finis" of all Life's labours—and there is no more to learn or to do. Nothing is so pathetic as to see an otherwise bright youth who seems to feel that on the day of his graduation, he has no more worlds to conquer, no more realms of knowledge to explore. We know at least one such youth, who has made us feel that a reminder like this is not at all untimely. For surely no mistake can be more tragic for a young man than to have a false conception of his own importance; for the goal of yesterday however it may flatter our pride to remember, can only be the starting point of to-day. There is yet another type of individual, who seems to feel that he is too big for his job, and one result of this is the junior house-appointments are not always as keenly competed for as they may be. No mistake can be more harmful. There is no work however small that cannot be done by the infinitely great, but the converse

is not true. Faithful in little, faithful in much is almost true of all things.

When we look back again at the events of the past twelve months, Degree Day seems to hold an unusual interest for us. Our sister faculties, notably, the Arts, have produced many lady graduates ere now, but it is only in the last year that the Medical Faculty has produced its first lady graduate. This event reminds us that it is five years since the system of co-education has been introduced into this University, and judging by results, it seems to have come to stay. Miss Eva Ho Tung has the unique honour of being our first woman graduate in Medicine, and she seems to be a fitting representative of that type of women students whose diligence and steadiness have won for them the name in slang parlance of "members of the slogger tribe." Such an epithet given doubtless by some envious male is no reproach, for did not a well-known writer once say that "Genius is work?" The ability of prolonged concentration of mind at will is surely a large part of genius if not genius itself.

In so soon leaving Hong Kong to further her studies in London, Miss Ho Tung shows that her thirst for knowledge is in no wise quenched nor her enthusiasm dimmed by the last ordeal of final examinations. With her goes our former and popular H.S., Dr. K. C. Yeo. To them and to such others of our graduates, we wish good luck.

The practice of going abroad to finish one's education is becoming increasingly popular, and is a very commendable one; for no medical school in the world can claim to be equally strong ni all its departments, and there is always something worthwhile in each clinic that is not found in the other.

Modern facilities in travelling have made the world a much smaller world than our forebears ever knew, and the migration of students from one centre of learning to another forms one of the most powerful factors in the rapid interchange of ideas and dissemination of knowledge; for excellent as are the modern text-books and periodicals, they can never wholly replace that inspiring influence that comes from direct contact with men and institutions.

History reminds us that the pioneers of Medicine were men who had travelled far and frequently in their quest for knowledge. In that way they had a wider vision of their work than that afforded by their own institutions. Thus, Hippocrates, the Father of scientific medicine, was born at Cos, but studied at Athens, Thrace, Thessaly, and Macedonia. Galen, whose native place was Pergamus, was trained at Alexandria. Vesalius, whose

home was in Brussels, studied and taught at Louvain, Paris, Vienna, Padua, Spain and Palestine. Of late years, Germany, Great Britain, France and America, and———Switzerland have become the Mecca of science. In this way the best in every clinic is accessible to all, and Technique and Knowledge are no more the guarded secrets of those truly dark ages.

For the less fortunate ones, who may never have the opportunity of going abroad, it is comforting to remember that even the best institutions and the most inspiring of teachers can only develop but never create that scientific bent of mind, the innate qualities for keen observation and correct deductions if these are present in the individual. Some people seem to have the erroneous idea that because they were trained in a different place, or by some great teachers or in some well-known institutions, they are therefore more superior in attainment than their less fortunate confères. This is not necessarily so always. If there be any such superiority, it is only a glory by reflection, and like all reflections it is governed by the laws of reflection,—of exaggeration and distortion. There is no royal road to success in anything.

Aspice. Look at the present.

From the students' point of view, the immediate problem frankly is how to get through all his examinations with minimum effort and time and with maximum success (whatever his conception of that quality may be). There is so much to read and to do and so little time in which to do it all. The result is students seem to make it their main object in life to dodge their examiners instead of acquiring knowledge. They read, not what they are interested in, nor what they know would be useful, but what they think their examiners would like to know. A mental outlook like this is scarcely calculated to produce originality or usefulness.

Teachers often make the unfair criticism that students do not think enough, but it is almost impossible to expect them to digest all that are daily thrust down their throats. If students are to read everything critically and to accept all things sceptically, as some of their teachers would like them to do, they would take twice as long to get through their present course. The present system of medical education leaves much to be desired because it tends to make students adapt themselves along the line of least resistance. Instead of making an active effort to digest all they are taught, which means time and trouble, most people turn their minds into a passive receptacle where all manner of teaching are calmly accepted and readily disgorged at examinations at a rate varying with the aptitude of the student for this purpose. It must be admitted even by the most ardent supporters of the present system that this no real test of knowledge.

If we may make a criticism, lectures are good things if given occasionally, but like all good things they are open to abuse. Modern text-books are so clearly and fully written that they are nearly as good as lectures, and in many medical schools, clinical and laboratory work are more stressed than lectures. A university is not a school, and students should be encouraged and given ample opportunities to practise, to observe, and to think rather than that observations should be made—and thoughts predigested for them.

In the opinion of many, afternoon lectures are an abomination to all concerned. Following on the indigestion of even a moderately hearty meal, it is often a cruel torture for many to keep awake while a lecture is in progress, and it is not at all uncommon, to find the back of a class seemingly nodding assent to all that the learned lecturer says, when if the truth be told, they are only vainly struggling to keep out of the Land of Nod!

It would seem more satisfactory, if coaching classes are substituted for systematic lectures, and these can be given by the junior member of the staff of each department, and as often as necessary, while the heads of department will only deliver such lectures as are needed, and thus have more time for other work.

Modern medicine is progressing so rapidly in all its branches that it is almost impossible for the average student to acquire even a superficial knowledge of his subjects within the present limit of time. The tendency to increase the length of the course may meet with the difficulty a little, but that would only add to the cost of a Training that is already too expensive for many, and it is doubtful if the results fully justify this. Besides there is a limit to everthing—even to human intellect, and one cannot expect to put a quart in a pint bottle; and educationalists must sooner or later come to realise that there are roughly three types of people who take up the profession—the general practitioner, who should be a practical man, in whose training diagnosis and treatment are stressed; then there are the specialists and the laboratory workers, who should have a deeper knowledge (both practical and theoretical) of their specialty; and lastly, the teacher, who should not only know his subject, but who should be able to inspire, to impart knowledge and to do researches. The training of these three classes of people must obviously differ, if the best results are to be obtained, and separate courses should be arranged for each type.

For the qualified members of the profession, the outlook of the present is not as cheery as it might be, one frequently hears the foolish remark that the University is yearly turning out so many doctors, that there will soon be more doctors than patients.

As a matter of fact, the percentage of graduates from this University who ultimately practise in Hong Kong is extremely small, and by far the larger percentage go back to different parts of China or to the neighbouring regions from which they came. But even if there is this excess of doctors, the condition can only be temporary, for so soon as affairs in China settle down, there will be such a sudden call for scientifically trained doctors that the demand will be greater than the supply. But should this excess be more lasting, it will not be bad for the profession or for the patient after all; for it is only in large numbers that the law of Natural Selection can work. We use this phrase in a slightly different sense from the commonly accepted one, and the word Natural is used as opposed to any human agency. No one can deny that within the ranks of the profession to-day there are some whose temperaments, personalities (or rather absence of personalities), intelligence, and ideals (or more correctly lack of ideals) make them absolutely unsuited for the profession, and who should never have entered it. With a larger number of doctors, the law of survival of the fittest can operate, and the unfit ones will be eliminated. While the prospects of the profession as a whole are not of the best, it is comforting to remember that they might be worse. At any rate, the outlook in China is less gloomy than that obtaining in Great Britain itself, and alarmists, who like the poor are always with us, need not be taken too seriously. In a recent paper to hand, we read this:—

"Thousands of professional men in England have been reduced to poverty during the past few years. Hundreds of them to-day are practically penniless and starving like gentlemen. There are thousands of newly qualified doctors for whom there is not the slightest prospects of a practical or a regular position. There isn't the slightest hope of all the professional men and women now unemployed, being absorbed in their profession within the next ten years."

Conditions in Hong Kong have certainly not come to such a pass, and while we fully sympathise with our confères abroad, we are grateful that we are not worse off. But there again, we have a vague suspicion that this gloomy picture of England must be an alarmist's or a pessimist's view. On the whole, we believe the prospects of the medical profession anywhere are no worse than that of any other profession and it is the keen competition of modern life that makes us feel that compared with ours, the lives our forbears led were almost sinecures.

Prospice. Look at the future.

The beginning of the year induced us to consider very scantily and superficially the events of the Past, Present and the Future. We took a hurried view of the Past, because we believe

a study of the Past will give guidance to the Present, (hence the value of history in education) and a study of the Present will enable one to plan for the Future.

But it is only when viewed in their true perspective can we profit by the Past with its achievements and failures, the Present with its problems and opportunities, the Future with its possibilities.

No attempt has been made to give a complete survey of events under these three headings, which latter have been given more for the sake of completeness as such, than with any specific idea of detailed or elaborate study.

The desire to peep into the future is a curiosity from which none of us is exempt. We would like to know for instance what this university would be like in ten years' time. Our problems seem so peculiarly our own. The University is modelled along the lines of a British university; the majority of members of the staff are British; all the lectures and practical work are given in English.

It has often been asked whether a purely British or American system of medical education is suitable for Chinese or other non-European students and whether it may not be sounder in the long run to have some of the lectures given in Chinese and some in English.

For the people of one nation to be taught in another tongue is certainly a drawback, but in the case of Medicine, it is a drawback that is not so very serious after all.

There was a time when Latin was the language of Science and Art in Europe, and even until quite recently no man was considered well-educated if he did not know Latin. It was not so very long ago when the educated classes of Great Britain herself were under the tyranny of this foreign tongue, and no scientific work was written in anything but that. Harvey's famous Dissertation on the Circulation of Blood was written in Latin, and so were some of the philosophical works of the celebrated Francis Bacon. But in spite of this language difficulty, it is doubtful if the cause of science had suffered much at this time, and this period of history could boast of many epoch-making discoveries in science. One ventures to conclude therefore, that while attaining knowledge through the medium of a foreign tongue must necessarily stunt the native genius a little, considered in its broad aspects, it is not as serious a drawback as it seems.

The English language to-day takes the place of Latin of a by-gone, and it has this superiority it is a living language and Latin is a dead one. To have a sound Knowledge of English is to render accessible nearly half the scientific works of the world, and one can be quite alive with the progress of science and thought with no knowledge of another foreign tongue than English.

It may be argued that the period of Time spent in acquiring a sound knowledge of English may well be spent in studying the branch of Science or Medicine chosen, but while this is true in some ways, it cannot be denied that this tends to produce a depth of view and not breadth, and modern science is progressing so rapidly, that in order to be *au fait* with one's work, a broad view is essential to a sound view.

Besides a scientific nomenclature in Chinese is not yet completed, and in the present transition stage at any rate, there is actually a demand for a School of Medicine where Training is given entirely in English, and we can foresee no early date when this usefulness will cease.

So far as this aspect of the problem is concerned therefore, the University has nothing to fear, but her chief apprehension, as we see it, is that she may not receive sufficient support from her own graduates and friends.

The majority of the members of the staff being foreigners, cannot remain for long with us. Old age or ill-health compel them to leave us; better prospects in their own home-lands attract them from us, and from the highest administrative officer to the most junior member of the teaching staff there is this constant likelihood of changes, which must in varying degrees react on the whole institution.

The graduate on the other hand complains that he has no voice in directing the destiny of his alma mater—a privilege given elsewhere. Once he leaves, her portals seem closed to him forever. If he does come back for a visit, he finds but few familiar faces—and possibly the hostel cat whose midnight serenades have immortalised it in his memory is the only creature that seems to give him welcome! His place knows him no more. One generation of students comes and another generation passes away, and the old graduate, as he moves among these familiar scenes, where for five long years or more he had toiled and played, finds himself like a Rip van Wrinkle after his twenty years' sleep!

There is thus little or nothing within the University itself to anchor the interest and affection of the graduates or the staff.

This we regard as the most serious and pressing problem of the university, but it is a problem we think, that is shared by every non-European university where two nations meet (but not mingled)—one exclusively to teach and the other to learn.

We envy some of the older British universities with their traditions and opportunities for attracting and maintaining the affections and interest of their staff and graduates. It is this elusive spirit, this indefinable something that is implied in the word traditions that we would so like to capture for our university. It seems to us that where this spirit is non-existent, a university is but an intellectual factory, little different from Mr. Henry Ford's huge factories, where mass production is the order of the day and where the products are but monotonously true to pattern and nothing more. As a mechanical concern, this may be extremely successful, but as a university it may even be a ghastly failure.

Not for buildings alone would we clamour, but for the quickening, dynamic force and personality of a university would we urge. The finest buildings are but the architectual efforts at piling up heaps of stones and mortar——They are unresponsive and coldly impersonal; but it is the soul of a university we would plead for, and this must come from within. Out of the combined efforts, and contributions of each graduate, staff and friend is evolved this soul of the University, and it is within our power to make a languid or an energising and inspiring soul.

Some time ago, we had the arduous experience and thankless job of journeying to a neighbouring island to collect subscriptions for this Journal, and the chilling reception we received from some quarters suggested to us that an exhortation like this would not be without purpose, if it should meet the eyes of those (fortunately) few who deemed their obligations were over once they left the University. It is a depressing thought sometimes to find one's best efforts meet with so little response, but there comes this cheering thought that Traditions like experience must come with age, and the University is yet very young.

In season and out of season we have pleaded for the unstinted and unselfish support from students, graduates, and friends, and it will not be a case of love's labour lost if this will but accelerate the sending in of subscriptions and articles this year and awaken anew the interest of all our supporters. With that plea we conclude, assuring our members that it is the considered policy of the present Executive Committee to vivify and strengthen the tie that binds our graduates and friends and this institution.

Clinical Notes.

A CASE OF EPITHELIAL ODONTOME OF THE MAXILLA.

K. H. DIGBY, M.B., B.S., F.R.C.S.

The patient (S.R. 428/26) was a male aged 23 years who came from the country and spoke a dialect of which no one in the hospital could understand a word, so that the poor fellow was unable to converse with anyone the whole fourteen weeks he stayed in hospital.

A friend from his district visited him one day and by dint of hard work the ward clerk, Mr. E. W. J. Sun, was able to elicit that the patient had always been healthy till five months before when three right upper teeth were extracted for toothache. Following this the upper jaw on the right side gradually swelled pushing the cheek outwards. The patient came to Hong Kong and was told by a doctor in practice that he was suffering from an inoperable malignant growth.

The appearance on admission is shown in figures 1 & 2 and is described by Mr. Sun as follows:—

Figure 1. A Case of Epithelial Odontome (front view).

Figure 2. A Case of Epithelial Odontome (the tumour within the mouth).

The right cheek presented a globular swelling three inches from above downwards and three and a half inches from before backwards. The swelling was hard; not painful nor tender; not oedematous; not hot to touch. It was not attached to the overlying skin but seemed to be incorporated with the bone. Inside the mouth it was seen that the right upper premolars and molars were missing and their place was occupied by a massive growth, covered by mucous membrane; extending laterally to puff out the cheek and medially to just cross the midline of the hard palate. The right nostril was partly obstructed and the sense of smell on this side affected.

There were no enlarged lymphatic glands to be felt in the neck. X-Ray examination showed obliteration of the maxillary sinus by a solid mass with involvement of the lower part of the right orbit and the right nasal cavity.

The diagnosis lay between sarcoma, epithelial odontome, and myeloma.

On the 6th., November 1926, the external carotid artery was ligatured under local conduction anaesthesia.

On 10th., November, 1926, complete expiration of maxilla together with the growth was performed. The part removed is shown in figure 3. Anaesthesia by warm ether was supplemented by conduction anaesthesia of the maxillary nerve.

Figure 3. The Tumour Removed including the Maxilla—actual size.

Convalescence was uneventful except that the wound in the neck became septic and fears of secondary haemorrhage were entertained. The head, neck and shoulders were fixed in plaster of Paris for a time and the neck wound soon healed. The extensive raw surface towards the mouth was not quite fully epithelialised when patient left hospital. Thiersch grafts would have hastened the process; in similar cases we have found them take very well in the warm moist buccal cavity.

There were absolutely no signs of recurrence on the 15th., January, 1927, when the patient left hospital. (Fig. 4).

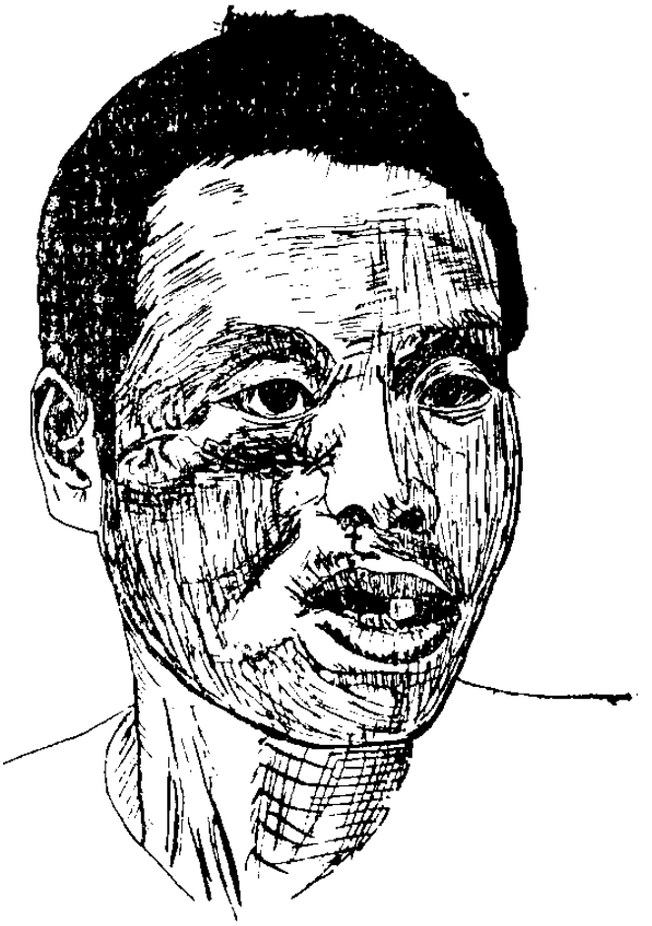

Figure 4. The Patient after Removal of the Epithelial Odontome.

The microscopic section of the tumour (Fig. 5) showed an epithelial odontome. It should be compared with figure 59 on page 429 Vol. I of Choyce's System of Surgery, and with figure 117 on page 232 of Bland Sutton's Tumons. The appearance of these epithelial odontomes somewhat resembles the rodent carcinomata under the microscope. Both (in the opinion of the writer of this note) arise from structures formed originally by down-growths of epithelium; the enamel forming organ (which may give rise to epitlelial odontomes) and the outer layers of the hair follicle (from which "rodent ulcers" or "rodent cancers" are derived). That both hair follicles and rodent cancers share the characteristic of being so peculiarly vulnerable to ordinary X-Rays is consistent with the latter part of this view.

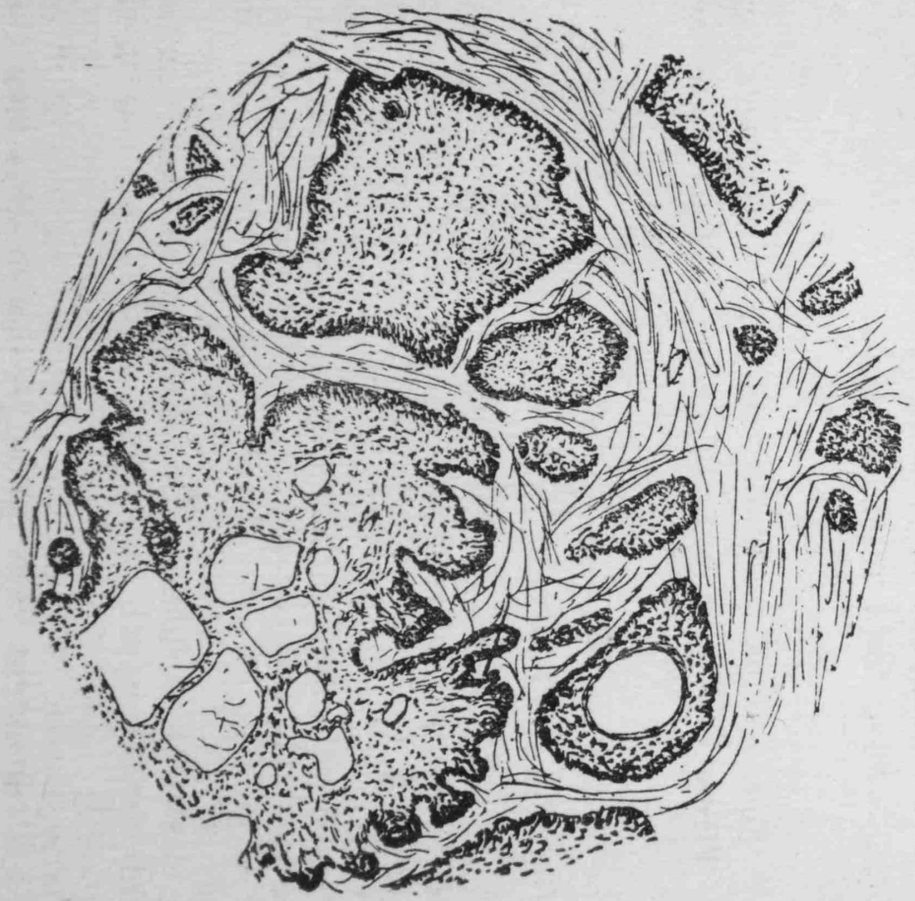

Figure 5. Section of Epithelial Odontome.

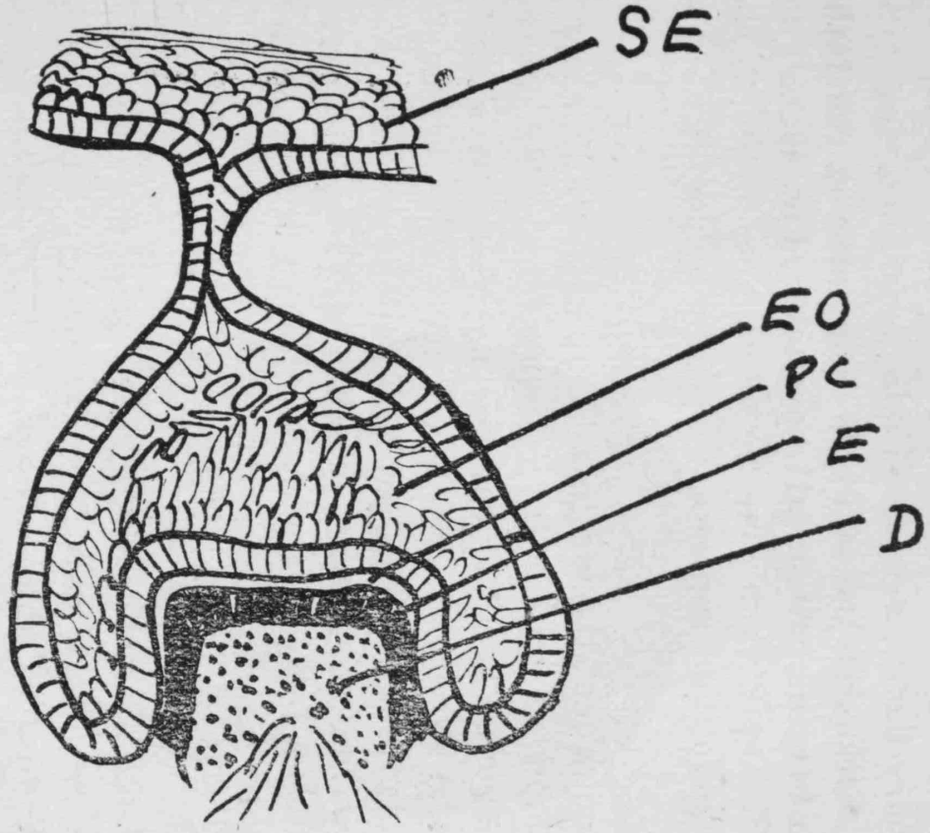

Figure 6. Rough Diagram of a Developing Tooth.

O. Dentive (Substantia Eburnea).

E. Enamel (Substantia Adamantina).

E.O. Enamel Organ — from which an epithelial odontome may arise.

P.C. Potential cavity between the enamel and the enamel organ—which may dilate to form which a Dentigerous Cyst.

S.E. Stratified epithelium of the gum.

These tumours have been called adamantinomas from the B.N.A. name "substantia adamantina "for the enamel. But the tumour is not an enamel tumour but a new growth from the kind of tissue which deposits enamel on the developing teeth. So we ought to say adamantinogenoma—a very ugly mouthful.

Everyone knows that the mesoblastic upgrowth which forms the bulk of the tooth meets and indents a downgrowth from the epiblast from the gum. The epiblastic downgrowth is the enamel-forming organ and it deposits the hexagonal prisms of enamel on the developing tooth. An epithelial odontome is a new growth either derived from some remnants of the enamel organ or due to a belated and unrestrained downgrowth of gum epithelium forming an enamel-organ-tissue tumour.

Both rodent cancer and epithelial odontomes are sometimes classed together as "basal celled carcinoma" or "basal celled epithelioma." Professor Wang, in fact, reported our case to be a basal celled epithelioma. Neither rodent cancer nor epithelial odontome involve the lymphatic glands.

An odontome is a tumour derived from tissues associated with a tooth.

The two varieties commonly encountered (Fig. 6) are the epithelial and the follicular. Cystic degeneration of the former is said to lead to the not uncommon multilocular fibro-cystic disease of the jaw (fig. 7).

The latter—the follicular odontome—is also termed a dentigerous (tooth bearing) cyst. (Figs. 8 and 9). The tooth represents a supernumerary or an unerupted tooth. The root may be imperfectly developed. This must be distinguished from the so-called **dental cyst** which is really a chronic encapsuled abscess cavity arising from a normally erupted but subsequently decayed tooth. Fig. 10 shows a tracing of the X-ray (taken by

Figure 7. A Case of Multilocutar Fibro-cystic Disease of the Mandible Male 49. Case 380/1926.

Figure 8. Case of Dentigerous Cyst before and after Operation. Female 34. Case 145/1922. The crown of a single unerupted tooth projected into the cavity of the cyst.

Dr. Somers) of an early "dental cyst" in this case arising from the apex of the root of a tooth. Tooth and cyst were removed in this case. Some of these dental cysts in the course of time reach a very large size.

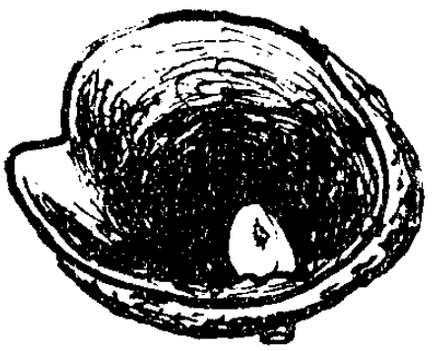

Figure 9. Half of another Dentigerous Cyst (Follicular Odontome) from a boy of 13. The crown of the unerupted tooth is seen projecting into the interior of the cyst. Case 432/1926.

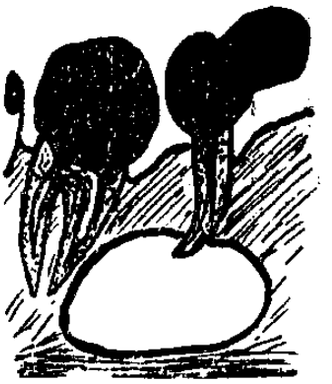

Figure 10. Tracing of an X-ray by Dr. Sommers of an early Dental "Cyst" associated with an infected tooth.

Review of Books.

Enzymes. Properties, Distribution, Methods and Applications) by Drs. Selman A. Wakeman & Wilburt C. Davison. Price G$5.50. Published by the Williams & Wilkins Company, Baltimore, U.S.A.

The publication of this boook supplies an important need for a complete treatise of enzymes which come more and more to the fore in biological investigations. Most biological processes are underlied by enzymatic action and cellular metabolism can hardly be possible without the intervention of various enzymes. In recent years, the study of enzymes has been stimulated by advances in the field of catalysts; consequently there is a rapid accumulation of literature and a great deal of confusion arisen out of the various disconcordant results published. At this stage of our knowledge, a careful compilation of data and an intelligent correlation of facts, as this book represents, will undoubtedly render an invaluable service to the workers both in the laboratory of research and in the field of practice. As the subject is still in its infancy, numerous disputable points are expected to be found in work of this sort.

This book is divided into 4 parts: A. Properties of Enzymes; B. Distribution of Enzymes; C. Methods for the Preparation and Measurement of Enzymes; D. Practical Application of Enzyme Activity. As its authors have stated, 'especial attention has been paid to the occurrence and preparation of enzymes, to the methods of measurement, and to the practical application of enzymatic activity—phases of the subject which are frequently overlooked in treaties on plant and animal physiology, as well as in those especially devoted to enzymes.' They are to be congratulated for having presented these features with remarkable success.

S. Y. W.

Practical Organic and Bio-Chemistry. (New Edition, 1926); by Professor R. H. A. Pilmmer, D.Sc., University of London. With coloured plates and illustrations. Published by Longmans, Green & Co., Ltd., London, E.C. 4.

In view of the fact that bio-chemistry is an extension of organic chemistry, Plimmer's "Practical Organic and Bio-chemistry" serve to bring home the idea of continuity between these two subjects to students who attend them as separate courses. Though most text-books of organic chemistry contain

a good deal of bio-chemistry, there are only a few which treat both subjects in a single volume. For a general course on both organic and bio-chemistry such as intended for students of medicine and agriculture, this book forms certainly an excellent reference. The reviewer agrees with the author that the advanced portions should be omitted to make room for an extension of the theoretical part of organic chemistry; and this has been done in the new edition.

S. Y. W.

A Bipolar Theory of Living Progresses: by G. W. Crile. Cloth 8vo. 405 pp. G.$5. Published by the Macmillan Company, New York.

Surgery owes very much to the work of G. W. Crile and his associates. The prevention of shock by nerve blocking, the value of morphia and the danger of stimulants such as strychnine in shock, are outstanding achievements known even to the most recently appointed surgical wardclerk.

In this volume Crile puts forward an electrical hypothesis of protoplasmic activity; that man and animals are bipolar mechanisms and that the organism "not only is driven by electricity but that it was originally created and constructed by electrical forces." He compares the unit cell of a living organism with the chemical cell of an electric battery, nucleus and cytoplasm playing the parts of positive and negative elements. He further compares the whole human body to the electric cell; the brain and the liver here acting as the positive and negative poles. These may appear far fetched but experimental evidence in their favour is brought forward, though it is, of course, admitted that the proof is incomplete.

The hypothesis is considered as applied to the phenomena of memory, sleep, reproduction, death, cancer, anaesthesia, strychnine and tetanus poisoning and the functions of the brain liver, thyreoid and adrenal glands.

Appendix C, of over 100 pages, is occupied by experimental data.

K. H. D.

ACKNOWLEDGMENTS.

We have much pleasure in acknowledging the receipt with thanks of the following contemporaries.—

St. Mary's Hospital Gazette, London.

Archives of Medical Hydrology, London.

The Japan Medical World, Tokio.

Chinesische Zeitschrift Fur Die Gesante Medizin, Moukden.

Index Universalis, Moukden.

The Taiwan Igakkai Zasshi (Journal of the Medical Association of Formosa), Formosa.

The Tsinan Medical Review, Tsinanfu.

"Unitas," Universidad de Santo Tomas, Manila, P.I.

Dr. Huang's Medical Journal, Shanghai.

Monthly Epidemiological Report of the Health Section, League of Nations, Geneva.

The Tohoku Journal of Experimental Medicine, Sendai, Japan.

Statistical Handbook Series—The Official Vital Statistics of the Republic of Portugal—League of Nations, Geneva.

Reprint: "Medical Periodicals from the Library Standpoint" by Charles Frankenberger, Librarian, Medical Society of the County of Kings, Brooklyn. (Jour. Amer. Med. Assn., Vol. 87, Aug. 21, 1926.)

Mededeelingen Van Den Dienst Der Volksgezondheid in Mederlandsch-Indie. (Reports of the Medical Service in the Netherlands East Indies).

Transactions of the Japanese Pathological Society, Tokyo, Japan.

Reprint: "Korean Child Mortality" by J. D. Vanbuskirk, M.D., and Ralph G. Mills, M.D., Severance Union Medical College, Seoul, Korea. (Transactions of the 6th Congress of the Far Eastern Association of Tropical Medicine).

The Post-Graduate Medical Journal, London.

The University of Toronto Medical Journal.

Fifth Annual Report on the Tropical Diseases Library, London.

Okayama-Igakkai Zasshi, (Die Universitat Okayama), Japan.

The Malayan Medical Journal.

Bulletin de la Societe Des Sciences Medicales, Montpellier.

Cambridge University Medical Society Magazine.

Eighteenth Annual Report of the Medical Superintendent of the Peking Union Medical College Hospital.

University College Hospital Magazine, London.

St. George's Hospital Gazette, London.

Bulletin, Medical College of Virginia, Richmond, VA.

Health, Shanghai.

Manchurian Plague Prevention Service Reports, 1925-26, Chinese Edition, Harbin.

Bulletin de l'Universite de l'Asie Centrale, Tachkent.

Statistical Handbooks Series—The Official Vital Statistics of the Scandinavian Countries and the Baltic Republics.

Reprints:

"Public Health Aspects of the Narcotic Problem," by Wu Lien Teh, M.A.. M.D., Sc.D., LL.D., Litt.D.

"Practical Aspects of Plague in Wild Rodents," by Wu Lien Teh, M.A., M.D., Sc.D., etc.

"Beri-Beri Control from an Administrative Standpoint," by J. W. H. Chun. B.A., Ch.B., M.R.C.S., and Wu Lien Teh. M.A., M.D., Sc.D., etc.

"The Scarlet Fever Problem in the Far East," by Lin Chia Swee, M.D., and H.M. Jettmar, M.D.

From the Manchurian Plague Prevention Service, Harbin. (Transaction of the 6th. Congress of the Far Eastern Association of Tropical Medicine).

Reprint: "Amebic Liver Abscess" by A. I. Ludlow, M.D., F.A.C.S., Severance Union Medical College, Seoul, Korea. (Thesis presented for the degree of A.M., Western Reserve University, School of Medicine, June, 1926.—Reprinted from The China Medical Journal," December 1926).

The Kings College Hospital Gazette, London.

Folia Anatomica Japonica, Yotsuya, Japan.

Health and Empire, London.

eprint: Guides to the treatment and prevention of Consumption by Shu-fan Li, M.B., Ch.B., F.R.C.S.Ed., (Chinese edition).

Stanford University Publications, Medical Sciences,

Arterioselerosis Cardiorascular Disease — their relation to Infectious Diseases. By Wm. Ophuls, Professor of Pathology, Stanford University Medical School, San Francisco.

A Cytological Study of the Kidney Cell, in long continued Hyperfunction with relation to Hypertrophy and the Mitochundrial Apparatus. By Ludwig A. Emge, Assistant Professor of Obstetrics and Gynecology. Stanford University Medical School, San Francisco.

Notes and Comments.

The Medical Faculty.

Department of Anatomy.—Our Professor of Anatomy went on furlough on 11th. December, 1926. We understand that during Professor Shellshear's absence, the teaching of anatomy will be carried on by Dr. R. J. Wong, M.B., Ch.M.

Department of Medicine.—We welcome the arrival of Dr. T. Y. Li who has just completed sixteen months of travel studies under the Rockefeller Foundation. Dr. Li has returned here to take up the post of Assistant to the Professor of Medicine. During the tenure of his fellowship, Dr. Li studied at the London School of Hygiene and Tropical Diseases, and later took the D.T.M.&H. (Eng.) He was for about six months at the Glasgow Royal Sick Children's Hospital studying pediatrics. He also did some work in America at the Johns Hopkins Medical School under Professor Longcope.

Department of Pathology.—Dr. M. B. Osman after sixteen months of travel studies under the Rockefeller Foundation has returned to take up the post of Assistant to the Professor of Pathology. He studied at Edinburgh and Baltimore.

Meetings of the Society.

The first meeting of the Society was held on 21st .January, 1927, when a special scientific film show was given in the School of Anatomy. The chemical manufacturing firm of Messrs. P. Beiersdorf and Co.. A.-G., Hamburg, through their local agents, the China Export-Import and Bank Co., gave this show. We understand that these educational films were shown in the University Hospitals, General Hospital and Professor Unna's Hospital, all of Hamburg, and also in the teaching hospitals in Japan, China, Australia. etc. The hall was fully packed and the attendance was a record one. The following films were show:—

(1) Chemical treatment of the deep layers of the skin.
(2) The non-specific protein therapy with Aolan.
(3) Adhesive plaster bandages.
(4) The dent demon (trick film).

The second meeting was held on Friday, 19th February when Professor Tottenham delivered his Presidential Address. His address should have been given at an earlier date but on account of the Chinese New Year Recess, it was postponed.

It is hoped that regular meetings will be arranged to be held fortnightly when papers will be read by various well-known members of the medical profession.

Scholarships.

The following scholarships have been awarded by the University:—

Ng Li Hing (1926, for Anatomy): Mr. E. W. J. Sun.
Chai Kai Ming (1926, for Anatomy, Physiology, General Pathology and Pharmacology): Mr. E. W. J. Sun
Ho Fook (July to December, 1926, for post-graduate work): Dr. J. S. Guzdar.
Jordan (July to December, 1926, for Tropical Medicine): Dr. F. I. Tseung.

Our Degree Examinations.

Doctor of Medicine: In the higher examination held last December, there was only one candidate up for the examination for the degree of Doctor of Medicine (Tropical Medicine). We are pleased to record that Dr. Seck-Weng Phoon of the Alice Memorial and Affiliated Hospitals, a brother of our Editor, Dr. Seck-wah Phoon, was successful in passing the examination. To Dr. Phoon we extend our heartiest congratulations on his attaining the M.D.

M.B., B.S. Examinations: The results of the first, second and third medical examinations held last December are published below. It is interesting to note that in the final examination, only 45.46% of the total number of candidates passed in part one (Surgery, and Obstetrics & Gynaecology), and 28.57% passed in part two (Medicine and Pathology). Only one candidate succeeded in passing both parts of the final at one sitting. The candidate in question is Miss Eva Ho Tung, who has the honour of being our first lady graduate in medicine.

1st M.B. Part 1. (Old Regulations) (Physics and Inorganic Chemistry).

Chan Wai Yu.

1st M.B., Part 1. (New Regulations.) (Physics, Inorganic and Organic Chemistry).

Chan Fook.
Chan Shing Chue.
Miss Cheng Hung Yue.
Fung, Basil.
Ho Suk Yee.
Ip Ching Yu.
Khoo Fun Yong.
Lim Peng Chin.
Ng Tin Fong.
Ng Yeok Kin.
Yeoh Guan Eng.
Miss Hilda M. Y. Yuen.

1st M.B., Part 2. (Biology).

Chan Fook.
Chan Iu Fong.
Chan Shing Chue.
Miss Cheng Hung Yue.
Enok, Victor.
Fung, Basil.
Harrison, E. L.
Ip Ching Yu.
Khoo Fun Yong.
Lam King Tong.
Lam Shiu Chun.
Law Nai Koey.
Leong Kam Leng.
Li Ching Wa.
Loke Kam Thong.
Ng Yeok Kin.
Oon Goan Ek.
Tan Wee Han.
Miss Hilda M. Y. Yuen.

1st M.B., Part 3, Old Regs. (Organic Chemistry).

Miss Bessie Chen.
Enok, Victor.
Kho Han Po.
Lee Shiu Kee.
Lim Ek Quee.

2nd. M.B., Part 1. (Anatomy and Physiology).

Au King.
Barnes, J. W.
Karanjia, N. P.
Lam Chi Wie.
Lee Chuen Sing.
Lim Poh Sim.
Lim Poh Thye.
Loh Siow Hock.
Mok Hing Fai.
Ng Yeok Boon.
Tan Tiong Lam.
Teo Soon Wan.

2nd. M.B., Part 2. (General Pathology and Pharmacology).

Hsiu Shih Tse.
Ku Hsueh Chin.
Lim Poh Thye.
Rumjahn, A. A.
Miss Tso Shuk Kei.
Wong Boon Hin.

3rd. M.B., Part 1. (Surgery and Obstetrics & Gynaecology).

Chow Wei.
Miss E. Ho Tung.
Tang Yee Yuen.
Wong Augustus Din.
Yeoh Cheang Hoe.

3rd. M.B., Part 2. (Medicine and Pathology).

Cheah Swee Cheng.
Miss Eva Ho Tung.
Li Kuang Yu.
Ma Wai Man.

The following candidates are recommended for the M.B., B.S. degrees:—

Chow Wei.

Miss Eva Ho tung.

Yeoh Cheang Hoe.

The Wellcome Historical Medical Museum.

After closure for nearly a year for reorganization and enlargement, the Wellcome Historical Medical Museum, Wigmore Street, London, W.1, was reopened by Sir Humphrey Rolleston, Bt., K.C.B., F.R.S., Regius Professor of Physics in the University of Cambridge, on 14th. October, 1926.

It consists of twenty small halls and numerous laboratories and workrooms, as well as a library. The collections are international in character, and cover a wide field, including Medicine, Surgery, Chemistry, Pharmacy and the Allied Science.

The importance of museums as an integral part of teaching is now fully recognised, and a museum can only fulfil its main function of encouraging research if it is itself a centre of research. The museum is intended to interest and instruct the layman as well as the professional student so that he may realise in some degree the meaning and the importance of scientific research.

Should any member visit London, they should avail themselves of the facilities offered by this Institution.

Peking Union Medical College.

We understand that special post-graduate courses will be given at the Peking Union Medical College.

Intensive studies in Obstetrics and Gynaecology will be offered from 27th. August to 17th September, 1927. Enrollment will be limited to twenty-five and all doctors are eligible for admission. The tuition fee is $35.

The Department of Roentgenology will offer an intensive graduate course from 4th. April to 6th. May. Not more than twenty-five can be enrolled.

Application for post-graduate study should be sent to the Registrar, P.U.M.C., with a statement of the department or departments in which instruction is desired, and the length of time which the student can arrange to spend at the College.

A limited number of graduate fellowships have been made available by the China Medical Board. Applications should be addressed to the Resident Director, China Medical Board, Peking.

Far Eastern Association of Tropical Medicine.

The F.E.A.T.M. will be holding its seventh congress in India in 1927. The Congress will open at Calcutta on 5th. December, where the scientific sessions will be held. The Association has now arranged bi-annual meetings at which the latest advances in medical and sanitary sciences are discussed.

No information has been received with regard to the appointment of a delegate from Hong Kong but it is understood that the local Hon. Secretary, Dr. W. B. A. Moore, will be attending, while on his return to Hong Kong after home leave.

Announcements.

We note with pleasure the solemnisation of weddings of the following members and we wish them happiness in their greatest venture.

Pillai-Chan: On 22nd. January, 1927, a wedding was solemnised at the Union Church, Kennedy Road, Hong Kong. The contracting parties were Miss Gertrude May Chan and Dr. D. K. Samy Pillai. Both the bride and bridegroom are well known to us—Miss Chan was formerly on the nursing staff of the Government Civil Hospital and Dr. Pillai is at present connected with the University as Assistant to the Professor of Obstetrics and Gynaecology.

Shin-Cheung: This wedding was solemnised at the Church of Christ in China, Bonham Road, Hong Kong, on 24th. January, 1927. The contracting parties were Miss Molly Cheung and Dr. Joseph Lok-shang Shin. The bride was formerly on the nursing staff of the Government Civil Hospital and Dr. Shin, who graduated from this University in December 1923, was for some time an Assistant Medical Officer in the Hong Kong Civil Service. Dr. Shin is at present in private practice on his own account.

Phoon-Chan: Our popular Chairman, Dr. Seck-Wah Phoon was married to Miss Suen-lan Chan at St. John's Cathedral, Hong Kong, on 9th. February, 1927. The bride who is well known in this Colony is the daughter Mr. M. Chan Harr, a prominent business man, director of Sincere Co., Ltd., and other companies. The bridegroom is also connected with the CADUCEUS, as its Editor, and is at present Chief Assistant to the Surgical Unit of this University.

Appointments.

Since our last issue, the following appointments have been made:—

POSTGRADUATE.

January to June, 1927.

House Physician.	Dr. T. Z. Bau.
House Obstetrician.	Dr. J. S. Guzdar.
House Surgeon.	Dr. C. H. Yeoh.
Clinical Assistant to the Medical Unit.	Dr. F. I. Tseung.
Clinical Assistant to the Obstetrical and Gynaecological Unit.	Dr. S. K. Lam.
Clinical Assistant to the Surgical Unit.	Dr. F. C. Tsang.

UNDERGRADUATE.

January to March.

Surgical Ward Clerks.

de Souza, G. F.	Lim, P. T.
Karanjia, N. P.	Mok, H. F.
Lam, C. W.	Tan, T. L.
Lee, C. S.	Teo, S. W.
Lim, P. S.	Miss Tso, S. K.

Surgical Dressers.

Gourdin, A.	Tio, S. L.
Ku, H. C.	Yang, L.
Sun, E. W. J.	Yang, P. C.

Junior Medical Ward Clerks.

Au, K.	Ng, Y. B.
Barnes, J. W.	Ong, H. L.
Loh, S. H.	Ooi, P. T.

Senior Medical Ward Clerks.

Chan, W.	Hua, F. T.
Cheah, C. P.	Kwan, P. C.
Cheah, K. C.	Yu, C. K.

Obstetric Clerks.

Chee, C. H.
Khoo, K. T.
Kwok, Y. K.
Li, S. P.
Sudan, B. N.
Wu, T. P.

Pathology Clerks.

Hsiu, S. T.
Kao, C. H.
Laing, D.
Ong, C. K.
Lam, H. Y.
Rumjahn, A. A.
Tu, T. P.
Wong, B. H.

Anaesthetic Clerks.

Chua, B. T.
Kao, C. H.
Vephola, C.
Wong, B. H.