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St. Bartholomew's Hospital



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NOTICE.

All Communications, Articles, Letters, Notices, or Books for review, should be forwarded, accompanied by the name of the sender, to the Editor, ST. BARTHOLOMEW'S HOSPITAL JOURNAL, St. Bartholomew's Hospital, Smithfield, E.C., BEFORE THE 1ST OF EVERY MONTH.

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St. Bartholomew's Hospital Journal.

OCTOBER 14th, 1894.

"Æquum memento rebus in arduis
Servare mentem."—Horace, Book ii, Ode iii.

One, we think, will disagree with us when we say that the most important event in connection with the Hospital, which has transpired since the issue of the last number of the *Journal*, is the election of Mr. Jessop to the post of Junior Ophthalmic Surgeon to the Hospital.

When Mr. Power resigned his post of Senior Ophthalmic Surgeon a few months ago, and was appointed Honorary Consulting Ophthalmic Surgeon and a Governor of the Hospital, Mr. Vernon naturally succeeded him, and at that time there was very little doubt in the minds of Bart.'s men generally, but that Mr. Jessop, who for the last thirteen years had been a Demonstrator of Anatomy in the Medical School, would be Mr. Vernon's successor.

There were, however, a number of applicants for the post, all of whom ultimately retired from the contest with the exception of Mr. Jessop and Mr. Ernest Clarke.

Rumour then said that though Mr. Jessop was unanimously supported by the Staff of the Hospital, Mr. Ernest Clarke had considerable influence among the Governors, and

that there was every likelihood of a close fight. However, after much excitement on both sides, and reports of many amusing incidents in the progress of both canvassers, it became the general opinion that Mr. Jessop was the more strongly supported of the two; the correctness of this opinion was borne out by the result of the poll. Mr. Jessop coming in with 98 votes, while Mr. Ernest Clarke only obtained 27.

During the polling, even though the result was considered a foregone conclusion, the excitement was very great, a considerable number of men having gathered to hear the announcement at the door of the Great Hall.

The announcement that Mr. Jessop was elected was received with cheering, as also was Mr. Jessop when he descended the steps a few minutes later, looking a little pale, and appearing not to be altogether certain of his exact whereabouts.

Mr. Jessop sought shelter among a friendly group of members of the Staff, but with little success; there was a rush; the seat of a chair was pushed into the back of his knees, while several pairs of hands seized him by the shoulders from behind and pulled him back into it. Up went the chair, and round the square at a fast run; it is a pity that no one was taking the time, for the time round the square must have been really good. Mr. Jessop will, perhaps, at some future date write us a paper upon his experiences and the effects, physiological and psychological, of turning the corners of the square in an arm-chair shoulder high at top speed.

At the conclusion of his journey Mr. Jessop was raised high still, while, in answer to shrieks of "speech," he expressed his thanks for the kind way in which his election had been received, and his affection for the Hospital.

Mr. Jessop has for many years been President of the Association Football Club, and has always taken the keenest interest in the success, not only of the Association Club, but of Athletics at the Hospital in every shape and form.

We congratulate Mr. Jessop heartily on his election, the more so, because we feel certain that his promotion will in no sense diminish his interest in the Hospital Clubs.

It is so seldom that a contest for election to the Staff of a Hospital is carried on up to the polling day—since one candidate is often so certain of success that the others retire—that we append a list of the last few elections which have been so contested, thinking that it may prove interesting to present-day students.

1881. March 10th.	<i>For Assistant Surgeoncy.</i>	
Mr. Walsham		56
*Mr. Cripps		53
Mr. Shuter		33
* On the occurrence of the next vacancy (March and, 1882) Mr. Cripps was elected without opposition.		
1882. March 23rd.	<i>For Assistant Surgeoncy.</i>	
Mr. Shuter		127
Mr. Macready		48
Mr. Keetley		1
1883. December 20th.	<i>For Assistant Surgeoncy.</i>	
Mr. Bruce-Clarke		81
Mr. Macready		49
1887. February 24th.	<i>For Assistant Physicianship.</i>	
Dr. West		120
Dr. Kidd		32
Dr. Ormerod		11
1894. September 27th.	<i>For Junior Ophthalmic Surgeoncy.</i>	
Mr. Jessop		98
Mr. Clarke		27

We give also the two following elections, though of much older date, because they were each keenly contested, and the names of the successful candidates are the names of men who require no introduction to Bart.'s men; the welcome given to Sir James Paget on Thursday evening testifies this with regard to one, and the popularity of *Kirkes' Physiology* with regard to the other.


1847. February 24th.	<i>For Assistant Surgeoncy.</i>	
Mr. Paget		142
Mr. McWhinnie		13
Mr. Pennington		22
1854. June 7th.	<i>For Assistant Physicianship.</i>	
Dr. Kirkes		116
Dr. John W. Hue		102

Mr. Pennington was the nephew of Pennington the well-known fashionable apothecary of his day.

With regard to the second election, it derives its interest from the fact that it resolved itself into a fight between the Staff and the Governors, the Governors supporting Dr. John Hue, while the whole of the Staff, with the exception of Dr. Jeaffreson (who was a personal friend of Dr. Hue), supported Dr. Kirkes, whom they succeeded in electing. It is said that the latter of our present Treasurer, Sir William Lawrence, at that time Surgeon to the Hospital, and in memory of whom the Lawrence Scholarship was founded, was one of Dr. Kirkes' strongest supporters, and that he canvassed vigorously for him armed with a copy of *Kirkes' Handbook to Physiology*.

Notes on Aseptic Surgery.

By C. B. LOCKWOOD, F.R.C.S.,
Assistant Surgeon to the Hospital.
(Continued from page 184.)

N the last number of our Journal I tried to show that the first induction upon which aseptic surgery is founded ought to be mastered and believed.

This is easier than to master and believe the second, which says that suppuration, erysipelas, pyæmia, septicæmia, and other diseases of wounds are caused by bacteria introduced from without. The acceptance of this involves great responsibility, because it can, I think, be shown that even with our present means bacteria may be excluded from wounds, provided the means are used by those who hold the tenets of aseptic surgery and have been trained in its methods. Much remains to be done to perfect and simplify methods, and the practice of the future will doubtless be much more simple and certain than that of to-day.

It also follows that we must, with Grawitz and de Bary, repudiate the old theory that suppuration may be caused by thermal, mechanical, chemical, or electrical irritants. Thus, in the absence of bacteria, a foreign body, a tight stitch, a ligature, or tension of any kind cannot produce a drop of pus.

The bacteria found in wounds are usually micrococci and bacilli. As I am not writing for accomplished bacteriologists or finished surgeons, it may not be out of place to enter into a few details about these. The micrococci are spherical cells which multiply by fission, and always produce spherical cells. Each micrococcus consists of a delicate capsule filled with microprotein. When in the process of fission two micrococci adhere to one another, they form a *diplococcus*. When micrococci grow in chains, they form *streptococci*; and when in clusters, *staphylococci*. Micrococci resist heat for some time, and are most difficult to kill with chemicals.

The bacilli are bodies of which the length is greater than the breadth. The length may just exceed, or be twice, thrice, or many times as great as the breadth. They resemble micrococci in possessing a cell membrane and microprotein contents, and some kinds have, in addition, one or more spores. Some have delicate lashes or flagella at either end, by which they propel themselves through the fluids which they inhabit. Bacilli multiply by fission and by spores. In the former process a single rod divides into two, which may remain adherent by their ends (diplobacillus), or by a continuance of the process of growth and fission a long thread (leptothrix) may result.

The spores are minute oval or spherical cells, which appear as clear shining spots in the substance of bacilli. They serve to perpetuate the species, and after having been

quiescent for years may, when placed under favorable conditions of warmth, moisture, and of nutriment, sprout and give birth to bacilli the same as those from which they themselves sprung.

Spores are endowed with extraordinary tenacity of life. They resist for long periods considerable degrees of heat and cold, or the action of strong chemicals. In addition, both cocci and bacilli possess a covering of an albuminous substance, often mingled with fat (Macé). When this is coagulated by chemicals it adds greatly to the resisting power of the organism.

The prodigious rapidity with which bacteria multiply is shown by Macé's calculation. According to Cohn it took two hours for two bacilli to complete their fission into four. Calculating upon this basis, Macé says that in three days these would have produced four thousand seven hundred and seventy-two billions. To reassure us he adds that happily for man this prodigious fecundity is continually checked.

The various bacteria, in addition to warmth, moisture, and nutriment, require oxygen. Some flourish in the presence of free oxygen (aërobes), others (anaerobes) will not grow in the presence of oxygen. The latter are cultivated by bacteriologists in an atmosphere of hydrogen or nitrogen, or in sealed capsules. It is hard to imagine that a living thing can exist without oxygen, and it is almost certain that anaerobes obtain theirs from the substances in which they live. Finally, many bacteria live indifferently in either the presence or absence of free oxygen. It is simplest to call these *indifferent*. As bacteria grow they manufacture or excrete substances which are called ptomaines or toxins. Some of these are the most potent poisons known, and are comparable to morphine, atropine, strychnine, and muscarine. When Koch's treatment of tubercle by the injection of toxins manufactured by the tubercle bacillus (tuberculin) was in vogue, it was most striking to see an almost inappreciable dose send the temperature up to 105° F., cause erythematous rashes similar to a violent outburst of erysipelas, and in some instances almost kill the patient. Bacteria also act as ferments, and produce poisons by causing chemical changes in the substances in which they live.

At the outset of any inquiry into the truth of the second induction it is necessary to have a clear conception of what is meant when we say that bacteria are the cause of suppuration, erysipelas, pyæmia, septicæmia, or of any other disease.

Henle clearly pointed out, and Koch* emphasised the requirements which must be fulfilled before any bacterium can be said to be the cause of a disease. First, it must be found in the blood or lymph or tissues of the diseased animal or human being; second, it must be separated and grown for many generations outside the body; third, the

* *Microparasites in Disease*, New Sydenham Society's translation; *The Etiology of Tuberculosis*, by R. Koch, translated by Stanley Boyd.

pure cultivation must, when introduced into the healthy living body, produce the disease in question; fourth, the same bacterium must be found in the body of the animal experimented upon, and be capable of further growth and transmission.*

These conditions have been fulfilled by many of the bacteria which are found in septic wounds; as examples may be cited *Staphylococcus pyogenes aureus*, *Staphylococcus pyogenes albus*, *Streptococcus pyogenes*, *Streptococcus erysipelatosus*, *Bacillus septicus*, *Bacillus coli communis*, *tetanus bacillus tubercle bacillus*, *anthrax bacillus*, and several others. Septic wounds, however, contain many bacteria, the properties of which are still uncertain. Some are pathogenic; others, perhaps, are non-pathogenic. But definite knowledge upon this point is not essential, because aseptic surgery aims at the exclusion of every kind, quite irrespective of their properties. No surgeon could, on this account, discard bacteriology. Many diseases are caused by bacteria, and can only be explained and understood with the help of knowledge gained in the bacteriological laboratory. Moreover, a knowledge of bacteriology is required for the scientific use of antiseptics and disinfectants. Therefore I propose now to give some further details about some of the wound bacteria which have fulfilled the requirements of Henle and Koch. *Staphylococcus pyogenes-aureus* comes first because it is, perhaps, found oftener than any other in acute suppurations and septic wounds. It has been proved to be the cause of a number of surgical diseases, amongst which may be mentioned acute suppurative periostitis, acute osteomyelitis, acute suppurative peritonitis, inflammatory wound gangrene, septicæmia, and pyæmia.

Eiselsberg† examined eighteen cases of acute suppuration to ascertain what bacteria were present. In eight, *Staphylococcus aureus* was found; in four, *Staphylococcus aureus* and *Streptococcus pyogenes*; in three, *Staphylococcus aureus* and *albus*, and *Streptococcus pyogenes*; in two, *Streptococcus pyogenes*; and in one, *Staphylococcus aureus*, *Staphylococcus albus*, *Streptococcus pyogenes*, and a bacillus.

Bassowski,‡ who investigated Professor Mickulicz's surgical cases by Koch's method of plate culture, found that the secretions of ten wounds out of fifty were sterile. Of the forty septic cases twenty-six contained *Staphylococcus albus*, but in eleven of these *albus* was mixed with other bacteria; nine contained *Staphylococcus aureus*, three being mixed. These septic cases usually suppurated; the sterile were healed by first intention. In examining wounds by culture methods I have found that much depends upon the degree of success with which aseptis is approached. Of late when aseptis has failed I have seldom found anything but skin bacteria in the

* *A Manual of Bacteriology*, E. Crookshank, 2nd edit., 1887, p. 2; see also *Bacteria and their Products*, by G. Sims Woodhead, 1891.

† *Wiener medizinische Wochenschrift*, 1886, p. 133.

‡ "Vorkommen von Mikro-organismen in Operations-Wunden unter dem aseptischen Verhandlungen," *Wiener medizinische Wochenschrift*, 1887, p. 258.

wounds which I have examined. Micrococci are often found in the vicinity of wounds which have healed by first intention. As a rule the presence of bacilli indicates grave faults in technique. This applies especially to the putrefactive bacilli. I now refrain from giving an opinion as to the bacteria in wounds, unless they have been investigated by plate cultures. This often reveals bacilli which were quite unsuspected; having been obscured by the more rapidly growing micrococci. The method of plate culture is of extreme importance, and as a means of investigation is often neglected. Statements made by those who do not use it are to be received with caution. Its principles are very simple. A minute particle of the suspected material is shaken up with half a test tube full of sterilised distilled water. With a particle of this a liquefied gelatin or agar-agar tube is inoculated, poured into a shallow glass dish protected with a glass cover, and left to solidify in a wide-spread, thin layer. After a few days in the incubator the sparsely scattered bacteria begin to grow in separate and distinct colonies, from which pure cultures of the different species are easily started.

Staphylococcus pyogenes-aureus is spherical. Its diameter is about 1μ , but smaller or larger specimens are often met with, and cultures sometimes contain large cocci which stain badly.* Doubtless the size of the cocci depends upon their age, their nutriment, the conditions under which they were grown, and upon the way in which the specimen was prepared for examination. The amount of heat used in drying has an obvious effect. The cocci also look smaller in sections of tissues.

Staphylococcus pyogenes-aureus grows in dense clusters like bunches of grapes, and with great rapidity, upon all kinds of nutrient media. Gelatine, agar-agar, and sterilised potato are the most convenient. It grows upon the surface and in the depths of the gelatine, being indifferent. On the surface it looks like a layer of gold-dust, and justifies its name *aureus*. At first the colour may be pale, almost white, but in twenty-four or forty-eight hours the golden tinge appears. Thus it is hazardous to pronounce too quickly upon the nature of a young culture. The pigment which is produced has a tendency to diffuse and stain the medium upon which the cocci are growing. This is best seen in agar-agar and potato cultures. The formation of this pigment has been supposed by some to account for the jaundiced hue which is seen in some cases of pyæmia. The pigmentation of cultures is deepest on the surface, and free oxygen is necessary for its proper production.† *Staphylococcus aureus* liquefies gelatine or solidified blood-serum with great rapidity. They are, I believe, peptonised by the microbe, which doubtless acts in the same way upon unorganised blood-clots within the body.

* Cornil et Dabes, *Les Bactéries*, 3rd edit., vol. i, p. 407, fig. 159; also Macé, *Traité pratique de Bactériologie*, 2nd edit., Paris, 1891, p. 265. Both of these books are most useful for reference.
† *Micro-organisms with Special Reference to the Etiology of the Infective Diseases*, Flügge, New Sydenham Society's translation, by W. Watson Cheyne, 1890, p. 185.

Staphylococcus aureus has an odour of pus when growing upon culture media.

The pathogenic properties of *aureus* have been abundantly proved. Self-sacrificing experimenters have caused acute suppuration in themselves with pure cultures. Garré rubbed one which had been obtained from a case of osteomyelitis into the skin of his arm. The result was a crop of furuncles, which occurred wherever the microbe had entered the cutaneous glands.* But to cause suppuration quickly with cultures of *Staphylococcus aureus* it is usually necessary to introduce them in considerable numbers. Small doses are, however, efficacious if a *locus minoris resistentiæ* has been made before the injection. Messrs. H. Waterhouse and Fiedle found that a dilute solution of *Staphylococcus aureus* could be injected into their cellular tissues without result. But if the part experimented upon had previously been constricted for three hours with a rubber ring an abscess followed.†

Dumm also injected pure cultures of *Staphylococcus pyogenes-aureus* into the subcutaneous tissues of his own arm, and into the arms of two other persons. Acute abscesses developed in each case, and some of them became as large as a fist before they were opened. The pus contained *Staphylococcus aureus*. Similar results have been obtained by Bockhardt.‡

The experiments of Grawitz, Wegner, Waterhouse, Rinne, Fraenkel, and others show that small doses of *Staphylococcus aureus* may be introduced without ill result into the cavity of the peritoneum. But suppurative peritonitis follows if the serous membrane be previously damaged by the drying due to exposure to air, by the action of chemicals, by tearing or laceration, or if foreign bodies or blood-clots were present. The same results have been obtained with other bacteria, especially the *Bacillus coli communis*. Obviously the above favorable conditions often occur in surgery.

I have at various times seen what power *Staphylococcus aureus* has of causing suppuration and pyæmia, the first cousin of suppuration. In March, 1890, I had a youthful fourteen years under my care in the Great Northern Hospital. He was supposed to have had an attack of acute rheumatism. He came three weeks after its onset, with the usual signs of acute synovitis of the hip, very ill, with a temperature of 101° F. Some pus was removed with an aspirator from the neighbourhood of the hip-joint. In a few hours the culture media which had been inoculated with it contained *Staphylococcus aureus*. The hip was cut into, and the upper epiphysis of the femur found to be almost detached by acute suppuration at its junction with the shaft. Some of the culture of *Staphylococcus aureus* was mixed with salt solution until the fluid looked milky. Six drops of this solution were injected

* *Ibid.*, p. 187.

† Herbert J. Waterhouse, *An Experimental Inquiry into the Influence of Certain Factors in the Causation of Peritonitis*, Prize Thesis, Edinburgh, 1889. For an abstract of this excellent thesis see *Virchow's Archives*, 1890.

‡ *Surgical Bacteriology*, Nicholas Senn, Edinburgh, 1889, p. 85.

into the auricular vein of a strong and healthy rabbit. In ten days the animal became paraplegic, and on the twelfth it was killed. It had suppuration around the lumbar part of its spinal cord, suppurative nephritis, and retention of urine. *Staphylococcus aureus* was grown from the abscess round the cord, but the urine was sterile, probably because only the clear part of it, and not the turbid sediment, was used for inoculation. The kidneys contained quantities of micrococci. To make this case complete the rabbit ought to have died of epiphysitis, but it is sufficient to note that the microbe caused a virulent suppuration, similar to that from which it came. But, as a matter of fact, *Staphylococcus aureus* has now been used so much by experimental pathologists that it is as well known as anthrax.

If a specimen of pyæmia was wanted for the bacteriology class I merely injected a solution of *aureus* or of *Streptococcus pyogenes* into a rabbit's veins, and felt almost sure of obtaining what was wanted.

Too much stress is not to be laid upon inoculation experiments performed upon animals. The effects of bacteria are very variable. For instance, the bacillus of mouse septicæmia is fatal for house mice, whilst field mice are unhurt by it.* Anthrax kills European sheep, but is resisted by Algerian except in massive doses;† and *Streptococcus pyogenes* seems to be most pathogenic for mankind, although, like others, I have had difficulty in producing with cultures of it disease in rabbits and guinea pigs.‡ Anthrax is hardly at all pathogenic for dogs, although it kills sheep and cattle.§ But the natural immunity which some animals enjoy can be abolished by suitable means. For instance, Pasteur found that fowls did not die of anthrax unless they were made ill, and their temperatures lowered by immersion in cold water. Frogs, on the other hand, were insusceptible to anthrax until they were kept in warm water. It is probable that similar influences affect the action of *Staphylococcus aureus* and of other bacteria.

Many of the experiments which are narrated require to be accepted with caution. Owing to their close resemblance I have little doubt but that observers have hitherto failed to differentiate between some kinds of pathogenic and non-pathogenic cocci and bacilli. For instance, Bossowski|| has described a micrococcus which has the closest resemblance to *Staphylococcus aureus*, and which he calls *Staphylococcus gilvovus*. It liquefies gelatine more slowly than *aureus*, and was

* Koch, *Traumatic Infective Diseases*, New Sydenham Society's translation, by Watson Cheyne, 1880, p. 33.

† Chauveau, *Comptes rendus de l'Académie des Sciences*, 1879, vol. lxxix, p. 498.

‡ *Micro-organisms in Human Traumatic Infective Diseases*, Rosenbach, New Sydenham Soc., 1906, p. 408, translated by Watson Cheyne.

§ See papers by Pasteur, translated by Dawson Williams, *Micro-parasites in Disease*, New Sydenham Soc., 1886. This is a most valuable volume, and contains several most important monographs.

|| "Vorkommen von Mikroorganismen in Operationen-Wunden unter dem antiseptischen Verbande." *Wiener med. Wochenschrift*, 1887, p. 250, &c.

non-pathogenic for rabbits. It is said that the wounds in which it was found did not suppurate.

Under the name of *Staphylococcus albus* many kinds of bacteria have doubtless been included. Welch* has described a micrococcus which is a constant inhabitant of the skin, and which he calls *Staphylococcus epidermidis albus*. It bears the same relation to *Staphylococcus albus* as *gilvovus* does to *aureus*.

Independently of Welch I have myself † described a *Diplococcus epidermidis albus* which is very like *Staphylococcus pyogenes albus*, and was found in the vicinity of antiseptic wounds. I have very frequently met with it since both in wounds and in broth into which skin has been dropped. I am by no means sure that it is the same as the *Staphylococcus epidermidis*. It produces a peculiar odour as it grows, such as is smelt when uncleanly people remove their vestments. It seems to have no effect upon rabbits when injected into their blood, nor does it cause suppuration when squirted under the skin.

Staphylococcus pyogenes-albus, which has been referred to so often, has the closest resemblance to *Staphylococcus aureus* in everything except colour. Grown upon culture media, however, it lacks the golden hue, and is white, as its name implies. Much remains to be done to clearly differentiate *Staphylococcus albus* from the various bacteria which resemble it so closely in everything but its pathogenic properties.

(To be continued.)

Clinical Sketches.

By W. P. HERRINGHAM, M.D., F.R.C.P.,
Medical Registrar.



THE following case illustrates the relief of cardiac distress by leeching:

F. A., a girl of 17, was admitted on September 10th (Elizabeth Ward, Sir Dyce Duckworth) with symptoms of heart disease of long duration. There were signs of general cardiac dilatation (? adherent pericardium) and a double mitral murmur. Ascites was present, and there was a large amount of albumen in the urine. The liver was much enlarged. She could not lie down. The lungs were evidently œdematous, resonance being diminished at both bases, and moist sounds being everywhere audible.

She was kept in bed, and treated at first with digitalis and iron, then, as she did not improve, with citrate of caffeine and nux vomica; she had light meat diet and brandy ʒss.

Her distress was increased by symptoms of gastric catarrh, loss of appetite, flatulence, nausea, and vomiting. Various changes in the diet were made, but without effect.

On September 25th three leeches were put on over the liver, with great relief to all the above symptoms, especially the nausea and vomiting and the general malaise.

For several nights after the leeching she slept much better, and expressed herself as generally greatly relieved.

Remarks by Sir Dyce Duckworth.—The results of the above treat-

* "Conditions underlying the Infection of Wounds," *American Journal of the Medical Sciences*, 1891.

† "Further Report on Aseptic and Septic Surgical Cases, with Special Reference to Infection from the Skin," *British Medical Journal*, May 28th, 1892.

ment were very noteworthy. The same course was followed in the case of a young girl presenting similar conditions, who was in Elizabeth Ward three months ago. The vascular tumidity of the liver, with the accompanying plethora of the entire portal venous system, leads to an abiding condition of catarrh of the whole alimentary mucous surface. This varies in degree from time to time in any given case according to the effects of treatment, exposure to chill, or the amount of relief afforded by the bowels, kidneys, or skin. With increase of venous engorgement there is apt to come on in the later stages of cardiac dilatation the symptoms described in the foregoing case, entire loss of appetite and a semi-collapsed condition. Digitalis and other commonly approved remedies fail to do good, or are rejected, and the outlook is as grave as can be. If depletion of blood be now practised by means of leeching over the liver, the most marked improvement is likely to be seen within four or six hours, and a new lease of comfort is secured. It is not improbable that a greater measure of relief is afforded by abstraction of blood in this fashion than by ordinary venesection. The value of a nightly dose of blue pill in cases such as the above remains to be mentioned, and this can seldom be dispensed with.

The Objects and Methods of the Study of Anatomy.

By H. J. WARING, M.S., B.Sc., F.R.C.S.,

Demonstrator of Anatomy and Operative Surgery, St. Bartholomew's Hospital.

AT the commencement of every winter session, the majority of our new students commence the study of Human Anatomy, and to very many of them the reasons why and wherefore they are told to learn anatomy so carefully appear obscure, or even incomprehensible. In the following paragraphs the main points in connection with the objects and methods of the study of Anatomy are discussed.

OBJECTS.

1. *The attainment of an intimate and exact knowledge of the structure of the human organism.*—No one can become an intelligent student or practitioner of medicine and surgery until he has acquired a considerable amount of knowledge of the anatomical structure of the human body, and on this account, it behoves every student to make the best use of all the opportunities which are afforded him of learning anatomy, so that when the time comes for him to begin his work in the wards or out-patient departments, he may be able to benefit to the full extent by the courses of instruction there given.

The study of anatomy precedes to some extent the study of physiology, since it is requisite that everyone should have a definite idea of the various structures and organs, the functions and uses of which in the animal economy, are taught in the physiological laboratories and lecture theatres.

2. *To train the student in the acquirement of the art of observing minute details.*—This is a very important faculty for the students of medicine to possess, and in order to acquire it, careful attention must be given to practical anatomy and dissection. By repeatedly observing the origin, course, and distribution of the various anatomical structures, their relation to one another and to the surface of the undissected body, and the fixation of these facts in the

memory, in a short time the industrious student will find that he has unconsciously acquired the art of observing minute details, differences of structure, and relative position, which will be found of enormous value to him when he has to learn how to diagnose, and then treat the patients coming under his observation and suffering from different ailments.

3. *Acquirement of manual dexterity.*—The performance of all surgical operations, however slight and trivial, requires that the operator should possess a fair amount of manipulative skill, otherwise the results are liable to be very unsatisfactory. In order to acquire this manipulative skill, the young student of medicine cannot do better than take great pains over his dissections, since by doing this he accustoms his hands and fingers to the use of scalpel and forceps, and at the same time, if he carefully note and observe every structure which is thus displayed, he easily and readily acquires an exact and definite idea of the anatomy of the part which is being dissected.

4. *The development of the reasoning faculties.*—As the faculty of observation becomes developed the reasoning powers at the same time are brought into play. Thus when the student has observed the minute structure, shape and form of muscles and joints, and has also seen the parts of the bones to which the muscles are attached, then by a process of reasoning the movements which will take place when a certain muscle or group of muscles contract can be foretold. In this way the knowledge of physics and mechanics which has been acquired at an earlier period is made use of.

5. *To enable the student to pass his anatomical examination.*—This, from the student's point of view, is very often the sole object of the study of anatomy, and as soon as this object has been attained, anatomy becomes, as far as he is concerned, a dead science.

Every man who pursues the study of anatomy with the objects in view as detailed in the preceding paragraph, will never have any difficulty in passing his anatomical examinations. If, however, the subject is crammed up during the last few weeks by continuous reading, failure will be very common. All anatomical examinations (with one or two exceptions) are essentially practical, and often the student who, by cramming, has succeeded in doing a fair paper, comes hopelessly to grief over the *viva voce* on the dissected subjects, which are found in every anatomical examination room. Moreover, the student who has crammed anatomy, and has never really understood it, stands at a disadvantage with his fellows when he commences clinical work. This is especially the case in surgery, and usually a good practical anatomist soon and easily acquires a comprehensive knowledge of surgery.

METHODS.

1. *By dissection.*—This is the easiest and best method of the study of anatomy. Frequent visual observation of the various structures exposed by the scalpel and dissecting for-

ceps cause a definite idea to be impressed upon the brain, which is far more likely to be retained than when an account of the same structure is read from a text-book alone. Anatomical facts which are learned from statements in books are very soon forgotten, and when retained the reproduction of them by the psychical processes of memory is usually much slower and takes far longer than when the same facts have been learned by visual observation of the part concerned.

On all points it is advisable that the student should pay continued attention to practical dissection.

2. *By the study of comparative anatomy and embryology.*—A knowledge of comparative anatomy and especially embryology helps very considerably the explanation of some of the obscure points in human anatomy. We find in the adult many remains of fetal structures, which when seen in their rudimentary condition appears to be useless appendages. If, however, we consider what has been their rôle in embryonic or early life, then we easily understand their significance. Many of the so called anatomical abnormalities or variations can be readily explained by a reference to development. In the study of surgery a knowledge of the ontogeny of the individual is very advisable, since many congenital malformations which require an exact diagnosis can be easily understood, if the way in which the parts affected have been developed is known.

Hence from both an anatomical and surgical point of view it is advisable to recommend that every student of medicine should master the elements of embryology.

3. *By the study of sections.*—The study of sections of various parts of the human body made in various directions is a most valuable method, and one which is too little made use of at the present time. Every student, when he is dissecting any "part," should refer to sections of the part concerned. By doing this he is enabled to gain a much more exact idea of the relations which the various structures have to one another, and also to see what is their relative position as regards the surface of the body. If this advice is followed the student will gain a good knowledge of topographical anatomy, which is a most important factor in surgery, and which also is of the greatest value in many of the higher anatomical examinations.

In the gallery of our dissecting room there is a large number of sections of various portions of the body which are permanently mounted in spirit, and every student is strongly recommended to make a frequent study of these, especially those which are the same as the region which he is dissecting.

4. *By the study of diagrams, plates, and models.*—Diagrams and plates are only of use in showing what is to be found on actual dissection. It is impossible to learn anatomy from these alone. They should be used for refreshing one's knowledge of a part which has already been dissected, and then only when it is not possible to see the part itself. Models are rarely correct, hence on this account it is not

advisable to learn too much from them. In some cases, however, they are very useful; especially in studying the anatomy of the ear, when it is often quite impossible to find the various structures in the "parts" in the dissecting rooms. Models when correct are far preferable to diagrams and plates; and should be used when the actual parts cannot be had.

5. *Learning by rote.*—Anatomy cannot be learnt in this way. Some facts it is necessary to learn thus, but in every case when it is possible, anatomical structure must be seen, and compared with the description in the text-books.

Flatulent Dyspepsia and its Rational Treatment.

By W. ERNEST MILES, F.R.C.S. Eng.,
House Surgeon to the Metropolitan Hospital.

FLATULENT dyspepsia is admittedly one of the most common of diseases that are encountered in the daily routine of the out-patient practice of our general hospitals, as well as in that of private practice. It may perhaps be regarded as a fashionable disease, particularly among women; and has been classified as a slight ailment in spite of its notoriety in proving itself rebellious to ordinary methods of treatment. To establish the treatment of this, as of any other disease, upon a sound and rational basis, and also to define with exactitude the disease in the relation of cause and effect, has always been our chief aim; and until this has been accomplished, no measure of success can be hoped for. Moreover, I deem it the bounden duty of any member of our profession, who may have conducted the treatment of any particular disease upon any special line, to publish his results, more especially if he has met with reasonable success. These considerations constitute my apology for writing this paper on the antiseptic treatment of flatulent dyspepsia, and though lamenting the paucity of the material at my command, I trust that the hitherto satisfactory results that I have obtained may induce others to give the treatment a fair trial.

Causes.—Various hypotheses have from time to time been put forward to account for the production of flatulent dyspepsia, which may in general be summed up as follows:—the assumption that persons suffering from this disease lack a something (very vague) in their digestive apparatus which frustrates normal and healthy digestion; the existence of a general atony of the alimentary canal, due to some debilitating cause, such as anæmia, whereby the active muscular movements, necessary for the satisfactory performance of the digestive process, are impaired or lost; a deficiency of pepsin or an excess or scantiness of hydrochloric acid in the gastric juice. The above may certainly be factors in the production of the disease in question, but that they constitute the sole agencies is very much open to question.

Recently the idea has been conceived that the numerous micro-organisms that infest the alimentary tract may perhaps play an important part in the production of dyspepsia, and this assumption is reasonable when we reflect upon the nature of our food-stuffs. By far the greater portion of these are of highly putrescible material, that is to say, they are capable of undergoing decomposition when exposed to the action of the air for a sufficient length of time. Such decomposition is well known to be brought about by the action of saprophytic micro-organisms which gain access to all decomposable material from the surrounding atmosphere. Since, then, a large proportion of our food contains micro-organisms which are instrumental in bringing about the decomposition of such food, it is evident that vast numbers of these organisms are introduced into the alimentary canal at each meal. The process of cooking ensures for the time being the effectual destruction of micro organisms contained in food, and may be regarded in the light of a sterilising agent, but the sterilisation thus brought about is not maintained when cooked food is allowed to again come into contact with the atmosphere for any length of time before being eaten. Cultivation experiments have shown that bread fresh from the oven contains comparatively few organisms, and that stale bread contains them in large quantities. Such articles of diet as cheese and butter are well known to contain numerous organisms.

Action of Micro-organisms in the Alimentary Tract.—Though the alimentary canal is habitually infested with micro-organisms introduced from without, yet their instrumentality in the production of digestive disturbances is determined in great measure by the health of the individual. A man who is in robust health and whose gastric secretions are not impaired does not suffer from their action, mainly because healthy gastric juice is antagonistic to their growth. On the other hand, those who are in feeble health, who lead sedentary lives, in whom a general atonic condition of the alimentary canal exists, and whose gastric juice is produced in insufficient quantity, are readily affected. In these latter the food remains in the stomach and small intestine for a longer time than is natural, and the organisms, unmolested, create in it fermentation, putrefaction, and the formation of ammonia compounds—amines. The organisms also during their growth elaborate certain alkaloidal substances—ptomaines, which when absorbed give rise to a species of toxæmia. In this connection Prof. Bouchard well observes that "Man is, every moment of his life, running the risk of being overpowered by poisons generated within his system, and self-poisoning is only prevented by the activity of his excretory system."

Treatment.—Hitherto, no clear conception having been formed concerning the real exciting cause of flatulent dyspepsia, all cases of this disease have been treated in more or less of an empiric fashion. Drugs, such as sodium bicarbonate and subnitrate of bismuth, have been pre-

scribed indiscriminately in all cases, their *modus operandi* being for the most part a matter of speculation. This method was supplemented by strict injunctions as to the preservation of the general health by careful dieting and the like. Surely it cannot be a matter of surprise that this disease has proved itself rebellious to a line of treatment formulated upon such flimsy hypotheses as to the nature of its cause. Indeed, it was not until Bouchard gave us more definite ideas of normal and abnormal intestinal processes that a rational method of procedure in the treatment of these cases has been conceived. Having convinced himself of the important rôle played by micro-organisms in bringing about abnormal decomposition of the intestinal contents, he deemed it feasible to attempt to attack such organisms by a suitable antiseptic, and it is to him that we owe the chief advancement that has been made in this direction.

Intestinal Antiseptics.—To obtain an antiseptic that would be sufficiently insoluble to remain a certain length of time in contact with the gastric and intestinal contents presented the greatest difficulty in this treatment. Bouchard first drew attention to the antiseptic properties of the naphtholic group, and his experiments were in the main confined to the use of β -naphthol. This substance, however, was found to irritate the gastric mucous membrane, and therefore its use became limited. To overcome this a compound of β -naphthol and salicylic acid was prepared; but this also did not afford satisfactory results, since the acid exerted injurious influences upon the kidney in some cases. Yvon and Berlioz then prepared a benzoate of naphthol or benzo-naphthol, by the action of benzoyl-chloride on β -naphthol, which substance was found to be free from the injurious properties of the above mentioned.

Benzo-naphthol.—Since this drug is the one with which the greatest success has been achieved in the antiseptic treatment of flatulent dyspepsia, and about which I shall relate my personal experience, it would perhaps not be out of place here to put my readers in possession of a few facts concerning the chemical and physiological properties of the drug, and at the same time briefly to refer to the chief experiments that have been made in connection with it.

Chemical Properties.—Benzo-naphthol is a white crystalline powder, free from taste and possessing only a slight odour, and insoluble in water at ordinary temperatures. In alcohol it is more soluble, from which it can be re-crystallised in long needles; these needles have definite microscopic appearances, and can readily be recognised. The best solvent of this powder is chloroform. A hot alcoholic solution should not give any cherry-red coloration when an equal volume of HNO_3 and a few drops of mercurio-nitrate solution are added, which would indicate the presence of free β -naphthol. Apparently dilute acids exert no action upon benzo-naphthol, but alkalis are able to split it up into its component parts, viz. β -naphthol and benzoic acid.

Physiological Properties.—When introduced into the

stomach, benzo-naphthol remains undecomposed, but upon passing into the small intestine it is acted upon by the alkaline secretions and split up. Having reached the small intestine, the liberated naphthol is able to exert its disinfectant action upon the contents, and gradually becomes absorbed. Soon after administration the urine contains both benzoic and hippuric acids. If the contents of the stomach are examined after the administration of the drug, the characteristic needles can be recognised microscopically, but the fæces do not show their presence. Dominici of Paris experimented physiologically with benzo-naphthol, and found that small doses caused quick and abundant diuresis in guinea-pigs; larger doses caused more intense and abundant diuresis with slight elevation of temperature. Very large doses were given before any deleterious effect was produced.

Experiments.—Prof. C. A. Ewald, of Berlin, demonstrated the anti-fermentative action of benzo-naphthol at a meeting of the Berlin Medical Society.*

He exhibited three pairs of Pavy tubes containing diarrhoeal intestinal matter taken from different patients. One of each pair had been treated with 1 gm. of benzo-naphthol, the others being kept for comparison, and the height of the gas volume generated was estimated after forty-eight hours in the incubator. At equal temperatures and pressure, this measured in the first pair 2 cm. (with benzo-naphthol) and 7 cm. (without benzo-naphthol); in the second pair 3.6 cm. and 9 cm. respectively; in the third pair 2.5 cm. and 11.4 cm. respectively. From these results it may be inferred that benzo-naphthol possesses a distinctly anti-fermentative action on the contents of the intestines. From the above it may be concluded that the antiseptic properties of benzo-naphthol are undoubtedly due to the naphthol that is liberated when the drug is acted upon by the alkaline intestinal juices. It possesses the advantage over α and β naphthol in that it does not irritate the mucous membrane, and being tasteless and odourless it is convenient for internal administration.

Cases of flatulent dyspepsia, in which there is an atonic condition of the intestines and chronic intestinal catarrh, caused by abnormal decomposition and formation of gas, are pre-eminently those which the internal administration of benzo-naphthol is likely to benefit. During the past eighteen months I have given this treatment an extended trial, and have so far met with satisfactory results. The subjoined are a few of the more typical cases that I have subjected to the antiseptic plan of treatment.

CASE I.—E. H. female, æt. 30, unmarried, well nourished though slightly anæmic, has for years past suffered habitually from flatulent dyspepsia. Her appetite is good, but after meals suffers from flatulence with great discomfort and a sense of distension at the epigastrium. The flatulences is most marked for a few hours after food, and then subsides

* Nos. 26 and 27 of the *Berliner klin. Wochenschr.*, 1892.

with eructation. At times has severe attacks of palpitation. The abdomen is habitually distended with gas, and sonorous borborygmi are present, greatly adding to the patient's discomfort. At times is troubled with nausea, but is never actually sick. Has never at any time vomited blood. Suffers from constipation. Feels languid and averse to bodily and mental exertion. Irritability of temper also manifests itself.

April, 1893.—Benzo naphthol ordered in ten-grain doses to be taken three times a day during each meal, and continued for a month.

May, 1893.—Condition has greatly improved; experiences very little distension after food. The abdominal distension has greatly subsided, and the borborygmi are much less frequent. Bowels are more regular, and her general health is improving.

July, 1893.—Improvement continues with use of benzo-naphthol. There is now no abdominal distension, and borborygmi are absent. Feels much better in herself, and capable of more exertion. Is less anæmic.

Remarks.—The use of benzo-naphthol has materially improved the patient's condition in this case. This is most marked in the disappearance of the abdominal distension. Up to the present she is seldom troubled with flatulence, and when this occurs she finds great relief from a dose or two of benzo-naphthol.

CASE II.—E. F., female æt. 32, married, one child, has for years suffered from a feeling of discomfort and distension after food. Is well nourished, rather pale and sallow in complexion, and, as a rule, active in her habits. At times is quite free from discomfort after food, but suffers from repeated attacks. Bowels habitually confined. Complains that she always feels hungry after having partaken of a meal. Suffers from nausea after eating, but is not actually sick. At times has acute pain below and to the left of the ensiform cartilage and her heart palpitates. Feels as though she were blown out, and eructates freely. Sonorous borborygmi are also present. When in this condition feels drowsy, lazy, and incapable of any mental exertion. Has a sour taste in her mouth, and her breath has an acid smell.

June, 1894.—Benzo-naphthol ordered in ten-grain doses to be taken during each meal. She was also directed to take one tabloid of Cascara Sagrada every other night to relieve constipation.

July, 1894.—Marked improvement. Feeling of discomfort and distension after food has almost entirely disappeared; does not feel sick after meals, and is not troubled with eructations. Bowels act regularly.

Remarks.—In this case, as in the foregoing, the use of benzo-naphthol has been attended with marked success. Patient still continues to use the drug, and expresses herself as being like a new person. She has not experienced an acute attack since the commencement of the treatment.

CASE III.—J. H., male, æt. 40, complains that, for some time past, he has suffered from dyspeptic symptoms. He has eructations, a feeling of fullness after meals, and occasionally palpitation of the heart. His bowels are irregular and constipated, and after taking purgatives passes watery stools containing hard scybala. Passing flatus affords him great relief. Suffers periodically from colicky pains in the abdomen, followed by diarrhoea, the stools smelling very offensively. His appetite is good, and he is temperate in his habits. He is anæmic, and suffers from great irritability of temper.

June, 1894.—Ten-grain doses of benzo-naphthol ordered to be taken during each meal, and a plain water-enema used every morning with a view to assisting the passage of scybala.

August, 1894.—The result of the treatment was very gratifying. He has had no attack since the commencement of the treatment, and all of his dyspeptic symptoms have disappeared. His bowels act more regularly and his stools are much less offensive. His general health has greatly improved.

Conclusion.—The above are three of the more typical cases that I have subjected to the antiseptic plan of treatment by benzo-naphthol. In them there was undoubtedly present a general atonic condition of the intestines and chronic intestinal catarrh, caused by abnormal decomposition in the intestinal contents, accompanied by excessive formation of gas. That the treatment was effectual in the above-cited cases is sufficiently evidenced by the results. I may here point out that in the treatment of these cases attention must be paid to the general health, and to ensure a regular action of the bowels, either by a mild laxative or by simple enemata, is of paramount importance. As regards the mode of administration of benzo-naphthol, the most convenient way is to spread the powder upon a piece of bread and butter; the peculiar insolubility of the drug renders this mode of administration almost a necessity. During my whole experience in the use of benzo-naphthol, I have never found any ill effect follow an administration extended over many months in succession, and careful inquiry has not enabled me to elicit from patients so much as a slight increase in the renal secretion, which, as we have seen above, is an effect readily produced in guinea-pigs by comparatively small doses.

September 30th, 1894.

Notes.

At the Sanitary Congress held at Liverpool last month, Dr. Klein, F.R.S., was President of one of the Sections and delivered an address on the "Etiology of Typhoid Fever." Referring to the belief that the non-specific *Bacillus coli* is capable of changing into the specific bacillus of typhoid, Dr. Klein brought forward many facts to show that there is no sufficient evidence to justify this conclusion.

MR. W. H. JESSOP has resigned the post of Senior Demonstrator of Anatomy. Mr. Jessop has held office as a teacher of Anatomy in the "Rooms" for thirteen years, a period which has seldom been exceeded.

DR. LAUDER BRUNTON, F.R.S., has been selected by the Royal College of Physicians to deliver the Harveian Oration on Thursday, October 18th, at 4 o'clock.

At the first M.B. Durham, H. J. Godwin and B. C. Green have passed in Chemistry and Chemical Physics with Botany and Medical Botany, and H. E. M. Baylis has passed in Botany with Medical Botany.

At the second M.B. Durham in Anatomy and Physiology a Bart.'s man,—Edward Turner, M.R.C.S., L.R.C.P.,—was at the head of the list with first-class honours. Amongst others who passed are:—H. E. M. Baylis, H. J. Godwin, and P. W. James.

At the final I.S.A. Examination, A. P. Woolright passed in Forensic Medicine, and having now completed the examination has taken the diploma.

J. C. HOVLE, M.R.C.S., L.R.C.P., D.P.H., has taken the degrees of M.B. and B.S. in the University of Durham.

WE regret to announce that Dr. Kanthack has been suffering from an attack of enteric fever. He is now convalescent and has gone away for a holiday. He will not return till January.

In consequence of Dr. Kanthack's absence there will be no classes in Microscopic Pathology before January.

There will be a course of Elementary Bacteriology in November.

WE intend to issue with the next number of the *Journal* a picture of the new Pavilion at Winchmore Hill as it will appear when completed.

WE print the following extract from the "Student" number of the *Lancet*, because it relates to a matter which, we think, cannot be too strongly impressed upon Freshmen. We refer to the much-voiced question of men playing for outside clubs when wanted for the Hospital Team, and we entirely endorse the statements made by the *Lancet*:

Speaking of the lamentable lack of enterprise in the doings of the United Hospitals as a whole, the *Lancet* says: "Eight or ten years ago the United Hospitals could, in either of the national games, place a very formidable team in the field, but now a different order holds good."

Last year the United Hospitals Cricket Team played only one match, and the Rugby Football Team none at all. This state of affairs is no doubt largely due to the fact that many of the best athletes at the hospitals are fond of playing for outside clubs, a practice which cannot be too strongly deprecated.

Each member, until "out of his year," should play, as far as possible, for his hospital or for the United Hospitals alone.

With regard to the various competitions, the greatest amount of interest usually centres in the Rugby Football Challenge Cup, which

again fell to St. Thomas's, who also retained possession of the cups for lawn tennis and rifle shooting.

Guy's proved their supremacy in cricket and association football. St. Bartholomew's obtained the much coveted Athletics Challenge Shield after an exciting competition, and the Rowing Cup fell to St. George's.

The new specimens, which have been added to the Museum during the past year, were, as usual, on view from the 1st to the 14th of the present month; many of them were of great interest, and the collection was quite up to the average. Among the rarities we noticed—

(i) A very unusual case where true ossification had occurred in the synovial membrane of a knee-joint as the result of chronic inflammation started by an injury many years previously.

(ii) A series of no less than four cases of excision of the cæcum, out of which three recovered from the operation.

(iii) Two cases of intra-cranial suppuration following otitis media; in one case the abscess formed in the temporo-sphenoidal lobe, in the other in the cerebellum.

(iv) The brain from a very extreme case of internal hydrocephalus where the brain substance has almost entirely disappeared.

(v) A stomach enormously distended, and capable of holding no less than ten pints of fluid, the cause being a malignant stricture of the pylorus.

(vi) And a remarkable case of transverse hermaphroditism in the male, where the testes had not descended from the abdomen, but occupied the position of the ovaries on either side of a greatly hypertrophied male uterus.

There were, however, over a hundred specimens preserved in spirit, besides some excellent casts taken by Ernest Shaw, the Museum assistant, and a collection of over sixty drawings by Mr. Leonard Mark; each specimen had its proper description from the official catalogue, which greatly assisted in looking over them.

On Thursday evening, October the 11th, Sir James Paget delivered the Inaugural Address, opening the One Hundredth Year of the Abernethian Society's existence; the subject being, "Scientific Study in the Practice of Medicine and Surgery."

The Address was given in the Anatomical Theatre, which was crowded, the gallery even being called into use.

Over 500 people were present, including many members of the Staff, several of whom brought lady visitors, and nearly ninety nurses.

A full report of the meeting, together with a *verbatim* report of Sir James Paget's address, will be given in the next number of the *Journal*, but we cannot refrain, though on the point of going to press, from endorsing Mr. Marsh's statement, when proposing the vote of thanks to Sir James, that the occasion would become an "annal" in the history of the Society, and that everyone who had heard Sir James's address would, throughout the rest of his life, be proud to remember that he had been present.

At the moment of going to press, we hear that Mr. H. J. Waring, M.S., B.Sc., F.R.C.S., has been appointed Senior Demonstrator in Anatomy, in place of Mr. Jessop; that Mr. R. C. Bailey has been appointed Demonstrator in Anatomy, in the place left vacant by Mr. Waring's appointment; while the ranks of the Assistant Demonstrators have been recruited by the appointment of Mr. A. N. Wain.

Amalgamated Clubs.

NEW MEMBERS.

E. W. Groves.	G. B. Nicholson.
E. W. Lindsay.	E. Russell-Risien.
J. Hussey.	S. Verdon-Roe.
F. D. Smith.	W. H. Randolph.
P. P. Lal-Atal.	F. B. Everington.
A. Thompson.	A. G. Ede.
J. A. West.	C. S. Scott.
S. Stevens.	H. B. Butler.
J. E. Sandilands.	A. L. Vaughan.
J. Gutch.	T. E. C. Cole.
C. A. S. Ridout.	C. H. Turner.
H. F. Plachecki.	F. C. Borrow.
H. M. H. Melhuish.	W. E. Graham.
A. E. Carsberg.	F. H. Wood.
E. Wethered.	C. S. Hawes.
G. J. A. Leclizio.	A. L. Ormerod.
T. B. Haig.	F. V. Bice.
A. B. Pugh.	T. H. Gandy.
A. E. J. Lister.	S. Bennett.
R. Walker.	A. Hawkins.
R. T. Cooke.	W. Langdon Brown.
P. G. Harvey.	R. Biggs.
A. H. John.	A. A. Meaden.
Henry Mills.	J. C. Marshall.
C. C. B. Thompson.	W. M. James.
C. C. C. K. White.	W. C. Douglas.
H. G. Finker.	A. J. W. Walls.
S. P. Trood.	A. B. Brown.

THE CRICKET SEASON OF 1894.

THE cricket season of 1894, though not as successful at the end of the season as at the beginning, may be fairly said to be the best season the Hospital has had for the last two or three years. The First Eleven played 14 matches: of which 7 were won, 2 drawn, and 5 lost. The Second Eleven, which was started as an experiment this year, played 3 matches, all of which ended disastrously. The share St. Barth's took in the Inter-Hospital Cup Competition was decidedly disappointing, as after going through two rounds successfully with London and St. Mary's, we succumbed in the semi-final to St. Thomas's—a match which was thrown away by wretched fielding. Taking a summary of the different departments of the game, the batting may be said to have been very fair. All the members of the Cup team have averages of double figures, the team being right through a batting team, so that the last wicket in several instances came to the rescue with a very useful stand when things were going badly. The bowling, as seen by the averages, proved to have been better than expected, for the five regular bowlers each took over twenty wickets apiece. Of the fielding of the team the less said the better. It was wretched, and was not worthy of a second-rate scratch team. It is not too much to say that several matches were lost through our weak fielding, and if the Cup is to be won next year there will have to be instituted a series of practice matches to improve the picking up and throwing in of the team. On several occasions we were not able to play a representative team owing to men scratching just before the match. This sort of thing ought not to be, as it upsets a team altogether, and men ought to give up everything when they have once promised to play, since at the last moment it is very difficult to fill up places with good men.

The practice ground was fairly well patronised, but not as well as it was hoped, and unless the new ground is better attended next year by members of the Cup team, we may as well give up all hope of winning the Cup. In batting Bond has come out at the head of the

averages with a good average of 28. He has made by far the most runs, and batted consistently through the season. Fernie has a good average, and most of the team have got respectable averages, though not nearly as good as they promised to be at the commencement of the season, the latter part of the season being very disastrous. In bowling Rose was the most useful, though Bond had a better average. Fernie and Skey have both bowled well at times, and Nunn started the season well, but fell off later. Bond did several startling performances, but can hardly be said to have been a perfectly reliable bowler.

SUMMARY OF MATCHES.

Table with columns: Date, Match, Result, Runs, Overs, Wickets. Includes matches like Banstead Asylum, Maidenhead, London Hospital, Kensington Park, R. I. E. C., Cooper's Hill, Chelmsford, St. Mary's Hospital, Crystal Palace, Banstead Asylum, St. Thomas's Hospital, Hornsey.

Second Eleven.

Table with columns: Date, Match, Result, Runs, Overs, Wickets. Includes matches like Mill-Hill School, Barnet, Aldenham Grammar School.

ST. BARTHOLOMEW'S HOSPITAL v. CHELMSFORD.

Played at Chelmsford on Saturday June 16th. We lost this match after a very close finish by 28 runs, the result being in doubt up to the fall of their eighth wicket. We had not a representative team, but notwithstanding this there was no excuse for the bad collapse that set in at the tail, for whilst the sixth wicket fell at 137, the whole side was out for 146.

We won the toss, and of course took the first innings. The start was as disastrous as the finish, Simmonds being clean bowled before a run was scored, and Bond caught at the wicket a run later. Farrington and Fernie then played carefully and well, running no risks and letting very few loose balls go. The total was raised to 54 before Fernie, playing too carefully at an easy ball, was bowled off his pads for a most useful 24. Farrington left at 61, having compiled 30 in careful style. Maturin followed in, and at once began to play in very free style. After lunch he scored still more quickly and made some very fine cuts, but he just failed to reach his half-century, as with the score at 141 for seven wickets he was yorked, and retired for 47 made in very taking style. Then ensued a dismal collapse, one batsman after the other being bowled off their legs, and it seemed as if an epidemic had set in. Rose was bowled in trying to cut a straight ball just when he seemed in for a good score, Nimmo was caught on the boundary and the innings closed for 146.

After the usual interval Chelmsford started their innings to the bowling of Rose and Skey. The first wicket fell at 7, and the second and third at 41. Rose at this point, being well on the spot, seemed to puzzle the batsmen a good deal. Five wickets were down for 57, and A. P. Lucas, who was playing grandly, could get no one to stay with him. However Copeland managed to stay, and see Lucas make the winning hit, although he was often in difficulties, and the innings closed for 174, or 28 on. Lucas (76) was really the only one who could do anything with the bowling, and his innings was masterly. Never letting a loose ball go, he played a more careful game than in his earlier days, but still he showed us a glimpse of his well-known ability at the game.

Rose was our most successful bowler, his five wickets costing exactly 8 runs apiece, and up to a certain point none of the batsmen played him with any degree of confidence.

* Innings declared closed.

† Inter-Hospital Cup Competition.

Score table for St. Bart's Hospital vs Chelmsford. Columns: Player, Runs, Wickets. Includes players like W. J. Gray, R. L. Whittaker, A. P. Lucas, H. Wiggett, H. Gibson, Rev. W. Bury, H. Nounan, S. J. Ballard, C. A. Copeland, J. D. Dixon, W. Smethurst.

SECOND ROUND INTER-HOSPITAL CUP TIE.

ST. BARTHOLOMEW'S v. ST. MARY'S. Played on the Guy's Ground at Honor Oak Park on Tuesday, June 19th. Fernie won the toss, and sent in Bond and Simmonds to open the innings. This pair played splendidly, and added one more to their already long list of long stands for the first wicket. Runs came very steadily, and it was not until 60 was on the board that Smellie got past Simmonds, who retired for a very pretty 33, which was made up of one four, five threes, six twos, twelve singles. Bond followed out at 73, of which he claimed 31. His hitting on the off side was as good as usual. Three wickets were down for 111 and six for 154. Fernie batted very nicely, driving the ball to the boundary time after time, till at 187 he got his leg in front of a straight one and retired for a finely played 47, made up of six fours, two threes, three twos, and eleven singles. He had played with great confidence, and seemed set for a big innings. Of the others Maturin stayed a while, and Stone played very nicely, the latter with Nunn putting on 26 for the last wicket.

The innings closed just before lunch for 221, a total which was augmented by no less than 49 extras. After lunch Conry and Squire faced Rose and Skey, and before Skey with a good ball got past Squire 48 had been put on. Conry and Squire made a good stand, though the latter was three times missed - once before he had scored. Nine wickets were down for 144, but the last pair of batsmen, aided by very loose bowling and still worse fielding, raised the total to 173, thus making the match a good deal closer than it ought to have been.

Skey bowled very well at the start, but fell off afterwards. Rose always kept a good length, but Fernie appeared to be the most difficult. Barts thus qualified for the Semi-Final Round of the Competition.

Score table for St. Bart's Hospital vs St. Mary's. Columns: Player, Runs, Wickets. Includes players like F. D. Conry, M. F. Squire, J. H. Bond, E. S. Sworder, J. C. Smellie, F. J. Galne, A. S. Jackson, C. S. Murray, S. R. Mathews, W. Caley, J. Templeton.

ST. BARTHOLOMEW'S v. CRYSTAL PALACE. Played at the Crystal Palace on Saturday, June 23rd. Through one of our men scratching on Friday we had to play one short in this match, and this probably lost us the match. Fernie again won the toss, and sent in Simmonds and Bond to commence our innings.

Simmonds was bowled at 4, but Skey, who followed, batted steadily and well, and helped Bond to add 42 runs for the second wicket when he was bowled. Then ensued a rot - Fernie was caught in the long field from a big hit, Pope and Maturin bowled, all three leaving with the total at 57. Then Nunn and Bond made a good stand, both playing with confidence, and it was not till 75 runs had been put on that Nunn left for a most useful and nicely played innings of 31. Two more wickets fell at 132, Bond being run out just when he seemed certain of his century. It was a very close thing, and it was unfortunate that the batsman did not have the benefit of the doubt. Bond's innings was undoubtedly the best played for the Hospital during the season. He was not often in difficulties, and kept on scoring when the other batsmen were being quickly dismissed. His off drives were very fine, and included in his 76 were six fours, six threes, eight twos, and eighteen singles. There being only ten men, the innings closed for 150.

The Palace started badly, losing Barchard before a run was scored, but Nelson and Mitchell made a fine stand, and seemed likely to knock off the runs. Fernie and Skey, however, both bowled finely; the former on going on a third time found a spot, and getting a good deal of work on took five wickets for 28 runs. Skey all through bowled with very good length, and divided the wickets with Fernie.

Score table for St. Bart's Hospital vs Crystal Palace. Columns: Player, Runs, Wickets. Includes players like F. C. Barchard, F. H. Nelson, J. Mitchell, A. R. Skey, W. F. Fernie, J. M. Gowenlock, W. H. Pope, H. W. Dillon, J. W. Nunn, F. H. Nimmo, C. Forester, C. Wedd, A. H. Other, J. M. Collins.

Bowling Averages table for St. Bart's Hospital vs Crystal Palace. Columns: Player, Overs, Maidens, Runs, Wickets, Average.

INTER-HOSPITAL CUP COMPETITION.

ST. BART'S HOSPITAL v. ST. THOMAS'S HOSPITAL. This tie was decided at Honor Oak, and after an exciting game ended in favour of St. Thomas's by 41 runs.

St. Thomas's having won the toss decided to bat first: the wicket was hard and fast, and considerably in favour of the batsmen, so that St. Thomas's, aided by some loose holding on the part of the St. Bart's men, put together the respectable total of 236; the chief contributors being Yearsley, Leechman, and Rotherham. St. Bart's started badly on going in to bat; but, thanks to the fine innings of Fernie and Rose, 130 runs were made for the loss of five wickets; the next four wickets, however, fell for the addition of 19 runs, so that no less than 88 runs were required to win when the last man went in. Skey and Nunn, however, batted with considerable pluck, and added 46 runs for the last wicket; the innings eventually closing for 193 runs. Full score and analysis:

Score table for St. Thomas's Hospital vs St. Bart's Hospital. Columns: Player, Runs, Wickets. Includes players like H. Bond, E. G. Simmonds, A. Farrington, J. F. Fernie, Yearsley, E. F. Rose, F. W. Crossman, F. H. Maturin, G. W. Stone, W. H. Pope, J. W. Nunn, A. R. H. Skey.

Total runs: 236 for St. Thomas's, 193 for St. Bart's.

BOWLING ANALYSIS.—ST. THOMAS'S HOSPITAL.

Bowling analysis table for St. Thomas's Hospital. Columns: Player, Overs, Maidens, Runs, Wickets.

BATTING AVERAGES.

Batting averages table for St. Thomas's Hospital. Columns: Player, No. of Innings, Times not out, Total runs, Highest score, Average, Overs over 50.

BOWLING AVERAGES.

Bowling averages table for St. Thomas's Hospital. Columns: Player, Overs, Maidens, Runs, Wickets, Average.

ASSOCIATION FOOTBALL CLUB.

ALTHOUGH the Association Club loses this year the services of their energetic captain, Mr. G. R. Fox, and of Mr. J. S. Mackintosh, there is every likelihood that the remainder of the team, together with the new men, will have a successful year.

Mr. G. R. Fox's place as captain is taken by Mr. J. F. Fernie, who, since his entry to the hospital, has been a regular player, and has always taken a keen interest in the welfare of the Club. Mr. R. P. Browne succeeds Mr. C. H. Hopkins as senior secretary, and will be assisted by Mr. L. E. Whitaker.

There are rumours of several good men coming up, so that with regular playing, and the consequent good combination, we have every reason to anticipate that at the end of the season we shall put an Association team in the field for the Inter-Hospital Cup which will be difficult to beat, and which, we hope, will restore to the Library table the Cup taken from us last year by Guy's.

The second eleven, under the captaincy of Mr. E. H. B. Fox, should maintain the good reputation which has been theirs for the last few years.

A very good ground has been secured at Lower Edmonton, which seems to be an improvement on last year's ground. Next year the new ground at Winchmore Hill will be in full

swing, and the Hospital teams will at last have a "home" of their very own. The list of fixtures for the coming season is, we think, if anything, better than that of last year; amongst them we may mention, Casuals, Gravesend United, Maidenhead, and Crouch End.

As in the case of the Rugby Club, it is urged that men will "cross" their names on the notice board early in the week, and so minimise, as far as possible, the work of the Secretaries.

Abernethian Society.

SESSION 1894-95.

LIST OF PAPERS TO BE READ BEFORE THE SOCIETY.

- July 21st.—A. WILLETT, F.R.C.S.—Life and Work of Edward Stanley, formerly Surgeon to the Hospital.
 Oct. 11th.—SIR JAMES PAGET, F.R.S.—On Scientific Study in the Practice of Medicine and Surgery.
 " 18th.—REV. GEORGE HENSLOW.—Dietetic Value of Food Stuffs prepared by Plants.
 " 25th.—H. TOOTH, M.D.—On Functional and "Hysterical" Disorders.
 Nov. 1st.—H. LEWIS JONES, M.D.—Paralysis of Upper Arm.
 " 8th.—W. S. A. GAFFNEY, M.D.—Common Difficulties of Lactation.
 " 15th.—R. GUY, M.R.C.S.—The Measure of Anaesthesia.
 " 22nd.—W. P. HERRINGHAM, M.D.—On Disorders of Movement.
 " 29th.—W. J. COLLINS, J.P., I.C.C.—The Pathology of Insanity.
 Dec. 6th.—W. H. MAIDLAW, F.R.C.S.—Embryology in Surgery.
 " 13th.—J. BERRY, F.R.C.S.—Fractured Patella.
 Jan. 10th.—T. LAUDER BRUNTON, M.D., F.R.S.—Mid-session Address.
 " 17th.—
 " 24th.—W. H. HAMER, M.D.—Mortality in Unhealthy Areas of Towns.
 " 31st.—R. C. BAILEY, M.S., F.R.C.S.—Enterectomy.
 Feb. 7th.—W. B. PATERSON, L.D.S., F.R.C.S.—Some Medical and Surgical Aspects of Dental Caries.
 " 14th.—A. A. KANTHACK, M.D.—Tetanus and what it teaches.
 " 21st.—R. E. SCHOLEFIELD, M.D.—Rubella.
 " 28th.—F. D. CHATTAWAY, Ph.D.—Matches.
 March 6th.—D'ARCY POWER, F.R.C.S.—Illnesses of Samuel Pepys and his Wife critically considered.
 " 13th.—W. H. H. JESSOP, F.R.C.S.—Thirteen Years in the Dissecting Room.
 " 20th.—ANNUAL GENERAL MEETING.
 Before the reading of the papers all members are especially invited to show any cases of interest that they may have under their care.

At a Committee Meeting of the Abernethian Society held on July 13th, 1894, it was decided to ask the School Committee for their co-operation in arranging for the celebration of the Centenary of the Abernethian Society.

The School Committee appointed Mr. Willett, Mr. Bowlby and Dr. Shore to act with the Committee of the Abernethian Society. Mr. W. H. Cross has also been asked for his assistance, and has very kindly promised to give it.

St. Bartholomew's Hospital Smoking Concert Club.

THE First Concert of the Season will be given on Saturday, October 27th, in the French Room at St. James's Restaurant, Piccadilly, W. Tickets 1s. each. Member's ticket for the season, to admit member and one friend to each Concert, 5s.

Members and intending members are requested to pay their subscriptions on or before October 24th to the Treasurer (Mr. J. C. Padwick), or to the Hon. Secs., Messrs. D. L. E. Bolton and C. E. Hogan.

Volunteer Medical Staff Corps.

At the beginning of a new session, and of a new volunteer year, it is as well to draw the attention of students of this hospital to the fact that the third Company of this corps is recruited exclusively from students of St. Bartholomew's and St. Thomas's Hospitals.

This Company is in a most flourishing condition, and is nearly up to its complement in men, and quite so in officers; Surgeon-Captains H. Work Dodd and G. Sims Woodhead, and Surgeon-Lieutenant H. J. Waring being in charge of it.

The drills of the Company are arranged so as not to interfere with the hospital work of students, and take place quite close to the hospital, in Charterhouse Square.

At Easter the Corps goes to Netley Royal Military Hospital, and in August to Aldershot, to train with the Regulars. To quote from a letter published in these columns about a year ago:

"These outings are most enjoyable; we come into contact with students from eight other Metropolitan Schools, and our common life in camp promotes good fellowship among London medical students, and friendships are formed that might never otherwise have been."

The expenses on joining are a 10s. entrance fee, and a 10s. annual subscription. There is a Gymnasium and Shooting Club at Headquarters, which supplement the Hospital Amalgamated Clubs.

Intending recruits can get further information from any member of the Corps, and especially from any one of the following: Staff-Sergeant Owles, Sergeants Coddington, McKinney, Dunn, or Compton, or Corporal Granville.

ORDERLY ROTA FOR OCTOBER—NOVEMBER.

Lance-Sergeant Dunn and Lance-Corporal Williams, from 16th October to 23rd October.

Lance-Sergeant Compton and Lance-Corporal Wells, from 23rd October to 30th October.

Corporal Granville and Lance-Corporal Cazaly, from 30th October to 6th November.

Sergeant McKinley and Lance-Corporal Meade, from 6th November to 13th November.

Next for duty:—Lance Sergeant Dunn and Lance-Corporal Williams.

Parades.—Barnes Common (October 6th). Harrow (October 13th). Chelsea Barracks (October 27th). (For particulars see Notice board.) Distribution of prizes, November 31st. To be followed by a dance.

Annual Dinner of Old Students.

ON October 1st the Annual Dinner of Old Students was held in the Great Hall of the Hospital, and was a most successful gathering. Over 120 old students and guests were present. The arrangements, thanks to the energetic Honorary Secretary, Dr. Hensley, were admirably carried out. The Chairman was Dr. Thorne Thorne, C.B., F.R.S., and he was supported by Sir James Paget, Sir William Savory, and most of the Hospital Staff, as well as by several guests, amongst whom were Sir Richard Quain, Bart, Sir William Flower, Sir Frederick Abel, Professor Allbutt, Professor Roy, Professor Charles Stewart, and Dr. T. W. Barry and Mr. C. N. Dalton of the Local Government Board. After dinner, the Chairman proposed the loyal toasts of "The Queen" and "Prince of Wales, Princess of Wales, and Royal Family." These having been duly honoured, Sir Frederick Abel, who was formerly a Lecturer on Chemistry in the Medical School, proposed the "Army, Navy, and Reserve Forces." Sir William Flower responded, and referred to the much-debated question of rank and status of army surgeons. He regards the agitation for military rank to be a mistake, and considers that the

status of army surgeons will rise just in proportion as they ally themselves to their medical brethren outside the army. They are medical men first and soldiers afterwards.

Dr. Thorne Thorne then proposed the toast of the evening, "Prosperity to St. Bartholomew's Hospital and School, and the Health of all Old Students." In the course of his remarks he referred to the progressive character of Medicine, and designated St. Bartholomew's as the progressive Medical School. The great increase in the number of operations, which has necessitated the construction of an additional Operating Theatre, was referred to, as well as the great increase of late years in the Nursing Staff. He reminded his hearers, also, of the way in which the needs of the five years' curriculum had been met by the appointment of additional teachers, and by the fitting up of Bacteriological, Pathological, Biological, and Public Health Laboratories. Most remarkable, he said, was the great impetus given to Pathology by the appointment of a Pathological Specialist—Dr. Kanthack. The mention of the munificent gift by Sir Trevor Lawrence of a Research Studentship in Pathology was well received. Old students, too, were glad to hear of the care for the physical as well as mental culture which the authorities of the School have shown by the purchase of the recreation ground at Winchmore Hill. Mr. Barrow, of Ryde, Isle of Wight, who was the most senior Bart's man present, responded, and remarked that he entered the School that day sixty-two years ago, and listened to an address by Sir William Lawrence. Although the address was admirable, he himself preferred the present system of an Old Student's Dinner in the Great Hall to hearing an address in the Lecture Theatre. He recalled many of the incidents of his student's life, and claimed that although they in those days had their fun, they nevertheless did their work as well as the present students.

Mr. Henry Power, Consulting Ophthalmic Surgeon to the Hospital, then proposed in a gracious speech the health of the most recent member of the Hospital Staff, Mr. W. H. Jessop, who responded admirably, telling some of the amusing incidents of his recent canvass.

Dr. Church gave the health of the "Guests," and Sir Richard Quain, Bart., responded, as well as Professor Allbutt, Regius Professor of Physic at Cambridge.

Sir James Paget, than whom there is no one that Bart's men delight more to hear, proposed in well-chosen words the health of the Chairman, and Dr. Thorne Thorne gracefully replied. The Chairman then gave the health of Dr. Hensley, the Honorary Secretary, who replied in a neat and humorous speech. Dr. Hensley is certainly to be congratulated on the success of this Annual Dinner. After dinner, coffee was served in the Library of the Medical School, and there many "Old Bart's men" met together again to talk of old times and compare notes of their doings-to-day.

Junior Staff Appointments.

The following appointments have been made for the next six months:

HOUSE PHYSICIANS TO:		
	SENIOR.	JUNIOR.
Dr. Church	R. Sevestre, M.A., M.B., B.C.Cantab., M.R.C.S., L.R.C.P.	F. H. Lewis, B.A., M.B., B.C.Cantab., L.R.C.P., M.R.C.S.
Dr. Gee	L. C. Thorne-Thorne, M.D., B.S.Dulh., M.R.C.S., L.R.C.P.	B. Collyer, M.B., Lond., M.R.C.S., L.R.C.P.
Sir D. Duckworth	G. C. Garratt, B.A., M.B., B.C.Cantab.	J. D. Rawlings, M.R.C.S., L.R.C.P.
Dr. Hensley	R. A. Walter, M.R.C.S., L.R.C.P.	C. H. Perram, M.B., Lond., M.R.C.S., L.R.C.P.

HOUSE SURGEONS TO:		
	SENIOR.	JUNIOR.
Mr. Smith	H. J. Walton, M.R.C.S., L.R.C.P.	A. M. Mitchell, M.A., M.B., B.C.Cantab.
Mr. Willett	J. S. Sloane, B.Sc.Lond., M.R.C.S., L.R.C.P.	F. Belben, M.A., M.B., B.C.Cantab., F.R.C.S.
Mr. Langton	J. B. Christopherson, B.A., M.B., B.C.Cantab.	T. A. Bowes, B.A., M.B., B.C.Cantab.
Mr. Marsh	E. W. Cross, M.R.C.S., L.R.C.P.	E. S. Humphrey, M.R.C.S., L.R.C.P.
Mr. Butlin	F. E. A. Colby, B.A., M.B., B.C.Cantab.	F. Fraser, M.R.C.S., L.R.C.P.

OPHTHALMIC HOUSE SURGEON.—J. Morrison, M.B.Lond., M.R.C.S., L.R.C.P.

MIDWIFERY ASSISTANTS:
 INTERN.—W. H. Maidlow, M.B.Durh., F.R.C.S.
 EXTERN.—E. C. Frennd, M.R.C.S., L.R.C.P.

ASSISTANT CHLOROFORMISTS:
 SENIOR. C. P. Shuter, M.A., M.D., B.C.Cantab.
 JUNIOR. C. Buttar, M.A., M.B., B.C.Cantab., M.R.C.S., L.R.C.P.

Clinical Lectures for the Session.

The following Clinical Lectures will be given during the Winter Session:

Medical.	Fridays, at 1 p.m.
	October 12th.—Sir Dyce Duckworth.
	" 19th.—Dr. Henaly.
	" 26th.—Dr. Church.
November 2nd.	—Dr. Gee.
" 9th.	—Sir Dyce Duckworth.
" 16th.	—Dr. Hensley.
" 23rd.	—Dr. Church.
" 30th.	—Dr. Gee.
December 7th.	—Sir Dyce Duckworth.
" 14th.	—Dr. Hensley.
Surgical.	—Wednesdays, at 2.45 p.m.
	October 10th.—Mr. Smith.
" 17th.	—Mr. Marsh.
" 24th.	—Mr. Marsh.
" 31st.	—Mr. Marsh.
November 7th.	—Mr. Butlin.
" 14th.	—Mr. Smith.
" 21st.	—Mr. Butlin.
" 28th.	—Mr. Langton.
December 5th.	—Mr. Langton.
" 12th.	—Mr. Langton.
Gynaecological.	—Thursdays, at 9, until Christmas.
	By Dr. Champneys.

Cases Worth Seeing.

SURGICAL.
 Lucas, Bed No. 15, recurrent thyroid tumour.
 Colston, Bed No. 11, abdominal tumour.

Award of Entrance Scholarships.

THE competition for the Entrance Scholarships took place on September 26th and following days, with the following result:

SENIOR OPEN SCHOLARSHIP IN CHEMISTRY AND PHYSICS (£75).
A. L. Ormerod, B.A., New College, Oxford.
SENIOR OPEN SCHOLARSHIP IN BIOLOGY AND PHYSIOLOGY (£75).
W. Langdon Brown, B.A., St. John's College, Cambridge.
JUNIOR OPEN SCHOLARSHIP IN BIOLOGY, CHEMISTRY, AND PHYSICS (£150).

Æq. { F. C. Borrow.
S. R. Scott.

PRELIMINARY SCIENTIFIC EXHIBITION IN BIOLOGY, CHEMISTRY, AND PHYSICS (£50).

L. A. Walker.

JEFFERSON EXHIBITION IN MATHEMATICS AND CLASSICS (£20).
C. Ridout.

We congratulate all these "Freshers" on their success. A. L. Ormerod took his degree at Oxford with a First Class in Chemistry in the Final Honours School of Natural Science. W. Langdon-Brown took a high degree in Physiology at Cambridge, and was for some time one of the Student Demonstrators in the Physiological Laboratory there.

F. C. Borrow and S. R. Scott are hardly strangers. These were both students in the Preliminary Scientific Class last year, and both of them obtained honours in Zoology at the Preliminary Scientific Examination last July.

L. A. Walker also was in the Preliminary Scientific Class last year. C. Ridout joins us now for the first time. He was educated at Sherborne School, and has passed the London Matriculation Examination, and he is now working for the Preliminary Scientific.

Appointments.

MR. R. G. HOGARTH, F.R.C.S., L.R.C.P., to be Junior Resident Medical Officer to the Nottingham General Hospital.

MR. E. L. PAWLETT, M.R.C.S., L.R.C.P., to be Junior Assistant Medical Officer to the Cornwall County Asylum, Bodmin.

MR. W. ROYDEN, M.R.C.S., L.R.C.P., to be Medical Officer to the Union of East and West Fleggs.

ADMIRALTY.

In the London Gazette of Friday, August 31st.

SURGEON JOHN LEWIS BAGNALL-OAKELEY was promoted to the rank of Staff-Surgeon in Her Majesty's Fleet.

Obituary.

SECOND YEAR'S MEN and members of the Rugby Football Club will hear with much regret of the death of one of their number—Herbert Victor Gwynn, which took place on Friday, September 21st last. Young Gwynn, who was the only surviving son of Dr. E. Gwynn, of Rosslyn Hill, N.W., went abroad for his summer holiday, and whilst away contracted enteric fever, from the effects of which he died at Hampstead on September 21st. Gwynn was popular amongst his fellows, and a very promising member of the Rugby Football Team. He was a steady, hard-working man, and had passed all his examinations up to date, viz. in Bones and Biology in March, and in Chemistry in July. It is sad to think that only a year ago he entered on his medical course with bright prospects and every hope for a successful career. But—

"This is the state of man; to-day he puts forth
The slender leaves of hope, to-morrow blossoms
And bears his blushing honours thick upon him;
The third day comes a frost; a killing frost;
And,—when he thinks, good easy man, full surely
His greatness is a ripening—nips his fruit
And then he falls."

The members of the Rugby Club and Gwynn's other friends at the Hospital are sending a wreath for the grave; they did not, unfortunately, hear of the sad event until too late to send the wreath to the funeral.

We cannot but express our deepest sympathy with Gwynn's family, an elder brother having died only a few months ago through meningitis supervening upon an injury sustained at football.

Births.

GARROD.—Aug. 24, at 9, Chandos-street, Cavendish-square, W., the wife of Archibald F. Garrod, M.D., of a son.

SQUARE.—Aug. 26, at 22, Portland-square, Plymouth, the wife of J. Elliott Square, F.R.C.S., of a son.

DAY.—Sep. 7, at Surrey-street, Norwich, the wife of Donald D. Day, F.R.C.S., of a son.

NICHOLL.—Sep. 6, at Saintbury, Upper Clapton, N.E., the wife of T. Vere Nicholl, M.R.C.S., L.R.C.P., of a son, prematurely.

BROWN.—Sep. 15, at 56, Rectory-road, Stoke Newington, N., the wife of Reginald Brown, M.R.C.S., L.R.C.P., of a son.

Marriages.

LONG—LAIDLAW.—Aug. 23, at St. Mary's Catholic Church, Croydon, Frank Thorby Long, M.R.C.S. Eng., L.R.C.P. Lond., eldest son of Frank Long, of Wallington, Surrey, to Elizabeth Gray, eldest daughter of the late James Laidlaw, of Ceylon.

WOOLLCOMBE—CARDEW.—Aug. 2, at Christchurch, Lee, Walter Ley Woolcombe, F.R.C.S.E., son of W. Woolcombe, Esq., of Plympton, Devon, to Kate Hilda, daughter of Major-General H. Cardew, late R.A.

ALCOCK—RICHARDSON.—On Sept. 6, at South Hackney Church, Richard Alcock, M.D., of Goole, Yorks, to Edith, daughter of the late R. D. Richardson, Esq., of Hackney.

COLES—ELLIS.—On Sep. 5, at St. Andrew's, Hillingdon, Charles Coles, M.D. Lond., of Leicester, to Clara E. Ellis, of Hillingdon-road, Uxbridge.

CUTTING—PATERSON.—On Sep. 5, at Chingford, Ernest B. Cutting, M.R.C.S., L.R.C.P., of Stalham, Norfolk, to Agnes Emma, daughter of the late W. J. Paterson, of Rotherie-street, London.

CHATTAWAY—BELINEY.—On Aug. 14, at Birmingham, F. D. Chattaway, B.A., Ph.D., D.Sc., to Elizabeth Bettney, of Birmingham.

Death.

GWYNN.—On Sept. 21, from enteric fever, Herbert Victor, only surviving son of E. Gwynn, M.D., Rosslyn Hill, N.W., aged 19.

ACKNOWLEDGEMENTS.—*Guy's Hospital Gazette.*

St. Bartholomew's Hospital



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NOTICE.

All Communications, Articles, Letters, Notices, or Books for review, should be forwarded, unaccompanied by the name of the sender, to the Editor, ST. BARTHOLOMEW'S HOSPITAL JOURNAL, St. Bartholomew's Hospital, Smithfield, E.C., BEFORE THE 1ST OF EVERY MONTH.

The Annual Subscription to the Journal is 5s., including postage. Subscriptions should be sent to the EDITOR; or to T. W. SHORE, M.D.; or to ANTHONY A. BOWLBY, Treasurer; at the Hospital.

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St. Bartholomew's Hospital Journal,

NOVEMBER 14th, 1894.

"Æquum memento rebus in arduis
Servare mentem."—Horace, Book ii, Ode iii.

IN this issue we call special attention to the remarks in the paper on Diphtheria with regard to the importance of bacteriological examination in cases where the antitoxine treatment is adopted.

Every week the medical journals contain reports of cases treated with antitoxine, and in reading them one cannot fail to be struck by two important points. In the first place, by the rarity of bacteriological confirmation of the diagnosis, and in the second place by the rarity of reports of cases unimproved by the antitoxine treatment. Reflection upon these two points brings home to one the extreme wideness of the source of possible error in forming an opinion of the value of the treatment upon such reports.

The increasing prevalence of diphtheria and its high rate of mortality, and above all the frequent inefficacy of means used in its treatment, render it incumbent upon the medical profession to investigate with all possible care any method which promises to increase their power over so terrible a disease; this being the case, we most heartily endorse Mr. Horne's remarks as to the importance and feasibility of a

routine bacteriological diagnosis of all cases admitted to Radcliffe.

We feel, in common with every Bart's man, justly proud of a Hospital which has always been in the front rank of the fight against disease in every shape, and which has already won great glory and distinction in the fight; but we cannot, even if we would, blind ourselves to the fact that at the present time the fight is raging with increasing fury. It behoves us, if we wish to maintain St. Bartholomew's in its right position in the scientific world, to be dissatisfied with all laurels already won, and to lose no opportunity that arises of attacking disease, in whatever form it may present itself.

We think that Radcliffe with its large number of cases offers an opportunity which should not be lost sight of for investigating the antitoxine treatment, and for the compilation of statistics which, as far as human capability can make them, would be absolutely reliable. Such statistics would be of no inconsiderable value, and we trust that at an early date their construction may be rendered possible.

Some months ago we commented upon the advantages which would accrue from the establishment of a "Clinical Laboratory" at the Hospital, in view of the increasing importance of scientific investigation in connection with the diagnosis and treatment of disease. We again emphasise the remarks we made then. These questions are, however, really only branches of the great subject of post-graduate work. It is obviously unreasonable to expect that much can be done towards the advancement of medical knowledge by men still in their student days, and we cannot help feeling that the invitation to do post-graduate work at the Hospital is none too tempting. In regard to this we have, in common with all the London schools, much that we might learn with advantage from the German methods.

If one goes "round the wards," one is regarded as somewhat of an intruder; and unless one is content with a place in the "back row," one is looked upon as meanly robbing some student of his chance of getting his daily bread—in other words, his diploma.

In the laboratories, although we admit that the arrange-

ments and accommodation have lately undergone an immense improvement, there is still much to be desired.

We draw attention to the fact that this year, although the number of student entries at the London schools shows a falling off, our own numbers show an increase on last year, and we again easily head the list. This is as it should be, but if we wish to maintain this position amongst the other schools we must see that our students are placed under conditions which compare favorably with those of all other schools. Under this head, facilities for post-graduate work represent an important item, and should receive every consideration from the authorities of the Medical School.

In our last issue we gave a list of the papers which were to be read before the Abernethian Society during the present session. On glancing down the list, one's attention is drawn at once to the fact that no single paper is being read, even by a member of the Junior Staff, still less by a student: in fact, that the Society has become a "Lecture Society," and discussion is dying out. This condition of things may have its advantages, but we question whether they are not far outweighed by the disadvantages. We should be glad to hear the views of students upon this point, and will willingly place our "Correspondence Column" at the disposal of any who may wish to express them.

On the Advancement of Knowledge by the Scientific Study of Diseases in Medical and Surgical Practice.

By Sir JAMES PAGET, F.R.C.S., F.R.S.,
Consulting Surgeon to the Hospital.

WHEN the Committee were so good as to invite me to give an opening address at the beginning of this Session, I hesitated till I remembered that it was just sixty years since I became a member of the Abernethian Society, and made my first communication to it. Remembering this, and some of the pleasures and advantages which I had derived from the Society, I felt bound to assent to the request of the Committee. And I could be sure that I could at least present a very rare case; for, though a few have lived or are still living as long or even longer after their election into the Society, I do not think that anyone has till now communicated a paper of any kind at both the beginning and the end of a period of sixty years. This is my case: but I do not invite a careful study of it, it might tell to my disadvantage.

It is very interesting to remember what I can of the condition of this Society and of the hospital and school sixty years ago, but I will not now tell of them. It would be a great temptation to become merely talkative, and I told what I could of them a few years ago in an Address given in this Society, and printed, I think, in the Hospital Reports. I will now rather look forward and offer some considerations for the advancement of knowledge by the scientific study of diseases in medical and surgical practice, especially in private practice.

It is often said or implied that, in our profession, a man cannot be both practical and scientific; science and practice seem to some people to be incompatible. Each man, they say, must devote himself to the one or the other. The like of this has long been said and it is sheer nonsense; there always has been examples in disproof of it, men in active practice, and some even in very large practice, making admirable scientific researches in the study of their cases; and there never were more or better than there are now. I doubt whether there is any important truth in pathology to the knowledge of which

clinical study has not contributed; and we may fully hope that examples of such scientific work by men in practice will become much more common now that all students have to begin their professional work by real practical studies in the sciences having nearest relation to medicine and surgery. In the study of these sciences they may not only learn many things of great importance for their later studies and for practice, including the use of the best methods and instruments for scientific research, but in the laboratories they may see and hear more plainly and directly than they can in the wards the best methods of scientific inquiry, the value of repeated tests, the value of constant searching and looking for new things. They may thus, and by their associations, acquire more than they can in other parts of their studies of what may be called the scientific temper—the love of searching for facts unknown, the love of observation and of constant watching for truths.

This scientific temper has been notable in all those practitioners who have done well in the advancement of our knowledge. It is really, in one sense, more important for research than the possession of scientific knowledge. Of course, as a man grows older and is more occupied in practice he cannot keep on a level with the progress of other sciences, each of which is being studied by men who can devote their whole time to it; and he may be unable to work with every newly invented instrument. The more he can maintain himself in the progress of knowledge and of methods of study in the allied and more nearly precise sciences, the better it will be for him, both in practice and in study, but he can always maintain the scientific temper; he can always continue in the love of research, and of accurate record and consideration of carefully observed facts. It may seem that I take a very narrow and rather humiliating view of scientific study in the practice of our profession when I thus speak of little more than the collection of facts. It is difficult to define what should be called scientific study, seeing that we should have to make the definition appropriate to subjects so wide apart as are political economy, systematic zoology, and pure mathematics; but I think it sure that in the present condition of medical science, and for those who are engaged in practice, the best helps to the progress of accurate knowledge will be in the constant search and record of facts.

I suppose that it may be generally held that the difficulty of ascertaining general laws in any branch of natural science depends chiefly on the degree in which the objects of study in that science are variable, either in themselves or in the conditions in which they exist. And surely the number of variables, if I may so express myself, is in no natural science greater than in human pathology. It is often said by practitioners, and truly said, that no two cases are alike, no two persons are alike even when in health, no two faces, no two skulls, no two thumbs; and detectives, whom we ought in some things to imitate more nearly than we do, are making good use of this knowledge. Similarly, we may be sure that no two persons' livers are alike, no two lungs, no two kidneys; and if they are unlike in health, they are probably yet more so when they are diseased, and yet more when under the influence of medicines. Surely, when we consider these things, these accumulated variables, we may justly believe it impossible to gain new and accurate pathological knowledge without gathering facts from every source, and by every available method. The temptation to make deductions from our facts, or to learn from them any general law, need not be resisted, but we had better not rely on any such deduction or law unless it has been repeatedly tested by fresh observations, and by all the methods that doubt can suggest. Our motto had better be in that admirable sentence of John Hunter, "Don't think, try; be patient; be accurate." For most of us, the best use of deductions is in the suggestions which they may supply for further researches. The whole history of the medical sciences would illustrate this.

If it should be asked, where, in ordinary practice, are any new and important facts to be found? I think a just answer might be, "Everywhere." If only they are searched for by careful and patient observation, by constant watching and testing of whatever seems unusual. This seems proved by the fact that not a year passes in which we do not find that someone has discovered important truths which, when they are made known to us, it is plain that we and our predecessors had overlooked, though they were as well within our range for observation as they were within that of him by whom they were discovered. It is well to remember that the history of discoveries is also a history of oversight; at least, in our own profession we may often say that the prize which one man justly earns by a discovery is a fair measure of the blame deserved by those of his contemporaries whose opportunities of research were equal to his own. Few being so old as myself have more often deserved this blame.

Let me illustrate this by one of the many instances I could tell;

and I will choose one which may also be useful as showing how facts well observed in practice may be very important in the advancement of physiology—an evidence that science and practice, far from being incompatible, may really be, and always should strive to be, mutually helpful.

Myxœdema is now a well-known disease; few practitioners have not seen a case of it; yet it is only twenty years since Sir William Gull first carefully observed and described it; first observed it, I think, in his private practice, and described it as "a cretinoid state supervening in adult life in women." It had been overlooked, or at least had never been described, by any of the hundreds of practitioners who had seen cases of it before he did, but mark now what followed. Dr. Ord and Dr. Fagge observed the relations between myxœdema and the defects and diseases of the thyroid gland, observed them in both hospital and private practice; then, with the advance of surgery, came operations for the removal of the thyroid gland, and these, it was observed, were generally followed by myxœdema; and then, together with repeated confirmations of what had already been observed in practice, there came what at first might be called physiological experiments, by transplanting into the myxœdematous portions of healthy thyroid gland, and of extracts of its juice. It has been found, also, that in the absence or incapacity of the chief thyroid, its work may be done by small accessory glands of similar structure which may chance to lie near it, and examples of which have now been traced far more exactly than they were before, especially along the line extending from the isthmus to the hyoid bone and the adjoining part of the base of the tongue.

A result of these happily co-operating clinical and physiological studies is that, whereas some twenty years ago it might justly be said that the physiology of the thyroid gland, its use and influence in the economy, were unknown, we now know that it produces a material which passes from it into the blood and is essential to health and the healthy condition of other structures, especially of those in which myxœdema and changes allied with it ensue. And we may deem it sure that we have not yet seen nearly all the good influence which these combined studies of the thyroid gland will have on our knowledge of other organs, whether in health or in disease. They have supplied the best knowledge yet of how one organ affects many or all others, not only, as Trevisan alleged, by what it takes from the blood for its own maintenance, but by what it returns to the blood from its own refuse or secretion. I venture to guess that some such good influence will be found in the continued study of what seems to be some relation between acromegaly and disease of the pituitary body. Is there in it anything like the relation between myxœdema and the defects of the thyroid?

And now I should like to suggest to those who are or will become practitioners some good subjects of inquiry. But really whoever has the mind for patient, watchful search may well choose for himself any such things as are plainly within his range of opportunity; but, whether he has made a choice or not, he should be always on the watch for new things. The history of discoveries in biological science shows a large proportion of cases in which the first observation was made by what we call "chance," and certainly in the practice of our profession there are so many such chances that anyone may rely on having many more than he will use well.

By such constant looking out more "new diseases" may be discovered, and the continued study of any of them may become as widely important as that of myxœdema. I do not say that all the diseases which have been so called were certainly new, any more than any land when recently occupied by a colony can be deemed a new country, though often called so. I think we may be nearly sure in all the varying conditions of life, and in the intermingling of families and races, diseases may arise such as have not been before, and may justly be deemed new; but, whether they be new or old, we may be sure that there are forms of disease which we are overlooking, seeing, but not observing. A practitioner constantly watching for these, watching after the manner of a scientific naturalist, and using every opportunity that "chance" may offer, will discern some of these, and of the combinations and variations of diseases which have not yet been studied, and the knowledge thus gained may bring great help to pathology and to the utility of our work.

There are, I think, special advantages in private practice for the study of what may be called "mixed diseases." I have often spoken of them, and wrote on them long ago in my "Clinical Essays"; but there is much more to be made out concerning them. They are evident enough in some instances—*as, for example, in the differences between the manifestations of tertiary syphilis when it affects one who is gony or one who is tuberculous.* Quite plainly the characters of the disease derived by infection are modified by the conditions due to the other

diseases with which it becomes associated, whether these diseases be due to inheritance or to any other source.

There must be many instances of this mingling of two or more diseases in the same person which have not yet, so far as I know, been observed or described. Among them must be some in which the same person inherits two or more diseases or two or more special liabilities to disease. We speak, without doubt, of diseases being transmitted by inheritance, such as cancer, tuberculosis, gout, rheumatic arthritis, neurosis, and many more; but what happens when more than one is transmitted,—*as, say, when one parent is tuberculous, the other cancerous; or one tuberculous, the other gony?* Would one exclude the other, or be in any way antagonistic, as cancer and tuberculosis in their acute forms seem to be? Or would the result be some disease, or some liability to disease, showing a combination of two or more inheritances? I think we do not know; and I believe there are no opportunities for learning so good as those which private practitioners with scientific minds may have; for there are none who can learn or see so well as they can what are really the different diseases that are likely to be transmitted together in different intermarrying families, or the diseases that may exclude one another.

And here let me say that the characters of mingled diseases may best be studied in private practice, because in all probability they will be ascertained by differences in large naked-eye and tangible characters long before they will be by any minute microscopic or chemical characters. They may, in this respect, be compared with *cross-breeds* in plants or animals, for the recognition of each of which, so far as I know, not even the most minute investigation has discovered characters so marked or so sure as those which are evident to the unaided eye. I think we may do well to keep this always in mind in all our clinical studies. I do not doubt that differences of external shape and other large characters are connected with and probably dependent on differences in molecular constitution; but these molecular differences we see and discriminate by any chemical or microscopic power as yet in our possession.

The personal knowledge of families during one or more generations may be well used in the study of many other questions relating to inheritance of diseases or susceptibilities of diseases. We have, I think, few if any records of the negatives in these cases; but we need records such as these in order to know the probability that anyone of the offspring of a diseased progenitor will have the same disease. Here, as in many other instances—*as, for example, in the study of infectious diseases, where we are apt to deduce too much from the positive records, and to think that because a disease has been sometimes transmitted in this or that way, therefore it always will be.* We want records of the cases, often very numerous, in which it has not been.

Another, and a very different subject which can be duly studied only by practitioners, whether in hospital or private practice, is the use of reputed remedies for diseases. Of all these, whatever may seem the reasonable probabilities of their value, the final and only sure test must be in practice. And the test must be applied with extreme care, repeatedly if possible, and with a mind very hard to convince, and ready after any appearance of benefit derived from a medicine to ask, "What would have happened if it had not been given?"

This kind of scepticism was never more necessary than now, when, on what are stated as scientific grounds, foods and medicines of all kinds are being constantly invented, or, it is sometimes said, discovered. Now such statements had better never be relied on till they have been tested in practice, and found true by practitioners with scientific minds, watchful, accurate, and far more ready to doubt than to believe till they have gained decisive facts.

And I venture to say that practitioners may usefully thus study the effects, not only of new medicines, but of some old ones now commonly neglected. I do not believe that our predecessors, shrewd and keenly observant men as some of them were, were always wrong in their beliefs in the value of some of the medicines now set aside. Their errors were probably in diagnosis; they did not discuss the differences among several forms of what seemed the same disease, and the medicine which was useful for one form was useless for the others. Let me illustrate this by an instance which was useful for many years ago. Mercury given in small doses for many days or weeks was then deemed generally effective in the treatment of paraplegia. Certainly it cured many cases; but as certainly it was useless in many more, and it might have been put aside but for the discovery that, as we now know well enough, some of the diseases of the spinal cord are due to syphilis. This was, I think, among the first, if not the first, of the observations of the syphilitic diseases of internal organs; and for these alone was mercury remedial, and for these mercury was not only a remedy, but a diagnostic test.

We cannot too carefully remember cases such as this, especially

when we are hearing of medicines which are said to be "sometimes useful" in this or that disease. The greater part of what some are fond of calling the fallacies of medicines are really fallacies of diagnosis; and it will be good work for anyone who is studying the influence of any medicine in a succession of cases of any disease, when he finds that it has a definite influence on some of the cases, and no influence or a different one on others, then at once to study whether he has not really been watching examples of two or more different diseases or combinations of diseases, among which the medicine has been a distinctive test. We may be nearly sure that many medicines may really be tests of diseases, just as mercury, iodide of potassium, and quinine are.

Let me suggest a case for inquiry of this kind. Cases are not rare in which patients, not seriously unhealthy, suffer from a long succession of boils; and there are at least three medicines which have, or used to have, repute for curing this disease: Liquor Potassæ, quinine, and yeast. I have tried all these, and I think that each of them has cured cases on which the others had no such influence. But I have never been able to discern the other differences between the cases. I think that the influence of quinine has been on cases connected with long-abiding effects of malaria, and that of potash on cases associated with eczema and perhaps with gout, and that of yeast on cases with no evident relation to these or other diseases, especially none connected with glycosuria. But I am not nearly sure on these points. I suggest the scientific study of them in practice. The truth will be discerned by someone more patient and observant than I was.

I spoke of watching for chances of finding out new things, and they may occur in some places where they might least be expected. I suppose that few things can be named of which so large a proportion are erroneous as are popular beliefs in medical subjects; yet it may be well to remember that it was by inquiry into the grounds of such a belief that Jenner was led to the discovery of vaccination. Similarly, the value of cinchona bark for the remedy of malarial diseases was due to the study of the reasons for a popular belief in Peru; and I think it was by similar inquiries that the value of vegetable food for the prevention of scurvy was made sure.

In this speaking of scientific work that can be done best or only by men of scientific mind and accurate observers in the practice of our profession, I hope I may not seem to estimate too lowly the work that has been done by those who are engaged in sciences allied to the medical. So far am I from this that I regard the facts and laws discerned in these sciences as having been essential to the progress of pathology to its present state, and as sure to be constantly increasing in good influence in the future. No more striking example could be given of the necessity of combinations in practical and in scientific study than is in the result of the splendid researches of Pasteur combined with those of Jenner. But we may safely hold that no one method of research is or will be sufficient for the due advancement in the knowledge of pathology that has to be gained. Every method of biological study must be used, and the workers in each must use all the help that they can get from those in the others. All must be mutually helpful, mutually critical. It may do more good than harm if every one will maintain that his own range and method of study are the best of all, especially if he will try to prove this by the results of his own work. I wish it were more common than it is among us who are in practice to do this. We are too ready to be discontented with our opportunities for research, and to neglect them. It is, I know, very hard to resist the wish that we could work in the method which is yielding the most brilliant results—as, at present, in bacteriology or advanced organic chemistry; but the best total results will be gained if each of us will be always doing his best in the range in which he has best opportunities, and so that the results of the studies by the bedside and in the laboratory may be mutually tested. That which the practitioner believes that he can observe had better be considered doubtful if it is plainly inconsistent with the knowledge of the physiologist or the chemist or other good scientist; and, similarly, many of the beliefs concerning pathology which are derived from chemistry or physics, or even physiology, may justly be doubted by pathologists and practitioners unless they have been studied and approved by competent observers of their own class. No one method of studying the living body in all its various conditions in health and disease can be alone sufficient. Let every one who is studying it or any part of it in any accurate method do his best in that method, and let all act as partners; each may be within his own range, a "predominant partner," but none may be despotic. The more closely all can keep in touch the better it will be for all; and I venture to say that if ever an estimate can be made of the shares contributed by each group of good workers to the advancement of all pathological or even biological knowledge, including the prevention and remedy of diseases, the share of the scientific workers in practice will be among the largest.

And now I will only add that the habit of scientific watching and searching, of which I have been speaking, is essential to the best and truest success in practice to which each, within his own range of opportunity, can attain; for it is essential to accuracy of diagnosis, and to a right judgment of the effects of treatment and of the daily variations of disease. We often hear of someone having detected in a case something which others had failed to find, and he is justly praised for it. It usually means that he detected it by using his sight or some other sense more keenly than they did; and it may well suggest that he was in the habit of being thus keen in the search after things not easy to be found. In all our scientific researches, in all our practice, we need the mind of the detective; and I believe we may boast that the writer by whom the love and power of detecting have been described better than by anyone, Dr. Conan Doyle, is one of our own calling, and first studied it when he saw it exercised in practice. Well, good detectives are always on the watch; so should we be: there are unknown facts all round us; why should we leave them for others to discern?

Notes on Aseptic Surgery.

By C. B. LOCKWOOD, F.R.C.S.,

Assistant Surgeon to the Hospital.

(Continued from page 5.)

IN the previous number *Staphylococcus pyogenes aureus* was described. We now proceed with an organism equally important, the *Streptococcus pyogenes*. At the same time the methods of staining which dressers or clerks ought to be able to practise without difficulty will be mentioned, also how to make cover-glass preparations. These are so simple and satisfactory that it is to be hoped that every one may be incited to attempt them in future more often than at present.

The name *Streptococcus* was given by Ogston to this species of coccus because of the chains in which it grows. In suitable media, such as sterilised broth, the chains attain their full dimensions, and in those of young and vigorous cultures I have counted upwards of two hundred cocci linked together in a tortuous chain. More commonly a chain contains from five to ten elements. The average size of the cocci is about 1μ , but in the midst of the long chains some may be seen which are twice as big, and which are called arthrospores. In the centre of some of the arthrospores I have seen small, round, shining bodies which appeared to be spores. I have never seen arthrospores in the *Streptococci* in pus or in the tissues; only in those growing in culture media. When we come to disinfection, spores will be of great importance.

To obtain a pure culture of *Streptococcus pyogenes* it is often sufficient to inoculate the pus of an acute inflammatory process into gelatine or broth. A case of cellulitis is the most favorable because, as Ogston long ago observed, the *Streptococcus* is peculiarly associated with that condition. The finest chains which I have grown in broth came from a pelvic cellulitis. The growth on gelatine is very typical; no liquefaction occurs. An almost imperceptible growth advances over the surface. It consists of minute greyish-white and almost transparent colonies, with abrupt and undulating edges. These colonies have hardly any tendency

to spread, their growth soon ceases, and they remain about 1 mm. in diameter. Inoculated by puncture into the depths of the gelatine similar colonies appear, free oxygen not being essential for the growth of *Streptococcus pyogenes*. In broth the *Streptococcus pyogenes* grows with great luxuriance in delicate cloudy flakes, which deposit at the bottom and upon the walls of the test-tube. It also grows in agar-agar, sterilised milk, urine, and other nutrient media. It peptonises white of egg or meat when grown upon either of them in a vacuum.

Cultures of *Streptococcus pyogenes* soon lose their virulence and die. After three weeks or a month they are useless for inoculation into most animals. Apparently the *Streptococcus pyogenes* is most virulent in its action upon man. At the seat of inoculation it causes acute inflammation and suppuration, and has a marked tendency to invade the lymph paths and cellular tissue, causing lymphangitis, cellulitis, and erysipelatoid wound gangrene (Ogston). In these respects it differs from *Staphylococcus aureus*, which is more prone to act locally and cause acute inflammation and suppuration, with sloughing and inflammatory wound gangrene. We might expect that the *Streptococcus* would insinuate itself more easily into lymph paths than *Staphylococci*, which grow in dense immobile masses. When the *Streptococcus pyogenes* in its journey along the lymphatics reaches the lymphatic glands it sets up suppurative adenitis. Far too often it enters the circulation and causes septicæmia and pyæmia. I have found *Streptococci* in innumerable numbers in the walls of pyæmic abscesses and in their pus. They are also common in the renal infarcts which accompany pyæmia, and after these infarcts have suppurated are found alive in urine. In Senn's summary of the work of Rosenbach, Pawlowsky, Besser, and Shüller, *Streptococci* were found thirty-nine times in sixty-nine cases of pyæmia, *Staphylococci* in twenty-three, both together in five, and *Staphylococcus aureus* alone in four. The blood, pus, and fluids of the tissues were examined.

The presence of *Streptococci* in the urine is obviously of great diagnostic value, and very easy to ascertain. To find them it is only necessary to dry a drop of the urinary sediment upon a cover-slip and stain it with carbol-fuchsin. It is a moot point whether an abscess in the kidneys always precedes the passage of bacteria. It is possible that other lesions may suffice, and perhaps the normal kidneys may, as Ogston and Cohnheim supposed, excrete bacteria. Dr. Sherrington* has recently written a most valuable monograph upon this subject.

The urine gives early evidence of the entrance of bacteria into the circulation, but this valuable aid to diagnosis is usually neglected. The urine which contains bacteria may betray nothing to the eye, and have the usual acid reaction. As a rule a faint cloud of albumen, such as is usually ascribed to pyrexia, is precipitated from it by heat. There is

* "Experiments on the Escape of Bacteria with the Secretions," *Journal of Pathology*, vol. i, p. 258, February, 1893.

no difficulty in seeing the bacteria in cover-glass preparations made from the sediment. By this method I have observed *Streptococcus pyogenes* in the urine in pyæmia, *Staphylococci* in severe cellulitis of the leg, and various cocci and bacilli in perforative peritonitis. Only a few hours is required after infection for the passage of the bacteria through the kidneys.

Ogston and others have assumed that the appearance of bacteria in the urine betokened an effort upon the part of the kidneys to excrete them. However, at present the weight of evidence seems to be in favour of the view that their passage is always associated with some injury to the blood-vessels or tubules of the kidneys.*

The kidneys of those who die of acute septic affections may appear normal to the naked eye, but the microscope usually reveals patches of acute disseminated nephritis such as are described by Ziegler.† Often small abscesses can be seen, and not infrequently infarcts. Sometimes I have by Gram's method found capillary bacterial infarcts in kidneys which to the eye and ordinary histological methods seemed normal. The method used by Canon for demonstrating the influenza bacillus in blood is still more valuable, but rather complicated.

The bacteria in urine are often alive and capable of being separated by plate cultures. They are few in number and probably attenuated. I have failed to cause suppuration in rabbits with subcutaneous injections of urine containing pyogenic cocci.

Rosenbach, von Eiselsberg,‡ Canon, and others have found *Streptococci* in the blood in cases of traumatic fever, pyæmia, and septicæmia. The blood may be obtained by pricking the finger after thorough disinfection. I have been accustomed to wash the finger with hot water and soap, scrub with a nail-brush, soak with carbolic acid lotion 1—20, or perchloride of mercury lotion 1 in 1000, and remove them with absolute alcohol. Working at chronic pyæmia and hectic fever my results were always negative. Occasionally *Staphylococcus albus* grew, but this is such a constant inhabitant of the skin that one felt distrustful. However, bacteria of any kind are exceedingly hard to find in chronic mycoses. The investigation of the blood is much neglected, even in cases in which it would be harmless and cause no distress.

The number of diseases in which *Streptococci* have been seen is considerable. Amongst them are such closely allied conditions as erysipelas, cellulitis, abscess, peritonitis, pericarditis, endocarditis, puerperal fever, pelvic cellulitis, suppurative diseases of the ears and teeth, pyæmia, and septicæmia; also in pneumonia, scarlet fever, diphtheria, intestinal catarrh, acute disseminated nephritis, and in the

* C. S. Sherrington, *loc. cit.*

† *A Text-book of Pathological Anatomy and Pathogenesis*, translated by D. Macalister, 1895, Part II, p. 51.

‡ "Beiträge zur Lehre von den Mikro-organismen im Blute fibrosen Verletzen, in geschlossenen Körper-höhlen, und in verschiedenen Secreten," von Eiselsberg, *Wiener medicinische Wochenschrift*, 1886, p. 133. This paper gives a number of references.

diseases of some of the domestic animals,* particularly equine pneumonia. Of late it has frequently been found in acute suppurative periostitis (or acute necrosis). A few years ago the *Staphylococcus aureus* was considered the sole cause of that disease, but now quite a number of pyogenic bacteria have been observed.

Sternberg says that Rosenbach in thirty-nine cases of acute pus formation found *Streptococcus pyogenes* alone in fifteen, and associated with *Staphylococci* in five. Passet in thirty-three similar cases obtained *Streptococcus pyogenes* alone in eight, and associated with *Staphylococci* in two.

Streptococci are often found in pyæmic arthritis and in suppurative arthritis. In the case of a youth who died of pyæmia following the amputation of his arm for a printing machine accident, I found *Streptococci* in the pus of the knee and ankle. At the same time his urine was full of *Streptococci*. *Streptococci* were found in another case of acute arthritis of the knee. The joint had been infected from a suppurative about the upper epiphysis of the tibia. *Streptococci* were also found in the urine of an infant with endocarditis. The seat of inoculation was an ulcer near the anus.

In the fluid of septic meningitis caused by middle ear disease I found chains of cocci along with many kinds of bacilli. However, Dr. Kanthack's† work at this subject shows that *Streptococcus pyogenes* is rare in middle ear disease, whilst *Staphylococcus aureus*, *Staphylococcus albus*, *Pneumococci*, and *Bacilli* are common.

The *Streptococcus pyogenes* fulfils the requirements laid down by Henle and Koch, and which were mentioned in the previous number. When young and virulent cultures are inoculated into the skin of the ears of rabbits it causes an erysipelatous blush, with suppuration at the point of inoculation. Injected into the cellular tissue, it often produces a diffuse suppurative inflammation, or, in other words, acute cellulitis. Injected into the joints or serous sacs, acute suppurative arthritis, or acute peritonitis or pericarditis, and so forth, are set up. Injected into the blood-stream, it often causes septicæmia or pyæmia. In these the smaller vessels are plugged with *Streptococcus* emboli. If the animal lives long enough these end in abscesses. Hardened in spirit and stained by Gram's method, the organs which contain these emboli afford beautiful histological specimens.

Wysokowitsch ascertained that if the aortic valves were injured before an intra-venous injection of *Streptococci* an acute endocarditis was the result. Rabbits are not easily killed with *Streptococci*, but mice and guinea-pigs are very susceptible, and die rapidly after inoculation with minimal doses. My own observations tend to show that *Streptococcus pyogenes*

is most pathogenic for mankind, and especially for children; it is the cause of many of the fatal endings in cases of sepsis after operations. I am referring mainly to investigations made upon the tissues. It is to be remembered that *Streptococci* are so easy to stain, and their chains are such striking objects, that they are not easily overlooked. An exaggerated idea of their frequency in diseased tissues might easily be acquired. Other organisms which are harder to stain, and which are less conspicuous, may oftentimes have escaped notice. Nevertheless in some of my cases these latter may have been the actual cause of the disease, the *Streptococci* being mere accidental accompaniments.

Of late it has been endeavoured* to show that there are two main morphological groups of *Streptococci*, namely, the *Streptococcus longus* and *brevis*. These are characterised by the different lengths of their chains and by their action. *Streptococcus brevis* does no harm to animals, whilst *Streptococcus longus* is deadly for mice, and kills rabbits and guinea-pigs. Perhaps I may add that the short chain variety makes the broth in which it is grown turbid, but the long chain leaves it clear. Further, the latter is said to grow invisibly upon potato. Welch† has been unable to confirm these observations.

Perhaps the separation of the *Streptococci* into *longus* and *brevis* is artificial. I have myself often observed that the luxuriance of the chains depended upon the media and the age of the cultures. They were short in gelatine and agar-agar, but long in broth. In old cultures, too, the chains seemed to be broken up into short pieces.

There is experimental ground for supposing that animals can be protected against the action of virulent *Streptococcus longus*. This has been accomplished by injecting them with the blood of animals which had themselves been rendered immune by repeated inoculations with attenuated cultures of *Streptococci*.‡ It was in a manner similar to this that Tizzoni and Cattani produced immunity against the bacillus of tetanus.§ Remembering how often *Streptococci* cause traumatic infection, these observations throw an interesting light upon the safety which anatomists and pathologists enjoy from pyæmia and septicæmia.¶ They also help to explain the rapid healing which occurs after amputations for prolonged suppurative arthritis.

A fact of some importance bears upon the general identity of the *Streptococci* found in a diversity of diseased conditions. It has been found that an animal which has been rendered immune against the *Streptococcus* which is most virulent for it is also protected against all other kinds.¶

* Lingselsheim, *loc. cit.*
† "Conditions underlying the Infection of Wounds," *The American Journal of the Medical Sciences*, November, 1891.

‡ "Untersuchungsergebnisse betreffend den *Streptococcus longus*," *Centralblatt für Bakteriologie und Parasitenkunde*, Behring, vol. xii, 1892, p. 195.

§ *Centralblatt für Bakteriologie und Parasitenkunde*, Band ix, p. 189, *et seq.*

¶ Sir James Paget, *Clinical Lectures and Essays*, 1875, p. 323.

¶ Behring, *loc. cit.*, p. 195.

* See an admirable paper by v. Lingselsheim, "Experimentelle Untersuchungen über morphologische, kulturelle, und pathogene Eigenschaften verschiedener Streptokokken," *Zeitschrift für Hygiene*, vol. x, 1891, p. 331, *et seq.*
† "The Bacteriology of some Inflammatory Processes of the Middle Ear and Mastoid Cells," *Archives of Otolaryngology*, vol. xix, No. 1, 1890.

Now *Streptococci* are so fatal for mice that this is a very remarkable achievement, scarcely less noteworthy, as Behring says, than the protection of guinea-pigs against diphtheria. The protection of horses against *Streptococcus pneumoniae* would be of great economic value if it became an established fact. Military horses are very prone to that disease.

The *Streptococcus* of erysipelas resembles that of suppuration so closely in appearance and growth, and possibly in effects, that Cornil and Babes, Sternberg, and others think they are identical. Like the *Streptococcus pyogenes*, the *Streptococcus* of erysipelas grows along the lymph paths and affects the lymphatic glands. It also causes suppuration when introduced into cellular tissues. In a case of death from erysipelas I found *Streptococci* in the heart's blood. The *Streptococcus* of erysipelas is found best at the margin where the redness is spreading; it also occurs in the serum of the bullæ. It fulfils the necessary requirements of Henle and Koch. Fehleisen obtained cultures of it by inoculating media with a piece of the skin from the spreading margin of the erysipelas. With cultures propagated from them he caused erysipelas in patients with cancer and tubercle, having observed that erysipelas has a curative effect upon those diseases. The *Streptococcus* of erysipelas has been found in pus, blood, clothing, upon the skin, in the mouth, nose, and other orifices (Sternberg). Von Eiselsberg found it in the air of Billroth's wards, and Emmert in the air of the dissecting-room.

(To be continued.)

The Study of Physiology from its Medical Aspect.

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Casualty Physician and Assistant Demonstrator of Physiology.

THE object of the present paper is to deal with the subject of Physiology from its medical aspect, and to show that it is one if not the most important subject in the development and progress of scientific medicine.

In the midst of the heavy routine work which has to be gone through in the second year of medical study, the question often arises, and only naturally, as to what solid advantage can accrue in return for the labour and effort demanded from the student in order to acquire the examination standard in Physiology.

It might be urged that too much pressure is put on the student with regard to this particular branch, and also that with each year the amount and quality of physiological knowledge demanded is ever on the increase.

First let us consider what is the object aimed at in the study of physiology as a science. Professor Foster expresses it as follows: "That it is to ascertain how it is that living substance can do what dead substance cannot, can renew its

substance and replenish the energy which it is continually losing, and can, according to the nature of its surroundings, vary not only the amount, but also the kind of energy which it sets free." Expressed more simply, it may be said to be an inquiry into the actions of the body, and the manner in which these actions are brought about (Huxley).

As a necessary outcome of this it is obvious that careful examination must be made into the minute structure of the tissues and organs of the body, and thus histology becomes an integral though subordinate part of physiology as a whole.

So before entering the wards and studying the phenomena of disordered function or pathology, the student must necessarily make himself thoroughly familiar with the standard or healthy organism.

The importance of this preliminary study is thus so evident, and may later become of such utility, that it is a matter of regret that it should be so frequently regarded as one of the subjects which have to be "got up" chiefly for examination purposes. So far is physiology from being merely an examination subject that often men have cause to regret, when engaged in actual ward work, that they have not spent more thought and time over this subject, and they discover that the symptoms of disease form a bewildering puzzle, owing to their ignorance of the processes taking place in the healthy organism. They then find, but often too late, that physiology was not intended to be, even in part, a mere mental exercise to be gone through, and then put on one side. A simple example may perhaps show my meaning better. How often a clinical clerk finds that he has totally forgotten or has never fully understood the mechanical principles of the circulation and general facts with regard to blood-pressure. As a result of this, when he comes to examine cases of heart disease, after spending weeks it may be in trying to make out and piece together the information he acquires from examination of a patient, he finds himself in consequence quite at a loss to explain intelligently the sequence of events which are taking place in the heart, lungs, and other organs. Happy is he if he has the humility to return to his text-books and retrace the steps he formerly so imperfectly trod.

Physiology is one of those subjects which it is extremely difficult to cram up. Many students have already, and I fear many more will in the future, find this to be the case. Until a man begins to exercise his own reasoning powers, and to follow step by step the various stages by which our knowledge on the subject has been acquired, he loses what might be one of the most valuable portions of his training. He should assume the point of view of a man working at original research—every step to be followed through and every fact verified as far as possible in his practical work in the laboratory.

Physiology and medicine in the past have run on nearly parallel lines. Progress in the one is generally attended by progress in the other, now one, now the other forging to the

front. Facts discovered or theories promulgated in physiology later become adopted and applied in medicine. Putting this briefly, the Physiology of the present becomes the Medicine of the future. The moral to be deduced from this is, that because the practical bearing on medicine of a physiological fact is not at present obvious, neglect or ignorance of that fact are none the less inexcusable.

To illustrate this, a few years ago the (zymogen) granules met with in secretory cells of various glands, such as the salivary and peptic glands and the pancreas, though known to be the active principle or ferment of the secretion, had no direct bearing on clinical medicine. Quite recently, somewhat similar granules in leucocytes have been shown to be probably connected with the production of immunity from disease. In septic diseases granules have been observed to be discharged from (secreted by) leucocytes, and to paralyse bacteria present in the blood. Ehrlich has pertinently spoken of these leucocytes as unicellular glands.

The slow and gradual emergence of medicine from pure empiricism, and its progress towards rationalism, are largely due to physiological research. Many of the drugs employed in the treatment of disease are still used quite empirically, though in gradually diminishing number. For instance, the revolution which is impending in medicine for the treatment of specific diseases by their respective antitoxines, of which diphtheria and tetanus are such striking examples, is the outcome of logical experimental work conducted on physiological lines.

Let us now turn to histology. The study of the minute structure of the organs and tissues of the body often presents great difficulty to the student. At first this is because he is unpractised in the use of the microscope, and finds it no easy matter to make out the essential features. Now it is obviously of extreme importance that the structure of tissues in the normal condition should be thoroughly learned before that of diseased tissues, otherwise the student will be on very insecure ground when he attempts to grasp the simplest facts of pathological histology. In spite of this, histology is often regarded by students as a subject chiefly required for examination purposes. It is impossible to urge too strongly that this is not the case.

One of the most valuable aids to the progress and understanding of the microscopical structure of a tissue is to draw it as seen under the microscope. This should be an invariable rule, and its value soon becomes apparent to the student himself. At first drawing under the microscope is to many not only irksome but extremely difficult, but the knack—for it is only this—is soon acquired. A rough drawing made by the observer himself impresses itself more on his memory than the finished and elaborate plates in our modern text-books. One of the chief reasons for this is that it diminishes the chances of self-deception, for it is difficult to draw even roughly an organ, the structure of which has not properly been observed.

Again, seemingly small points in histology must not be overlooked or thought unimportant. Take, for instance, the pancreas. Its structure had been apparently made out years ago, and also its function, that of secreting a fluid which causes digestion of various food-stuffs. If the secretion be conducted from the gland without passing into the intestine, animals still continue to live; but it was found if the gland itself were removed, the condition known as diabetes mellitus resulted. If a small portion of the gland, however, be left, diabetes does not result. It has been shown that in addition to the ordinary secreting portions of the gland, there are to be found small scattered groups or masses of cells, abundantly vascular, which are not in connection with the ducts. These parts of the gland are connected, in all probability, not with the elaboration of digestive ferments, but by their activity preserve the equilibrium of the economy, so that their complete removal leads to disturbance of carbohydrate metabolism, diabetes mellitus resulting. The moral again is the importance of minute anatomy or histology.

Histology has been shown to be a subject of the greatest importance. It deals with minute anatomy, and logically perhaps belongs to gross human anatomy. Its details are so minute and so intimately connected with function or physiology proper, that it forms a connecting link between the two divisions of human biology—anatomy and physiology.

In conclusion attention might be drawn to the educational value of physiology as a science, and here a comparison with its rival anatomy is almost inevitable. Anatomy may be compared to the geography, physiology to the political life of a country. Physiology exercises the reasoning, and to some extent the imaginative powers of the mind, whereas anatomy develops and strengthens the memory and habits of rigid exactitude, while in both the importance of accuracy of observation can hardly be exaggerated.

Diphtheria and the New Remedy.

By WALTER JOBSON HORNE, M.A., M.B., B.C.,
Late House Physician.

WITHIN recent years, perhaps, there is no chapter in medicine which through a better understanding of the disease has had to be more completely rewritten than that on diphtheria. Yet the returns made by the Metropolitan Asylums Board have shown a steadily increasing number of cases. It may be urged that this increase is in some way the outcome of modern sanitary legislation; but even if that is so, there are still the figures of the Registrar-General to be reckoned with; these show a rise in the mortality in London from diphtheria still more striking. Previous to 1888 the mortality in London from diphtheria had not exceeded 1000 in any single year; by 1892 the mortality was doubled, and by 1893 it was more than trebled, and for the first half of the present year it has already reached close upon 1400, and promises to be, by the end of December, not far behind that for last year.

These figures painfully bring home to us the fact that hitherto the means of prevention and treatment have not marched in line with an increased knowledge of the disease. This cannot be attributed to a lack of enterprise in advocating and trying new remedies. The drugs

that have been venerated as specific are numberless, the number itself condemning their efficiency. We know that mild uncomplicated cases of diphtheria are within control, and that good nursing and sound general treatment have been of more service than local or specific remedies. But we also know, and know only too well, the class of cases which swells the mortality bill of diphtheria—cases of quite small children in which the disease attacks all the upper air-passages, spreads to the trachea, and perhaps to the bronchi; these are cases in which the remedies hitherto tried have been of little or no avail, many being unscientific in their principles, and some almost barbarous in their application,—tracheotomy itself often being looked to do little more than anticipate the comforts of death.

It is with these wretchedly bad cases we have to deal in Radcliffe Ward, and this the statistics of the ward for the past two years go to show. The total mortality in the ward has been just under 50 per cent. of the admissions. But then more than 55 per cent. of the cases admitted have called for tracheotomy, and deaths from these alone constitute more than two thirds of the total mortality.

Radcliffe may, therefore, be regarded as a fair field for testing the value of antitoxin, and if it can be shown by carefully analysed statistics that the serum treatment reduces the mortality, then in antitoxin we have a remedy the value of which it would be difficult to overrate.

The value of antitoxin is at present an uncertain quantity; and in order to arrive at its true value we require not only carefully tabulated clinical observations, so that it may be possible to compare like with like, but also, whenever it is practicable and justifiable, a bacteriological confirmation of the diagnosis.

The importance of this will be readily seen when we bear in mind the difficulty there often is in the diagnosis. The presumptive evidence in favour of diphtheria in any given case may be strong, and for clinical purposes sufficient, but for diagnostic purposes one may not be able to go farther than say that if the case is not one of diphtheria, then one does not know what it can be; and this is about the truth, for in the absence of a bacteriological examination one does not know. For statistical purposes cases not bacteriologically diagnosed can be classed only amongst the "suspected."

There need be no difficulty in adding a bacteriological diagnosis to the cases admitted to the hospital. Notice might be sent to the pathological laboratory as soon as a case is admitted to Radcliffe, so that a bacterioscopic investigation could be made within a few hours of admission. For cases that are admitted during hours when the laboratory is closed, tubes could be kept ready in the ward which the house physician could inoculate, to be worked up subsequently in the pathological laboratory.

Antitoxin was used in the treatment of the three following cases, which were in Radcliffe Ward during August and September under the care of Dr. Church and Dr. Brunton, and with their kind permission are quoted; not that taken by themselves they can be of any great statistical value, yet there are points which may be of interest. Through the ready co-operation of the pathological laboratory a bacterioscopic investigation was made in two, but in the other it was not considered justifiable. The extent and severity of the disease varied, as will be seen, from a straightforward case of faucial diphtheria to one complicated with tracheotomy.

The first case was that of a rather anæmic but well-grown schoolgirl, aged nine, who was admitted on the evening of August 26th with a history of having not feeling well to the previous day, when she complained of not feeling well, and in the evening of a sore throat. On the day of admission there had been shivering, muscular pains about the hips, and vomiting.

When first seen, which was within thirty-six hours of the onset of the symptoms, the tonsils were swollen, and covering the surface of the left and extending on to the adjacent soft palate was a patch of membrane. The right tonsil, the uvula, and pharynx were free from membrane. There was no indication of the larynx or nose being involved; the respirations were 26, and quiet. The submaxillary glands could be felt to be enlarged. The pulse was 124, regular, and of fair strength, but the first sound of the heart at the impulse was not pure. The temperature was 102°. The knee-jerks were present, but not very readily elicited. There was no rash nor erythema of skin, the urine 1022, and contained a trace of albumen.

On admission ten minims of antitoxin were injected. The child steadily—in fact, rapidly—improved; the temperature fell, by midday on the 28th (within thirty-six hours of the injection) it was subnormal, and remained so for several days. The pulse rate fell to 90, and the respirations to 24.

The condition of the throat during the first twenty-four hours showed but little change; there was no diminution of the membrane,

perhaps it had a little increased, but no fresh seat was attacked. Tubes were inoculated, and subsequently yielded the Klebs-Loeffler bacillus. There was no diarrhoea, rather a tendency to constipation.

The child's general health continued to improve. After the 28th the membrane gradually melted away, and by September 1st no trace was left. The albumen detected on admission disappeared for the following nine days, and then reappeared for a week.

By September 14th the child was fully convalescent. The knee-jerks showed increased activity. No signs of paresis subsequently developed. No toxic symptoms, either local or general, followed the injection. The child made a good recovery.

The second case was that of a fat and well-developed boy of a year and nine months, who was admitted also on the evening of August 26th with a history of being well previous to August 24th, when the mother noticed a running from the nose, and that the child was hoarse and croupy, symptoms which the following day became more marked, and on the 26th the child became alarmingly distressed and was brought to the hospital.

When first seen the child was obviously ill, restless, of a dusky pallor, and looked poisoned. There was some discharge from the nose, but very slight excoriation about the anterior nares. The breathing was greatly distressed, respirations 28, shallow and stridulous, with a hoarse cough; considerable recession of the lower third of the sternum and adjacent intercostal spaces, with deficient air-entry at the bases. The pulse was 132, of only moderate strength. The heart-sounds were natural. There was no rash. Temperature on admission was 98.4°. The fauces were reddened and oedematous, with a patch of membrane on right tonsil, none on left, none on soft palate, uvula, or pharyngeal wall. The submaxillary glands were slightly enlarged. The urine contained a trace of albumen. The child's condition gave the impression that tracheotomy was imminent.

On admission three and a half minims of antitoxin were injected. Incommodations were applied to the neck and throat, and a steam kettle was used. The child quickly responded to treatment, slept well, the dyspnoea decreased, and became marked only when the child was disturbed for food.

August 27th.—The temperature continued subnormal during the first twenty-four hours. Pulse rate fell from 132 to 100, and respirations from 28 to 20. The laryngeal symptoms considerably subsided, and the child's aspect was brighter.

August 28th. Temperature to-day rose to 99.2°, but fell again to subnormal, where it remained. Urine still contained a trace of albumen.

By August 30th (seventh day of disease) the albumen had disappeared, and did not reappear. The child rapidly convalesced, and went home on September 19th without any evidence of sequelæ.

It was in this case that no bacteriological diagnosis was made.

The third case was more severe. It was that of a well-grown boy aged three, who was admitted at 11.30 on the morning of September 23rd. He had been ailing since the 19th, when the mother noticed that "the child coughed as though he had croup." The child's breathing became more and more difficult, and he was brought to the hospital considerably distressed on the fourth day of the disease. When seen the child was a bad colour, with a poisoned aspect. The respirations were 35, stridulous; voice husky, almost aphonic. There was considerable dyspnoea and marked recession of the lower two thirds of the sternum and of the intercostal and supra-sternal spaces. The pulse was 124 and feeble. Temperature 100.9°, rising to 101.6°. The nose was free. The fauces were dusky and livid, with flakes of membrane on both tonsils, uvula, soft palate, and pharynx. The knee-jerks were present, but not very active. The urine was 1025, and contained a cloud of albumen.

Within a quarter of an hour of admission fifteen minims of antitoxin were injected. By midday the child had become more restless and distressed, and had a sharp attack of dyspnoea, relieved momentarily by oxygen and strychnine. Another and more severe attack of dyspnoea soon followed, and the trachea was speedily opened by Mr. Martin Jones. At the operation a mere shred only of membrane was coughed up, but in the course of the day some more was coughed up, and cultures made from this yielded the Klebs-Loeffler bacillus. On September 24th the temperature fell to 98.2°, but in the course of the day rose again to 101.6°. Pulse varied from 144 to 158. The child took well by mouth, and the nasal feeding, at first necessary, was discontinued.

September 25th, the seventh day of disease and second after the operation, the tube was left out for an hour. The temperature reached the normal, and remained subnormal; more membrane was coughed up.

September 26th.—The tube was taken out at 9 a.m., and left out for five and a half hours. The throat had partially cleared; there

was still some membrane on both tonsils, but none on uvula, soft palate, or pharynx. Some more was coughed up from trachea.

By September 27th the fauces had completely cleared. The tube was taken out (fourth day after operation), and it was not necessary to replace it. The child convalesced well, and by October 7th the tracheal wound had closed, and child was breathing naturally through the larynx. The urine was free from albumen, and there was no evidence of paralysis.

October 13th.—The knee-jerks showed increased activity. Child made a good recovery.

From the foregoing account it can be seen that these three cases varied in severity. The first and the third were proved in the pathological laboratory to be diphtheria. In the second case an examination, as has been said, was not permissible, and it is to be regretted that it was not permissible. The child so rapidly improved from what appeared on admission to be a serious condition threatening tracheotomy, that subsequently one almost doubted the original diagnosis. It was, in fact, one of the class of cases referred to in which the presumptive evidence in favour of diphtheria is strong. In the absence of a bacteriological confirmation it can now be classed only amongst the "suspected."

It will be noticed that the amount of antitoxine used also varied. In the first case ten, in the second three and a half, and in the third fifteen minims were injected. Doses below these usually advised. The small amount used in the first two cases is accounted for by the supply at the end of August having run out, and it was not until the third case came under treatment towards the end of September that a fresh supply was obtainable. However, the improvement that so rapidly followed the treatment continued, and a repetition of the dose was not called for.

Inasmuch as the strength of the serum supplied at different times may have varied, and the dosage is not calculated for individual samples, it must unfortunately remain an open question whether the strength of the first solution was considerably above that of the second, and whether the small injections used were responsible for the results that followed. The scanty supply of the first solution prevented control experiments being made. The injections were made with a sterilised syringe deeply into the muscles in the gluteal region, the skin about the seat of puncture being previously cleansed with a carbolic lotion, and subsequently covered with isinglass plaster. No pustule nor local irritation followed.

The treatment was commenced as soon as possible—in fact, within an hour of the patient being seen, and in the first case within thirty-six hours, in the second within forty-eight hours, and in the third within four days of the onset of the symptoms. The treatment adopted, besides that of the serum, was mainly directed towards maintaining and improving the general strength, and was not vigorous excepting in the tracheotomy case.

Now as regards some of the effects of the treatment, or rather the changes that followed, and first of all the local changes. The faucial membrane showed no naked-eye change within the first twenty-four hours. It certainly had not diminished; in the first case it had perhaps slightly increased, and one might expect that the immediately adjacent zone of tissue already attacked by the bacillus would show membrane.

After the first twenty-four hours the membrane began to disappear from the fauces, but it was not observed to shrivel up and come away in masses; it gradually melted away. As regards laryngeal and tracheal membrane, if in the second case the symptoms of laryngeal obstruction which so speedily subsided within twelve hours were due to membrane, then changes here probably followed sooner.

It may be that the serum acts more readily on membrane in the larynx and trachea than on the fauces, and this is a point of no small importance with reference to intubation. Intubation, which has hitherto been rather neglected, may now become more widely practised. In the case in question had laryngeal relief been momentarily wanted intubation would no doubt have been sufficient.

Where the temperature was raised on admission it reached normal within twelve hours; the pulse-rate also fell, but the normal was not so soon reached. Albumen was present in the urine in all three cases when first seen; it diminished early in the disease. There was no diarrhoea.

No evidence of paralysis developed whilst the cases were under observation; but the knee-jerks, as has already been noted, were increased in the first and third cases during convalescence.

The general health of these patients from the very first rapidly improved, and this was perhaps the most noticeable feature; the children became brighter and more cheerful, the disease certainly seemed to lose its malignant character at an earlier period.

Has antitoxine any toxic properties? Toxic symptoms at present recorded have been so very slight that they may almost be disregarded. An urticaria has not infrequently been met with as a sequela. No urticaria or rash was seen in the cases quoted, and in considering toxic effects it must be borne in mind that in some epidemics of diphtheria rashes and eruptions are not infrequently met with.

The question of toxic effects is important; their absence will not only encourage us to use the serum with impunity in all cases pending a bacterioscopic investigation, thereby using it to the greatest advantage and affording protection to any case admitted to a diphtheria ward that may subsequently be disproved to be diphtheria; but it will also encourage the use of the serum for affording immunity to healthy subjects. Immunisation is easy—cure much more difficult. Immunity might be offered to nurses, house physicians, and others in attendance in Radcliffe—a temporary protection which would, no doubt, be readily accepted by those whose intelligence enables them to appreciate it.

In looking back upon these three cases a question that naturally suggests itself is, How would these children have fared without the antitoxine? The first case, in all probability, would have recovered, although perhaps not so rapidly. But was the antitoxine the means of staying off tracheotomy in the second case, or of bringing it to a successful issue in the third? The answers to these questions are not readily found, and it would be idle to speculate over them. It would be equally idle to speculate over what will be the final verdict upon the serum treatment of diphtheria. At present we know that it is only too often we have to approach the disease with a sense of helplessness, and knowing this we ought not to permit ourselves to doubt the value of the new remedy. We ought to give it a fair trial. When we have before us the carefully analysed statistics of a sufficient number of proved cases in which the remedy has been put severely to the test, then we shall be in a position to pronounce upon the commercial commodity we are dealing with.

Notes.

THE ENTRY of new students to St. Bartholomew's has been very satisfactory. Amongst the London schools we again take our proper place as head of the list in the number of new students. The number of new students is 193, distributed as follows:

Full entries	119
Special entries, including qualified practitioners	34
Entries to the D. P. H. course of laboratory work	14
Dental students	2
Preliminary Scientific Class	24
	193

THESE FIGURES compare very well with last year, when there entered 156 new students, of whom 95 were full entries and 61 special entries, including the Preliminary Scientific Class. Taking the whole of the London schools, there is a marked falling off in the number of full students, the total for London being this year 552, as against 598 last year. It is, therefore, the more gratifying to find our own entry increased this year.

WE understand that over 140 "freshmen" have entered on the study of medicine at Cambridge University this year.

THE STATISTICS of the total number of candidates and percentage of passes at the various examinations of the Royal College of Surgeons, which were reported at the last

Council meeting, are of general interest to students, and we reproduce them here:

	Number of Candidates.	Percentage of Passes.
First F.R.C.S.	160	38
Final F.R.C.S.	99	54
First Conjoint (5 years' regulations):		
Chemistry	497	57
Pharmacy	197	79
Biology	486	67
Elementary Anatomy	497	80
Second Conjoint (4 years' regulations):		
Anatomy	722	60
Physiology	762	57
Second Conjoint (5 years' regulations):		
Anatomy and Physiology	89	66
Third Conjoint:		
Medicine	869	56
Surgery	813	57
Midwifery	859	67
	* * *	

A MEETING of the Medical School Committee was held on Saturday, October 27th, 1894, in the library of the Medical School, for the purpose of the presentation of the Medals, Prizes, and Certificates which have been won during the past year by the Scholars and Prize Students. Dr. Church occupied the chair, and the scholars were presented to him by Mr. Bowly. Dr. Church congratulated the Students on their success, and presented the Medals, Books, Instruments, and Certificates to them in turn with a few appropriate words to each. From what Dr. Church said it appears that the question is likely shortly to be considered of substituting for the private gathering now held a more public ceremony, at which all the Students, with their friends, may have an opportunity of attending. We hope that this proposal may another year become a fact.

ON October 18th Dr. Lauder Brunton, F.R.S., delivered the Harveian Oration at the Royal College of Physicians. Dr. Brunton first referred in graceful terms to the work of the late President, Sir Andrew Clark, to his writings and his influence on the medical profession in general. He then spoke of the presentation by the College of the Moxon Medal to Sir William Jenner, in recognition of his labours as a clinician. Then followed an admirable oration on Harvey and the modern developments of his work. He quoted frequently from Harvey's book, 'De Motu Cordis,' pointing out how, amongst other matters, he knew of the sounds of the heart, although the practice of auscultation was not introduced till much later by Laennec. After dealing with the mechanism of the circulation, Dr. Brunton spoke of the vaso-motor apparatus and the nervous mechanism of the regulation of the supply of blood to the viscera, the nervous and muscular systems. Valuable remarks were made on the effects of muscular overwork on the heart, and the principles of treatment of cardiac disease. After a reference to modern therapeutic methods Dr. Brunton exhorted his hearers to follow Harvey's example, and to search out the secrets of nature by way of experiment, and to direct their attention to fields of research which at present receive but little attention.

AT University College Hospital the house surgeons and house physicians have hitherto been required to pay the Hospital for their board. We understand that at a meeting of the House Committee of the Hospital on October 31st it was decided that this should be discontinued at the end of this year. We believe that now St. Bartholomew's will be the only hospital in London, to which a medical school is attached, where the Resident Staff are put to any expense in providing their own board.

WE hear that Sir George Humphry, M.D., Professor of Surgery at Cambridge, has resigned the position of Senior Surgeon to the Addenbrooke's Hospital, Cambridge. Sir George's letter of resignation was accompanied by a donation of £500 to the hospital for the purpose of improving the accommodation in the Surgical Out-patient Department. Sir George has been associated with the Hospital for fifty-two years, and the Governors have now appointed him Consulting Surgeon.

WE hear that Mr. W. J. Walsham is now engaged on a large and exhaustive treatise on "Deformities of the Human Foot." It is to be published by Dallièrè, Tindall, and Cox. Though from its nature Mr. Walsham can hardly expect it to rival in popularity his so widely read "Theory and Practice of Surgery," yet we have no doubt but that it will prove a valuable addition to Surgical Literature.

RUMOUR says also that a new edition of Mr. Howard Marsh's work on "Diseases of the Joints" will appear shortly.

WE hear that Mr. R. D. Metcalfe, Mns. Bae., who so ably conducted the Summer Concert in the Great Hall, has again offered to conduct the practices of the Musical Society through the winter. We congratulate the Musical Society on their good fortune, and at the same time tender our thanks to Mr. Metcalfe, on behalf of the Hospital, for his kindness and the interest he takes in the welfare of the Society.

WE are asked to publish the following notice of the "Guild of St. Barnabas":

A religious society for students of all hospitals has quite recently come into existence, under the name of the Guild of St. Barnabas.

It makes its appeal to medical students who are communicants of the Church of England, and offers them the support and strength of association with men of like faith and mind, together with the spiritual help of a monthly meeting for prayer and religious instruction, addressed to the special needs of students.

Information concerning the Guild and the conditions of membership may be had on application to R. A. Walter, Esq., 14, Woburn Square, W.C.; or to Rev. E. F. Russell, 35, Brooke Street, Holborn, E.C.

WE regret that, owing to want of space, we are compelled to hold over several papers accepted for this issue, together with "Correspondence." They will, however, appear in the December number.

Amalgamated Clubs.

NEW MEMBERS.

SINCE the date of the last issue of the JOURNAL the following have joined the Amalgamated Clubs:

J. H. Wood.	A. W. Dickson.
H. P. Margetts.	H. E. G. Boyle.
F. W. Broadbent.	J. C. Newman.
H. C. Harrison.	R. F. Hearn.

ST. BARTHOLOMEW'S HOSPITAL BOXING CLUB.

At a meeting of the above Club the following officers were elected:

President.—H. T. Butlin, F.R.C.S.

Vice-Presidents.—W. H. H. Jessop, F.R.C.S.; A. N. Weir, F.R.C.S.

Committee.—T. Martin, G. R. Baker, A. J. Andrew, A. Hawkins.

Hon. Secs.—C. G. Meade, J. W. Hughes.

The Club Room is in St. Bartholomew's School (key at Mr. Harrison's, 8, Bartholomew House, Red Lion Passage, E.C., close to Little Britain). The club days are Monday, Wednesday, Thursday, and Friday, from 3 to 6.30.

Alec Roberts (Instructor of the Belsize B. C.) attends every Friday from 4.15 to 6.

This season bids fair to become a successful one judging by the attendance on club days. We are glad to see there are some boxers amongst the "freshers." The Annual Boxing Competition will probably be held some time during March.

RUGBY FOOTBALL CLUB.

THE Rugby Club has every prospect of a good season. Three practice games have been played, in all of which a great deal of keenness has been displayed both by the senior men and "freshers." Among the latter some useful material for both teams has been discovered.

As far as can be seen at present there will be a great competition for places in the team, and if men only continue as keen as they are at present the much-coveted Rugby cup may soon be seen in its proper place on the library table.

On October 6th the first fifteen played the Civil Service on our ground at Wormwood Scrubbs. The game was of an even character till close on time, when the better training of the Civil Service men began to tell, and they managed to score a try which they failed to convert, thus beating us by the narrow margin of three points.

Team.—H. Bond (back); J. W. Nunn, A. Hawkins, C. A. S. Ridout (three quarters); H. Burrows, F. E. Everington (half); P. O. Andrew (captain), H. M. Cruddas, J. C. S. Dunn, F. G. Richards, W. J. Codrington, J. W. Hughes, G. A. Auden, A. L. Ormerod, W. M. James (forwards).

On October 13th the first fifteen journeyed to Sandhurst

to oppose the R. M. C., and suffered defeat by five goals and three tries (thirty-four points) to *nil*.

At first our team held their own, although they were deprived early in the game of the services of Burrows through an injury to his knee, until just before half time, when Sandhurst succeeded in scoring.

During the second half, handicapped by want of training and the loss of Burrows, which necessitated the weakening of the scrum, we were outmatched, and Sandhurst scored repeatedly.

Team.—H. Bond (back); J. W. Nunn, A. Hawkins, F. E. Everington, C. A. S. Ridout (three quarters); H. Burrows, G. C. Marrack (half); P. O. Andrew (captain), H. M. Cruddas, W. F. Bennett, F. G. Richards, A. J. W. Wells, A. L. Ormerod, J. W. Hughes, W. M. James (forwards).

On October 20th the first fifteen met Ealing on our own ground. In the first half of the game the Hospital had slightly the best of it. Richards scored the first try from a scramble on the Ealing line. Bond took the kick, but failed to convert. Soon after, Cornish gaining possession of the ball, after a fine run, placed it between the visitors' posts; Bennett took the kick, and scored a goal. In the second half our men had matters all their own way. Cornish scored a second try, which Bond converted. Tries were also obtained by Andrew, Dunn, and Bennett. Result: 2 goals 4 tries (twenty two points) to *nil*.

Team.—H. Bond (back); J. W. Nunn, C. A. S. Ridout, A. J. W. Wells, C. V. Cornish (three quarters); G. C. Marrack, A. Hawkins (half); P. O. Andrew (capt.), H. M. Cruddas, W. F. Bennett, F. G. Richards, J. C. S. Dunn, A. L. Ormerod, J. W. Hughes, W. J. Codrington (forwards).

SECOND FIFTEEN MATCHES.

On October 6th the second fifteen played the Civil Service second fifteen at Richmond. The game was fairly even during the first half, but during the second half the Hospital had much the best of it. Tries were obtained by Mason and Stack. Martin took the kicks, and converted one of them into a goal. Result: 1 goal 1 try (eight points) to *nil*.

Team.—S. F. Smith (back); E. G. Simmonds, T. Martin (captain), S. Mason (three quarters); A. Pain, H. Davis (half); E. H. Stack, W. M. McDonald, H. Weeks, F. V. Beit, A. Vaughan, G. C. Cathcart, I. C. Lewis, J. Perks (forwards).

On October 13th the second fifteen played the Middlesex Wanderers second fifteen at Richmond.

The game was at first well contested, but the loss of two outsiders prevented the Hospital from averting defeat.

Twenty minutes after the start Smith was obliged to retire, and later on an injury to his shoulder placed Beath *hors de combat*. Weekes was also hurt, but was able to continue the game.

Result.—Middlesex Wanderers, two goals three tries (nineteen points): Bart's 0.

Team.—S. F. Smith (back); D. L. Beath, T. Martin (captain), E. G. Simmonds, S. Mason (three quarters); M. A. Cholmeley, H. Davis (half); W. J. Codrington, H. Weeks, W. M. McDonald, F. V. Beit, A. Vaughan, A. B. Brown, J. Cathcart, J. Perks (forwards).

On October 20th the second fifteen played the London County Council.

The game was a very one-sided affair, the Hospital winning by four goals (two dropped) and four tries to *nil*.

Dropped goals by Goodman and Simmonds.

Tries by Simmonds (3); Vaughan (2); Cholmeley (1).

Team.—H. Goodman (back); H. Dalzell, T. Martin (captain), E. G. Simmonds, H. Winkfield (three quarters); M. A. Cholmeley, H. Davis (half); W. M. McDonald, A. Pain, A. Vaughan, G. C. Cathcart, J. Perks, I. C. Lewis, H. S. Beadles, H. M. James (forwards).

On October 24th the second fifteen played University College School on our ground. This game also proved very one-sided, the Hospital winning by 5 goals and 3 tries (thirty-four points) to *nil*. Tries by Mason (3), Martin (1), Ormerod (1), Vaughan (1), Calverley (1), Stack (1). Martin kicked 4 goals; Pain 1 goal.

Team.—H. Goodman (back); S. Mason, T. Martin (captain), G. C. Marrack (three quarters); J. E. G. Calverley, H. Davis (half); J. C. S. Dunn, A. L. Ormerod, H. Weeks, W. M. McDonald, E. H. Stack, A. Pain, A. B. Brown, A. Vaughan, G. C. Cathcart (forwards).

OTHER MATCHES.

First fifteen *v.* Marlborough Nomads. Lost. 1 goal (and 1 dropped) to 1 try.

First fifteen *v.* R. N. C., Greenwich. Won. 1 goal 1 try to *nil*.

Second fifteen *v.* Hongkong and Shanghai Bank. Won. 1 goal and 1 try to *nil*.

Reports of these matches will appear in the next issue.

ASSOCIATION FOOTBALL CLUB.

UP to the present we have not done quite so well as we hoped. Our victory over West Kent at Chislehurst was very creditable, the whole team keeping well together and playing up hard all through. We hoped also to beat Harrow Athletic and Crouch End, but on those occasions the ground was very wet and heavy, and the combination was not over-good. Casuals scratched their match with us on Thursday, October 25th, not being able to raise a team.

The second team have been doing very well, and have only lost one match, their record up to date being 31 goals "for" and 11 "against."

Saturday, Oct. 6th.—ST. BARTHOLOMEW'S HOSPITAL
v. WEST KENT

This match was played at Chislehurst, and although there had been a good deal of rain, yet the ground, being high up,

was in very good condition. Some delay was caused before starting by the West Kent men not being ready, but about half-past three West Kent kicked off, playing uphill first. The game was of a very even character; if anything we had slightly the best of the game from the start. In the first half Fernie scored a goal, the West Kent team not scoring. In the second half West Kent pulled up a bit, but although they had the advantage of the slight hill they only scored once, while we scored two more goals—one by Fernie and another from a splendid shot from the left wing by Woodbridge, thus winning by three goals to one.

Team.—E. H. B. Fox, goal; R. P. Brown, C. H. Norrington, backs; T. Dawson, C. C. Costin, H. J. Pickering, half-backs; A. Hay, C. A. Robinson, right wing; L. E. Whitaker, centre; J. F. Fernie (capt.), E. W. Woodbridge, left wing. Linesman, Mr. C. H. Hopkins.

Saturday, Oct. 13th.—ST. BARTHOLOMEW'S HOSPITAL
v. HARROW ATHLETIC.

Before a fair number of spectators and on a very heavy ground this match was played at Harrow. The game was not very exciting, neither team seeming to show very good combination. We had the best of it at the start, but after some give-and-take play the Harrow Athletic outside right put in a difficult shot which Fryer was unable to save. Still we had the advantage, and Fernie scored just before half-time, thus leaving the game, at that time, one goal all. In the second half the play was of a more even character, and some good runs were made by our forwards, but we were unable to score. Harrow scored another goal about a quarter of an hour after play commenced again, and although we tried hard to equalise nothing more was scored, and we had to retire defeated by two goals to one.

Team.—E. H. Fryer, goal; R. P. Brown, C. H. Norrington, backs; W. E. Graham, C. C. Costin, H. J. Pickering, half-backs; A. Hay, G. A. Spear, right wing; L. E. Whitaker, centre; J. F. Fernie (capt.), E. W. Woodbridge, left wing. Linesman, Mr. C. H. Hopkins.

Wednesday, Oct. 17th.—ST. BARTHOLOMEW'S HOSPITAL
v. GRAVESEND UNITED.

Played at Gravesend before a good crowd of spectators. The game was very fast, and soon after the start Stone scored for Bart's. Gravesend now played up, and after several corners had been taken they equalised from a very smart shot by their centre from a pass by the outside right. Both sides now tried hard to get the lead, and Bart's, after playing a very hard game, scored again, from a shot by Powell at half-back. Nothing more was scored, and at half-time we were leading by two goals to one. In the second half Gravesend had the best of it, and we had to play a defensive game; but although they kept having shots, Fox, who had been playing splendidly, only let the ball go through once, and the game ended in a draw—two goals each.

Team.—E. H. B. Fox, goal; R. P. Brown, I. F. Whitaker, backs; J. C. Powell, C. C. Costin, H. J. Pickering, half-backs; A. Hay, G. W. Stone, right wing; G. A. Spear, centre; J. F. Fernie (capt.), E. W. Woodbridge, left wing.

Saturday, Oct. 20th.—ST. BARTHOLOMEW'S HOSPITAL
v. CROUCH END.

This was played at Hornsey, the ground, owing to heavy rain, being very slippery. Play was of a very loose character, and in the first half Crouch End scored a goal, Bart's not being able to score. Wilkins, one of the Crouch End backs, had to retire before half-time, his collar-bone having been accidentally broken by a charge from one of our men. In the second half we had the advantage of the hill and played up better, but the ball being very slippery shooting was rather difficult. A corner fell to Bart's, and from a well-placed kick Fernie headed the ball through the posts and equalised. Soon afterwards, however, Crouch End scored again, and maintaining their lead till time was called, won by two goals to one.

Team. E. H. Fryer, goal; R. P. Brown, L. E. Whitaker, backs; W. H. Pope, C. C. Costin, H. J. Pickering, half-backs; A. Hay, C. A. Robinson, right wing; G. A. Spear, centre; J. F. Fernie (captain), E. W. Woodbridge, left wing. Linesman, Mr. C. H. Hopkins.

Saturday, Oct. 27th.—ST. BARTHOLOMEW'S HOSPITAL
v. BARNES F. C.

Played at Barnes in very wet weather. The high wind prevented the ball from being kicked very accurately, but our men played very well together and gained a decided and well-earned victory. In the first half, playing with the wind, we scored three goals, Barnes not scoring and only very seldom getting near our goal. Playing against the wind during the second half, our forwards were better able to keep the ball close at their feet, but only scored two more goals, although the ball was only once or twice got into our territory by the Barnes forwards. The game resulted in a victory for Bart's by five goals to nil.

Team.—E. H. B. Fox, goal; R. P. Brown, L. E. Whitaker, backs; J. C. Marshall, C. C. Costin, H. J. Pickering, half-backs; A. Hay, C. A. Robinson, right wing; G. A. Spear, centre; J. F. Fernie, E. W. Woodbridge, left wing.

Wednesday, Oct. 31st.—ST. BARTHOLOMEW'S HOSPITAL
v. R. M. A., WOOLWICH.

In spite of the wind we had a fast game with R. M. A. at Woolwich. During the first half Bart's played with the wind and Fernie scored two goals, whilst the home team only obtained one, which went in off Whitaker during a scrum in front of the goal. In the second half the Woolwich forwards found the wind an advantage to them, and their wings made some good runs, but nothing was scored by them. Towards the end Bart's pulled up again, and obtaining a corner, Pickering placed the ball splendidly in the mouth of the goal, and it was put through. Nothing

more was scored, and when time was called Bart's were victorious by three goals to one. The R. M. A. men kindly entertained the Bart's team to tea after the match.

Team.—E. H. B. Fox, goal; R. P. Brown, I. F. Whitaker, backs; J. C. Marshall, C. C. Costin, H. J. Pickering, half-backs; A. Hay, C. A. Robinson, right wing; J. F. Fernie, centre; E. H. Fryer, E. W. Woodbridge, left wing. Linesman, Mr. C. Price.

RESULTS FOR OCTOBER.

			Goals	
			For	Agst
Sat., Oct. 6.	—West Kent	at Chislehurst	3	1
Wed., „ 10.	—Trial game	„ Edmonton		
Sat., „ 13.	—Harrow Athletic	„ Harrow	2	3
Wed., „ 17.	—Gravesend United	„ Gravesend	2	2
Sat., „ 20.	—Crouch End	„ Hornsey	1	2
Thrs., „ 25.	—Casuals	„ Leyton	Scratched.	
Sat., „ 27.	—Barnes	„ Barnes	5	0
Wed., „ 31.	—R.M.A.	„ Woolwich	3	1

We would again ask men to cross their names as soon as possible after the lists are put up, as it saves the secretaries a great deal of trouble looking for men at the last moment.

Abernethian Society.

THE Society opened the Session, which, as everyone knows, is the Centenary Session, in a way suited to a Society which claims seniority to every other Medical Society in London.

We give the Inaugural Address, delivered by Sir James Paget, *in extenso*. The address was delivered in the Anatomical Theatre on Thursday, October 11th; the theatre was crowded. The Nursing Staff was well represented, and there were present many members of the Senior Staff, both Medical and Surgical, several of whom brought lady visitors.

The chair was taken by the President, Mr. E. W. Cross, who in his opening remarks explained the importance of the occasion; and, in calling upon Sir James to deliver the address, said, amidst great applause, that there was no occasion to "introduce" Sir James to Bart's men.

At the conclusion of the address a vote of thanks was proposed by Mr. Marsh, and seconded by Mr. Rowley, both of whom were received with enthusiastic applause, and the vote of thanks was carried with an acclamation that was positively deafening.

Sir James Paget (who had delivered the address without the aid of notes), in thanking the Society for the vote of thanks, said that he had promised to write out his address for the JOURNAL; this he has since done, and we take this opportunity of expressing our sincere thanks for his kindness in so doing.

St. Bart's Amateur Dramatic Club.

THE Annual General Meeting of the Hospital Dramatic Club was held on Friday, October 12th, at Mr. Cross's house, Mr. Cross as President of the Club being in the Chair, when the following gentlemen were elected as officers of the Club:

Stage Manager, Mr. J. Boyan.
Assistant Stage Manager, Mr. G. H. Forman.
Acting Manager, Mr. F. J. Clowes.
Committee { Mr. A. W. C. Lindsay.
 Mr. Thorne-Thorne.
 Mr. J. C. Powell.

Any gentlemen wishing to join this Club are requested to send in their names to the Stage Manager, Acting Manager, or one of the Committee, when they will be duly proposed for election.

The attention of first and second years' men is especially drawn to this notice, as it is desirable that members should be able to remain in the Club for some considerable period.

St. Bartholomew's Hospital Smoking Concert Club.

THE First Concert of the Season 1894-5 was held in the French Room of St. James's Restaurant on Saturday, October 27th.

In the regrettable absence of Mr. P. Furnivall the chair was ably filled by Mr. P. W. G. Shelley, a vice-chairman of the Club.

A capital programme, in which the humorous and sentimental were well balanced, had been arranged by Messrs. D. L. E. Bolton and C. E. Hogan (Hon. Secs.).

Mr. Collingwood Banks made an admirable accompanist, his pianoforte solos being also much appreciated.

The first portion of the programme was opened by Mr. Cathcart Bird, who sang "On the Goodwins," and was obliged to give an encore.

Mr. Forman then played a solo on the banjo, and met with a flattering reception.

An old favourite of the Club, Mr. Dick Welch, gave "Jones' Wedding," and in response to a vociferous recall dilated on the charms of "Our Happy Little Home."

Special mention must be made of the songs rendered by Mr. R. F. Standage, whose magnificent voice was heard to much advantage in "My Dreams" and "The Yeoman's Wedding" (encore).

Mr. J. K. Birdseye, whose unique style is too well known to need any praise, sang "I did laugh!" This proved so contagious that he responded to a hearty encore.

In the second part of the programme Messrs. D. Welch, R. F. Standage, and Cathcart Bird again contributed songs.

Mr. Cecil Mount, who has a quiet subtle charm in his recitations, was very well received in "The Goddess Nicotine" and "The Coster's Conversion," an encore being insisted on in each case.

The hit of the evening was undoubtedly made by the well-known comedian, Mr. Frank Lane, who sang "That's his girl," and was twice recalled.

Mr. Ernest C. Fincham, apologising for being a tenor and thus perforce compelled to sing a sentimental song, gave "Annabelle Lee," and in response to an encore "Come into the garden, Maud."

Another old favourite of the Club, Mr. R. Parker, sang "Gipsy John."

Mention must be made of Mr. A. S. Lawrence, who detailed the pleasures of the "The Meynell Hunt." Mr. Harold Coulter scored a great success with "Tommy Atkins," the chorus being well taken up by the audience.

A musical sketch, "A Peculiar Party," by Mr. Edward Kent, created much merriment, the solo in which the airs of "The Maiden's Prayer" and "The man that broke the bank at Monte Carlo" were blended being especially clever.

A thoroughly enjoyable evening was terminated by singing "God save the Queen" and "Auld Lang Syne." Amongst those present we noticed Dr. Andrewes, and Messrs. W. J. Walsham, R. Gill, H. J. Waring, H. Morrison, F. C. Friend, E. W. Cross, and J. Belben.

This concert was not, however, so well attended as we should have liked, and compared badly in that respect with some of the crowded concerts of last season. We hope, however, that this defect will be remedied in the future.

The Second Concert of the season will be held on November 17th, and the Third Concert on December 8th, in the French Room, St. James's Restaurant, W.C. Members' tickets to admit members and one friend to all concerts during the season can be obtained from the Hon. Secs., Messrs. D. L. E. Bolton and C. E. Hogan, price 5s. Single admission tickets 1s.

St. Bartholomew's Hospital Photographic Society.

At the Annual General Meeting of the Photographic Society, held on October 12th, the following officers were elected for the ensuing year:—*President*, Dr. Russell; *Vice-Presidents*, Dr. Lewis Jones and Mr. Womack; *Committee*, Mr. Craze-Calvert, Mr. Coleman, and Mr. Gill; *Secretaries*, Mr. Hossely and Mr. Pearson.

The report for the past year is of a very satisfactory nature. The chief points of interest in it are the increase in number of members, which is now greater than at any time, the increase in the work done by members during the year, and in the use to which the Society's dark room has been put. Over three hundred plates have been developed in it during the year.

The Second Annual Exhibition of the Society took place on Friday evening, October 26th, the object being to afford members and friends an opportunity of inspecting prints of plates exposed during the summer vacation. These were "on view" in the Smoking Room, and included, besides examples of the ordinary silver print, several in bromide, platinum, and carbon. As great diversity was shown in size as in style, the pictures varying from the diminutive "quarter-plate" to enlargements measuring 18 x 10 in. The following members were represented among the exhibits:—Dr. Russell (President), silver prints of views in Devon; Dr. Lewis Jones and Mr. Womack (Vice Presidents), bromide enlargements and silver prints; Dr. Tooth, portfolio of enlargements from "snap-shots" taken in Norway; Messrs. Amadan, Atlee, Brittain, Calvert, Clarke, Coleman, Compton, Harvey, Hepburn, Hodder, Hussey, J. L. Maxwell, J. P. Maxwell, Pearson, Rhodes, and Thornley. These included views from the Alps, Brittany, Scotland, Wales, the Lakes, &c. Mr. Fincham, well known in the amateur photographic world, exhibited several pictures, two of which, "In Irish Waters" (carbon print) and "A Brown Study" (bromide), have been shown in Pall Mall and at New York. Several specimens of the Society's work for the Museum during the past year were also to be seen. The second feature of the exhibition consisted of lantern slides, which were thrown on to the screen in the Anatomical Theatre. Dr. Lewis Jones showed a set of slides illustrating paralysees of the upper arm, besides landscapes and seascapes. Messrs. Calvert, Fincham, Harvey, Maxwell, and Pearson also contributed to this part of the programme. Altogether some 300 photographs were shown, and 150 lantern slides. The attendance was an improvement upon last year, there being fifty present. The Society was greatly indebted to the Committee of the School for the use of the school lantern and of the Anatomical Theatre and Smoking Room.

St. Bartholomew's Hospital Christian Association.

A MEETING is held every Thursday in the Inquest Room. Tea and coffee at 4.45 p.m. Address at 5 p.m.
A Prayer Meeting is held every day in the vesty of the church from 1 to 1.10 p.m.

List of addresses:
Nov. 1st.—Rev. C. H. Waller, D.D.
" 8th.—Inter-Hospital Meeting.
" 15th.—Rev. G. Connell, M.A.
" 22nd.—Rev. J. Stuart Fox.
" 29th.—Rev. J. A. Bevan, M.A.

Obiter Dicta.

BOTH ascites and enlargement of the spleen are very common symptoms of cirrhosis of the liver. The explanation that most readily offers itself is that the portal vein is obstructed by the process. Yet this condition, taken by itself, does not explain those cases of cirrhosis, not very uncommon, wherein enlargement of the spleen occurs without ascites. Nor, again, does it explain that other very common symptom, venous stigmata—dilated veins, usually seen upon the face, but sometimes much more widely spread,—nor yet the epistaxis which is often met with.—DR. GEE.

Loss of knee-jerks is not only common at the end of diabetes, but is useful as a bad sign for prognosis. Those patients, usually busy, middle-aged people, who pass a considerable quantity of sugar for many years without serious loss of health, do not lose their knee-jerks.—SIR DYCE DUCKWORTH.

Clinical Sketch.

By W. P. HERRINGHAM, M.D., F.R.C.P.,
Medical Registrar.

THE following case illustrates the diagnosis between hydrocephalus and tumour with secondary distension of ventricles. M. C., a boy of 2 (Lute, Dr. Gee). He began to fail eight months ago, and gradually became unable to walk, unable to see, and unable to speak. The head enlarged and the child diminished. He had had no convulsions, but for three days had vomited.

February 19th.—Admitted. He had double internal squint, optic atrophy, and universal paralysis. The head was very large, measuring sagittally from the root of the nose to the occipital protuberance 14½ inches. The base line between the two points was 4½ inches. At the same time the shape was not cyclocephalic (See *St. Bart's Hosp. Rep.*, vol. vii, p. 1; also *Lancet*, for September 18th, 1880), and the orbits were not displaced. Dr. Gee pointed out that in the most usual form of hydrocephalus (which is either congenital or else comes on during the first few months of life) the cranial cavity tends to become globular from equal pressure in all directions of the fluid, and that in consequence the roof of the orbits descends, producing the peculiar distortion seen in these cases. From the absence of this globular character in the present instance he concluded it was not a case of ordinary hydrocephalus, and inferred from the optic atrophy, paralysis, and other cerebral symptoms some cerebral tumour, probably tubercular. The double internal squint pointed to the pons Varolii as the site of the tumour.

P.M.—A tubercular tumour was found in the pons Varolii which had caused secondary distension of the ventricles.

Pass Lists at Examinations.

Primary L.S.A.

Anatomy.—H. M. Waller, T. B. Cautley.
Physiology.—F. R. Greenwood, T. D. Cautley.

First Conjoint.

Chemistry and Physics.—H. W. Illius, C. G. Meade, W. C. B. Smith, and G. W. S. Williams.
Practical Pharmacy.—W. F. Bennett, E. N. Berryman, F. R. Brooks, E. B. Stevenson.

Elementary Biology.—H. F. Sitwell.

Doses.—J. P. Allen, H. F. Sitwell, T. H. Talbot.
Materia Medica and Pharmacy (old regulations).—D. L. Beath, J. Royan, H. J. Hunter.

Second Conjoint (Old Regulations).

Anatomy.—G. R. Baker, W. L. Burn, W. H. Crossley, G. S. Haynes, B. E. Laurence, H. G. McKinney, C. H. R. Provis, S. Roache, A. O. Way, E. W. Woodbridge.
Physiology.—G. R. Baker, H. C. Harrison, T. R. Jones, C. H. R. Provis.

Second Conjoint (New Regulations).

H. W. Henshaw, C. W. Mainprize, A. F. Page, E. F. Palgrave, C. F. Winkfield, P. Wood.

R. D. Dalal, who has been an occasional student at "Bart's" since May, and was formerly a student of the University of Dublin, has passed the Second Conjoint Examination in Anatomy and Physiology.

Final Conjoint.

The following Bart's men have been admitted to the diplomas of M.R.C.S. and L.R.C.P., viz.:—A. Armer, A. L. Breen, D. D. Brown, J. E. G. Calverley, J. Carter, A. H. Clarke, F. Clarke, A. W. R. Cochrane, W. E. Collier, F. W. Crossman, J. Currie, C. H. Drake,

E. H. Drew, V. Howard, P. Lambert, G. J. R. Lowe, A. H. Morris, E. W. Ormerod, A. Pain, A. L. Saunders, W. H. Symons, M. R. Taylor, and E. P. Turner.

Appointments.

MR. L. W. BATHURST, M.B. (Lond.), M.R.C.S., L.R.C.P., to be Assistant Medical Officer to the London County Asylum, Hanwell.

MR. R. HENSLOWE WELLINGTON, M.R.C.S., L.R.C.P., to be Medical Officer of Health to the Sutton Bridge Urban Sanitary Authority and Medical Officer to the Port of Wisbech and Port Hospital.

MR. CYRIL R. CRAWFORD, M.R.C.S., L.R.C.P., to be House Physician to the Sussex County Hospital.

MR. A. G. EWBANK, M.R.C.S., L.R.C.P., to be House Physician to the Metropolitan Hospital.

MR. H. B. MEAKIN, M.R.C.S., L.R.C.P., to be Senior House Surgeon to the Metropolitan Hospital.

WAR OFFICE.

SURGEON-MAJOR WALTER GEORGE AUGUSTUS BEDFORD M.B. (Durh.), M.R.C.S. Eng., Army Medical Staff, appointed Staff Officer, Medical Staff Corps, at Headquarters. Surgeon-Major Bedford previously held for some time the important appointment of Adjutant at the Depot and Training School of the Medical Staff Corps, Aldershot.

Cases of Special Interest.

SURGICAL.

Kenton 5, swelling in thigh.
Colston 24, hæmophilia.
Abernethy 17, paralysis of several cranial nerves.

MEDICAL.

Hope, No. 3, F., 47, new growth of lung.
Mark, No. 11, M., 13, proptosis with paralysis of the spinal accessory nerve.
Luke, No. 1, M., 14, peripheral neuritis.
Matthew, No. 24, M., 39, scleroderma.

Births.

VERKALL.—Oct. 40, at 97, Montpellier road, Brighton, the wife of T. Jenner Verkall, M.R.C.S., L.R.C.P., of a daughter.
HAMER.—Oct. 14, at 71, Dartmouth-park-hill, N.W., the wife of Dr. W. Heaton Hamer, of a daughter.
WOODBRIDGE.—Nov. 6, at Harbertonford, near Totnes, S. Devon, the wife of A. T. Woodbridge, L.R.C.P., M.R.C.S., of a son.

Marriages.

JESSOP—FURLONGER.—Oct. 15, at St. Andrew's, Ashley Place, by the Rev. A. B. Buckland, M.A., Walter Hamilton Hylton Jessop, M.A., M.B., F.R.C.S., of 73, Harley-street, W., to Florence, youngest daughter of the late Charles J. Furlonger, of 62, Cornwall-gardens, S.W.
MILLER—EASTON.—Oct. 25, at St. Margaret's, Rochester, by the Rev. A. J. W. Thorndike, John Miller, M.R.C.S., L.R.C.P., eldest son of the late Henry Miller, Uplands, Ipswich, to Sarah Rogers, youngest daughter of the late Nathaniel Jonas Easton, of Plymouth.

Death.

SMART.—Nov. 5, at Cranborne, Dorset, Thomas William Wake Smart, M.R.C.P., in his eighty-ninth year.

ACKNOWLEDGMENTS.—*Guy's Hospital Gazette*. *St. Thomas's Hospital Gazette*. *St. George's Hospital Gazette*. *London Hospital Gazette*. *The Student (Edinburgh)*. *Medical Nursing*, by the late James Anderson, M.D., F.R.C.P., edited by Edsel F. Lampart (1s. 8vo, H. K. Lewis, price 2s. 6d.). *Theory and Practice of Medicine*, by F. T. Roberts, M.D., F.R.C.P., ninth edition (H. K. Lewis, price 21s.).

St. Bartholomew's Hospital



JOURNAL.

Vol. II.—No. 15.]

DECEMBER, 1894.

[PRICE SIXPENCE.]

NOTICE.

All Communications, Articles, Letters, Notices, or Books for review, should be forwarded, accompanied by the name of the sender, to the Editor, ST. BARTHOLOMEW'S HOSPITAL JOURNAL, St. Bartholomew's Hospital, Smithfield, E.C., BEFORE THE 1ST OF EVERY MONTH.

The Annual Subscription to the Journal is 5s., including postage. Subscriptions should be sent to the MANAGER, MR. W. E. SARGANT, at the Hospital.

All financial communications, relative to Advertisements ONLY, should be addressed to J. H. BOOTY, 29, Wood Lane, Uxbridge Road, W.

St. Bartholomew's Hospital Journal,

DECEMBER 14th, 1894.

"Æquam memento rebus in arduis
Servare mentem."—Horace. Book ii, Ode iii.

THE majority of our readers will doubtless have had their attention drawn to a leader in the *Times* of November 9th, upon the question whether medical education in London requires and deserves assistance from the public. For the sake of those, however, who do not know the leader to which we refer, we may mention that the article in question followed a lengthy correspondence in the *Times* upon the same subject.

The main point raised by those who were in favour of public assistance was that the collective fees paid by students to the Medical Schools, though originally ample, were not now, in the face of the increasing requirements of medical education of the present day, sufficient to adequately remunerate the teachers after paying for the necessary apparatus. On the other hand, the opposers of the suggestion maintained, amongst other things, that the inadequate remuneration of the teachers tended to prevent the teachers from becoming careless and easy-going, on the ground that they looked for the reward for their present work in the shape of fame and reputation, which would ultimately bring

them a large consulting practice; in fact, that it kept them up to the required standard of efficiency.

The writer of the article above referred to scarcely commits himself to any very definite suggestion as to the best method of improving the present condition of affairs, but confines himself mainly to a more or less impartial consideration of the various points at issue.

The suggestion that the fees of the Medical Schools should be raised, at once opens the broad and much-vexed question as to whether it is right that talent should be excluded from the medical profession because it is poor. The answer to this question most commonly met with amongst laymen is that it is unjust, and likely to rob the profession of much excellent student-material, to so raise the fees that only those belonging to the more wealthy strata in society would be able to enter it.

We submit, however, that those best able to form an opinion on this subject are members of the profession themselves, and we believe that from them a very different answer is more generally received.

A man whose share in this world's goods is small may succeed in scraping together enough money to pay his student fees, and to board, clothe, and lodge himself during the unproductive years of his curriculum; he may take high degrees, but unless his capabilities be very much above the average he will almost inevitably meet with bitter disappointment when his student days are ended. His condition is this: he has not money enough to buy a practice or a partnership, nor to support himself while waiting for some opening; he must begin at once to earn money or starve. The majority of "House" appointments have attached to them salaries hardly more than sufficient to cover the expense incidental to their tenure; many of them pay no salary at all. The competition for all of them is becoming keener year by year, and as the supply of candidates exceeds the demand by a greater and greater margin, their market value, by the natural and inevitable laws of political economy, becomes less and less.

Should he be among the necessarily large number of unsuccessful candidates, he finds himself compelled to

fall back either upon an assistantship, in which capacity, being without previous experience, he receives, as a rule, very little more than will cover his board and lodging, or upon the yet more precarious existence of "locuming." It is at this juncture that he realises the difference between the reality and the picture which he has unconsciously had before him while a student of a paradise where there is plenty of well-paid work for anyone holding the magic talisman called "Diploma." Now for the first time he sees that hard work and ability, coupled with qualifications of the highest order, are not alone sufficient to ensure success in the medical profession; he sees the difference in his career that a little capital would make.

In our opinion the far kinder treatment of such a man would be to stop his course at the outset, and to prevent his entering the profession; and this course would do much, we think, in raising or at least in maintaining the standard of the medical profession.

We do not agree with the writer of the *Times*' article, in his statement that an increase in the fees would, as a result, raise the standard of general education of medical students; even the casual observer of his fellows must often have noticed that the absence of general education and of culture, in the broad sense of the word, is sometimes most marked in the most expensively dressed and apparently most wealthy student. But, on the other hand, the struggle for existence amongst poverty-stricken members of the profession must be an important factor in the production of the scandals which drag the name of our calling through the mire, and which one so often reads in the daily papers, not to mention the under-cutting and self-advertisement which follow so closely in the wake of poverty.

In writing this we call to mind one seen upon a bottle brought to the Hospital for medicine by an outpatient: "Dr. —, Physician, Surgeon, and Accoucheur." Then followed the words, "Advice, 4d.; with Medicine, 6d.," and the address of the practitioner.

We appreciate fully the fact that patients may be unable to afford higher fees than these, and that many of them feel "pauperised" by the receipt of gratuitous treatment such as they may obtain at a hospital; but we do think that a man who, to earn his livelihood, is compelled to advertise in this fashion, is not an ornament to the profession; that had the amount of the school fees presented an insurmountable bar to his entrance, the profession would not have been the loser; and, lastly, that the man himself, having put the expense and work of his unproductive student days into some other calling, would have enjoyed a happier life than one spent in seeing the number of patients *per diem* necessary to bring him a subsistence at this rate of remuneration. When one considers the necessary number of patients, it becomes at once obvious how important a part "facial diagnosis" must play, and how absolutely impossible it must be for routine examination to be made even in a small percentage of the

cases. Working in this "high pressure" method, mistakes cannot be prevented; and looked at from the point of view of the patient, the man becomes a source of danger to the community.

Notes on Aseptic Surgery.

By C. B. LOCKWOOD, F.R.C.S.,

Assistant Surgeon to the Hospital.

(Continued from page 23.)

THE best known of the cocci found in wounds have now been described. I propose to give brief notes of some of the bacilli.

Bacilli are not often found in antiseptic wounds, although they are abundant everywhere, especially upon the surface of the body, in the mouth, nose, and alimentary canal. I have occasionally met with the *Bacillus eptermittis* described by Bizzozero,* and sometimes a small short bacillus of the skin, probably the same as that which Unna and Tommasoli call the *Bacillus ovatus-minutissimus*.† These bacilli, however, were never found alone, and usually accompanied with *Staphylococcus albus*. I have already remarked that the skin bacilli would probably be more often found in wounds if investigators would always proceed by the method of plate cultures.

It is rare now-a-days for wounds to have the odour of putrefaction. When it is present the bacilli which Hauser ‡ has described as *Proteus vulgaris*, *P. mirabilis*, and *P. Zenkeri* are found. The first is in my experience the commonest, but I have also met with putrefactive bacteria which evidently belonged to other species. Those called by Rosenbach *Bacillus saprogenes* I, II, and III, ought, perhaps, to be included. Also the *Bacillus pyogenes-fetidus* which has been met with by Passet in abscesses in the anal region, but which is now thought to be the same as the *Bacillus coli-communis*.

The bacilli which cause putrefaction and its frequent accompaniment, septicæmia, belong to a number of species, some of which are hardly known.

It must not be thought, however, that all the kinds of septicæmia are caused by bacilli, or by the bacilli of putrefaction. The disease is difficult to study because it is hard to obtain fresh specimens for examination. After death the intestinal and other cadaveric bacilli soon grow in the tissues and organs, and are a source of fallacy. The bacilli in some kinds of septicæmia are also exceedingly hard to stain in the tissues or to grow in media.

Of late I have examined several cases of septicæmia after amputation of the breast, amputation of the thigh, cellulitis of the neck, and erysipelas. In one or other

* *Virchow's Archiv*, 1884, p. 441.

† *Monatshfte für praktische Dermatologie*, Band ix, 1889, p. 49.

‡ *Ueber Faulnissbakterien und deren Beziehungen zur Septicæmie* Leipzig, 1885.

of them bacilli were present at the seat of inoculation (*i. e.* the wound), in blood-clots leading from the wound, in the heart's blood, and in the capillaries of various organs, especially the lungs, kidneys, and heart. In the case following erysipelas the heart's blood was full of streptococci. Septicæmia seems to be more frequent when the wound putrefies.

Much has yet to be done to elucidate the bacteriology of these forms of sepsis. Most of the work hitherto achieved has been done by the inoculation of culture media with discharges from the wound. But it is known that only some of the bacteria which cause putrefaction grow in ordinary culture media in the presence of free oxygen.* Like the *Bacillus septicus* and bacillus of tetanus, many of them are true anaerobes. Systematic work by cultivation in oxygen-less media, and by the investigation of sections of the tissues in the vicinity of wounds, has not yet been thoroughly undertaken or carried out.

There are, doubtless, many kinds of bacteria which do not grow upon ordinary culture media. Also it is recognised that the sudden transference from one medium to another is often fatal to micro-organisms.†

The properties of the *Bacillus pyogenes-fetidus*, which I have mentioned above, are uncertain. It has seldom been found alone, but usually in wounds which also harboured *Staphylococcus aureus*.‡ It is even doubted by Baumgarten whether it ought ever to be called "pyogenes," or "pus-producing," although he allows it the adjective "foetidus." Of late, as I have just said, the *Bacillus pyogenes-fetidus* has been thought the same as the *Bacillus coli-communis*.

Wounds are sometimes infected with tubercle bacilli. I have seen this catastrophe after circumcision. The operation had been done with instruments which had been used for a case of tubercular disease. The instruments had not, I believe, been boiled. A few years ago I had under my care a case of tubercle due to the inoculation of tubercular virus into a sore upon the finger. Some cases of onychia maligna are of the same nature.

It is now easy to find records of similar cases. For instance, a servant was inoculated upon the finger with tubercle. She cut herself with a spittoon which had been used by her tubercular master. A veterinary surgeon tore his finger whilst dissecting a tubercular cow, and acquired tubercle.§ I have seen cases in which the lips had been inoculated with tubercle either by drinking-vessels or by kissing.

The *Bacillus septicus*, the cause of acute spreading traumatic gangrene, the bacillus of tetanus, and the bacillus of

* Flügge, *Micro-organisms with Special Reference to the Etiology of the Infective Diseases*, New Sydenham Society's translation, Watson Cheyne, 1890, p. 385.

† Metchnikoff, *Journal of Pathology*, vol. i, p. 15.

‡ According to Baumgarten (*loc. cit.*, p. 504), this coincidence has been recorded by Hlans, Cushing, E. Frankel, and Sanger.

§ "The Channels of Injection in Tuberculosis," Sims Woodhead, *Lancet*, October 27th, 1894.

anthrax are all occasionally found in wounds. The *Bacillus coli-communis* is not infrequent in wounds which involve the alimentary tract, and is almost invariably found in such as perforate the intestines. In pus which has a greenish or bluish tint the *Bacillus pyocyaneus* occurs. The colour is due to a bluish-green substance, pyocyanin, which is secreted by the bacilli. This bacterium is one of the most interesting and easy ones to cultivate. It imparts a beautiful bluish green tint to the culture media. When wounds were dressed with oiled lint this colour was often seen upon the dressing, and tinging the pus. Since sublimate dressings have been used it is seldom seen, and I have not met with the bacillus during the last two or three years.

The tetanus bacillus may be seen in the pus and discharges of wounds, having been introduced with earth, mud, or dung. It is said to occur in the non-spore-bearing and in the spore-bearing stages. It stains readily with carbolfuchsin. The spore stage is very characteristic. The spore grows at the end of the bacillus, and being large and globular, makes it like a drum-stick. The bacillus of tetanus fulfils the conditions of Koch and Henle. Being a strict anaerobe, punctured wounds favour its growth. Its growth may also be favoured by the co-existence of other bacteria which use up oxygen, and thus bring about the required conditions. Many of the bacteria of septic wounds can use up oxygen to this extent.

Every year one or two cases of anthrax enter the hospital. The patients have usually worked amongst hides or wool. I do not propose to refer at length to this bacillus. It is now so well known, and so easy to work with, that every one becomes acquainted with it during his course of bacteriology. When an anthrax pustule is seen, cover-glass specimens should be made of its secretion. If no bacilli are found it must not, however, be thought that the case is not one of anthrax. In the last I examined none were seen, but mice inoculated with the same fluid died of anthrax. The square, sharply cut-off ends of the bacilli are distinctive.

About the mouth wounds are apt to become infected with the various bacilli which abound in the saliva and buccal cavity. Some of these may, under certain circumstances, be pathogenic. The *Bacillus salivarius-septicus* is very fatal for rabbits. Its effects are seen when saliva is injected beneath their skin. The properties of saliva vary. That of an individual seems at one time to be harmless, and at another to be virulent. I believe that the bacilli of the saliva have some causal relationship to the pneumonia which sometimes occurs after excision of the tongue or fracture of the jaw.

Eisenberg's list of the bacteria of sputum includes thirty-nine species. They have, of course, been found under various circumstances and in various animals.

The nasal cavities also abound in bacteria, and their mucous discharges contain various cocci and bacilli.

During acute catarrh the bacteria are especially numerous. Eisenberg gives a list of these which have been found at various times; it includes ten non-pathogenic kinds and seven pathogenic. Amongst the latter are *Staphylococcus pyogenes-aureus*, *Streptococcus erysipelatis*, pneumobacillus, and the bacillus of glanders.

It is obvious that wounds should not be contaminated with the secretions of either the mouth or nose. I refer especially to wounds which are sewn up and occluded.

The *Bacillus septicus* ought to be thoroughly studied and understood. It is unlikely that it will ever be banished from surgery, because, like the tetanus bacillus, it is an almost constant inhabitant of earth, mud, and dung—substances which must occasionally get into accidental wounds. The *Bacillus septicus* is often accompanied by the bacillus of tetanus. If a teaspoonful of earth from a road, field, or garden be placed beneath the skin of a rabbit the animal usually dies, either of tetanus or of a disease which is called abroad malignant oedema or gaseous gangrene, and which corresponds to our acute spreading traumatic gangrene. This is caused by the *Bacillus septicus*, which is a large organism in comparison with most of those which have been mentioned. It is very like the *Bacillus anthracis* in size and shape, and often grows in long strings. It has, however, slightly rounded ends, whilst the bacillus of anthrax has square clean-cut ends, like a cigarette. The *Bacillus septicus* is 1 μ broad and 3 μ to 4 μ long. It multiplies by fission and by spores. The spores occur in the single bacilli, and not in those growing in strings as in anthrax. They also bulge the bacillus, a further point of difference. The manner of its growth in gelatine explains in the clearest way its action upon human beings. It is a strict anaërobie, and therefore multiplies at the bottom of the tube, as far as possible from the oxygen of the air. Next, it grows with great rapidity, and soon liquefies the gelatine, producing at the same time quantities of most offensive gases. The bacilli may be seen moving with speed in the liquid.

Now observe what happens when it is inoculated into man. To shun the oxygen of the blood it travels along the cellular tissues and lymph paths; producing gas, it causes an emphysematous crackling wherever it goes; owing to its mobility and rapid multiplication it spreads with ominous speed; and, last, the ptomaines which it produces soon poison its host.

Cases of acute spreading traumatic gangrene are not as common as might be expected. It is probable that the bacillus has to be introduced in a particular way, especially by a punctured wound. I remember a case of Mr. Holden's in which a thorn covered with dung had been thrust into the thumb; and another, under the care of Sir William Savory, in which it was introduced by a kick upon the leg which not only penetrated the skin, but also fractured the tibia. The boot with which the injury was inflicted was covered with mud. Such wounds must be very hard to disinfect;

moreover the two bacteria which are most to be feared in them, namely, the *Bacillus septicus* and the bacillus of tetanus, both possess highly resistant spores; these can only be killed by very strong chemicals acting for a long time. Acute spreading traumatic gangrene may also be caused by other gas-producing bacilli. An aerobic kind has been described by Dr. Klein, and the *Bacillus coli-communis* may also be one of its producers.

(To be continued.)

On Common Cramp and Allied Affections.

By S. D. HINE, M.R.C.S.,
Student at St. Bartholomew's Hospital, 1853 to 1856.

SIXTEEN years ago, in the *Lancet*, I published my experiences, personal and acquired, of Cramp. So common and apparently trivial an ailment has, I suppose, been deemed too insignificant for record in medical literature, for I have looked in vain for any instructions as to its nature, causes, and treatment, in text-books and treatises on medical subjects. May I venture to differ from authorities who despise so common an ailment? Without assuming too much I think I may venture. Unhappily for myself, I have suffered too much from broken rest, resulting from its attacks, to deem them trivial. "But it is seldom fatal," suggest those who differ from me. Granted seldom, but it is occasionally so. I have witnessed more than one fatal termination to a severe attack. These have been in aged and worn-out patients, whose end has been consummated by a severe attack provoked by some trivial indiscretion.

I recorded a case of an aged lady whose death occurred through an attack of cramp which was brought on by eating a large supper of cold pork and porter. I have since witnessed at least two more suddenly fatal, and I have seen other cases in which death has supervened from exhaustion induced by cramp. I assert, therefore, that cramp is not a trivial ailment.

Now as to causes. These naturally divide into predisposing and exciting. As to the first class I name dyspepsia, more especially acidity and flatulent dyspepsia. "Bile" and "liver" I venture to expunge as nicknames for excess.

The gouty diathesis and the rheumatic diathesis are prominent factors. A lithic diathesis is a third progenitor. Gravel in the kidney is a fourth. Stricture of the urethra and a narrow and contracted rectum fifth and sixth. Exciting causes two in the main—1st, pressure; and 2nd, cold. A stomach distended by food or flatulence. An overloaded colon, whether by undigested food or flatus. Going to bed too soon after the last meal ("after supper walk a mile" good advice). A distended bladder. Crampy subjects should micturate frequently. Innumerable grogs before repairing to rest are fertile provocatives of the enemy. A tight garter has often induced severe cramp. Tight stays and too well-

fitting stockings induce cramp. We pass on to cold. I suppose every mortal ailment has been, and sometimes falsely, attributed to cold. But *in re* cramp it is a true bill. One of the most acute and painful cases of cramp in the chest, stomach, and abdominal muscles was provoked by swallowing a tumbler-full of cold milk in the early morning on an empty stomach. But the very worst suffering I ever saw in cramp was from falling asleep after luncheon, sitting in wet grass, after profuse sweating caused by a long walk on a very hot September day,—thoracic, abdominal, and in both lower and upper limbs. It was agonising, and the subject, a healthy man, was unable to walk a yard.

Cold is the cause of swimmer's cramp, *i. e.* immersion too long continued in river or sea water.

What are the remedies? Firstly, during the attack, cold to the affected part, ice if it can be obtained in time, friction with belladonna liniments, or pure laudanum diligently and profusely laid on. Local applications failing, administer hot brandy and water, or any other warm stimulant to be had. Spt. Æther. Nitr. given in hot water acts well. Chloroform very carefully administered, always suspecting a weak heart. Empty the rectum or bladder or both. Enemata are valuable auxiliaries. During the intervals of attack treat the apparent cause. Opiates at night if the patient be restless, and combine your opiate with chloric ether and some aromatic, such as Ol. Ment. Piperitæ.

Treat indigestion by bitters and alkalies, especially potash. For gouty subjects give colchicum with magnesia. For rheumatic give Pot. Iodidi. In my experience the iodide is best administered with Potassæ Bicarb. and some warm stimulating aromatic water, such as Aqua Menthe Viridis. A very useful pill for night use is as follows:

Ext. Belladonnæ	...	gr. vj.
Ext. Hyoscyami	...	gr. xxxvj.
Pil. Galbani Co.	...	gr. xxxv.
M. Ft. pil. 20.		

Capiat j nocte hora somni.

In conclusion I have just asserted that cramp affects the voluntary muscles *only*. I do not believe it.

I am sure from personal experience that it often attacks the diaphragm, and I believe that many cases of sudden death result from cramp of the stomach, and still more the heart, especially in aged, enfeebled, and half-famished individuals.

Numerically considered, cramp is more frequent in the wealthy and highly fed. I have been surprised at its scarcity in hospital and dispensary practice. In paupers it is rarely complained of.

I am a great advocate for much walking exercise, and the lower class, as we well know, get plenty of it.

It remains for us briefly to glance at writer's cramp. I have seen some severe cases, not many. I think it is rare as compared with other varieties.

Tonics, friction, alkaline baths, and preparations of iron

are the remedial agents to which I fix my faith, but there must be a *prolonged rest*.

The cramps of pregnancy and parturition are constantly in view of the general practitioner. As remedies, warm frictions are our main sheet, but it is *imperative* to keep the bladder and rectum comparatively empty.

Down the Danube from Passau to Buda-Pest.



WHATEVER may be said of the beauties of the Rhine, and its richness in legends and fairy tales, there can be no doubt but that the Danube is far more grand and wild, richer in the picturesque nature of its banks, and infinitely greater in historical interest. There is hardly a town or village along its course which has not borne its share in the making or unmaking of nations.

It was on a bright warm afternoon at the end of August that we started on our trip from Passau to Buda-Pest. Having plenty of time, and wishing to see the beauties of nature quietly and in comfort, we preferred the Danube steamer to the hot and stuffy train, and well were we repaid for it. Of Passau much might be said; it is a beautifully situated picturesque town, lying at the junction of the three streams, the Inn, the Danube, and the Ilz. As the steamer passes away from the town, the gradual mixing of the different coloured waters is a beautiful sight—the dirty grey of the Inn, the blue of the Danube, and the inky black of the Ilz. To the north of Passau, on the lofty rock between the Ilz and the Danube, lies the fortress of Oberhaus, built in 1219 by Bishop Ulrich II, and now used as a Bavarian State prison, chiefly for the confinement of those who transgress the law by duelling. For some distance below Passau the river forms the Austro-Bavarian frontier, the right bank belonging to Austria, the left to Bavaria. We soon reach the narrow parts of the stream, where the mountains, rising to greater heights than those of the Rhine, are covered with forest, mixed here and there with luxuriant pasture. The population is poor and scanty, and the river traffic practically nil. After a sharp bend in the river we pass on the Austrian bank the fine old Schloss Krempenstein, standing high upon an abrupt cliff close to the river. Then comes the picturesque village of Oberzell, the last one in Bavaria, with its graphic mines and manufactories of lead pencils, and on the opposite bank the Schloss Viechtstein, formerly the property of the Bishops of Passau. A little further on the left is a deep, beautifully wooded ravine, along which runs the frontier. We now pass into Austria. A little further there come into view the pretty village of Engelhartzell and Engelszell, once a Cistercian monastery. One of the grandest parts of the river now commences: the channel begins to contract, and we pass through vast forests of fir and pine trees, which clothe the banks from the water's edge to the sky line. Amongst these precipitous wooded hills, often rising from 600 to 1000 feet in height, the river winds, flowing on in a sharp and rapid stream, with an almost endless succession of beautiful peeps of scenery, and an occasional village or old ruined Schloss. Thus in quick succession we pass Rana Riedl with the village of Nieder Ranna at its foot, Kingsmühl, Wesenurfar, Marsbachzell, Wesenstein, Wesreut, and Haienbach, of which, owing to a complete bend of the river, we obtain two views. Navigation here is not easy, for the waters are compressed so much between the precipitous banks as to be little more than a rushing torrent. The course, at one time in mid-summer, flows in a moment or two under the shadow of the overhanging bank, with the vegetation almost at arm's length, so close to which the steamer runs that a false move on the part of the man at the wheel must inevitably bring disaster. Presently we pass on the left bank the lovely village of Obermühl; then winding for a time between wild, grand, and rugged rocks, we presently reach Unterzell, close to which, on rounding a curve, all at once, we obtain a charming view of the handsome Château of Neuhaus, on a lofty wooded height. A little further the scene almost suddenly changes, the river emerging rapidly into a broad plain.

The small town of Aschach then comes into view. The banks of the river are low, and towards the south the Styrian and Austrian Alps are seen in the distance, with on the right, on a clear day, the Traunstein. Soon a succession of islands, overgrown with underwood, parts the stream into many channels, some navigable, some mere shallow brooks. The islands are some of considerable extent and cultivated, others are mere osier beds. There are no buildings even on the largest. In winter, when floods are frequent, they lie mostly

under water. The villages then suffer much, and in even ordinary years thousands of acres are periodically submerged. The effect is that the banks are here but thinly peopled, and no sign of habitation can be seen from the steamer's deck. Great herds of cattle and horses may from time to time be seen, but they are almost wild, and the steamer sends them off at their utmost speed with every sign of alarm. From Aschach to Linz, and far beyond it, the valley of the Danube was the scene of many a sanguinary conflict during the revolt of the peasantry of Upper Austria. In 1626 Aschach was the headquarters of the insurgents, who barricaded the river with chains to prevent the Bavarians from assisting Count Hrabstein, who was confined at Linz.

As we approach Linz the river banks close up again, and the stream becomes deep and swift. After passing Kloster Wilhering, Puckenua, Calvarienberg, and Postlingberg, crowned with its pilgrimage church and fortifications, we reach Linz at 7 p.m., and here we stay the night.

Of Linz itself we must say nothing, for in the space of this short article there is no room to do justice to it.

The next stage of our trip—from Linz to Vienna—takes a whole long summer's day. We were up betimes, for the boat started at half past seven, and had breakfast aboard. It is the custom to rise early at Linz, for the shops were open, trams running, and a busy crowd thronged the booths and stalls in the market-place. The departure of the daily steamboat is evidently an event, and the landing-place was lined with spectators, and all was excitement and turmoil.

At length the bales of goods were stowed, the last passenger had hurried across the gangway, and we were off. The last view of the town on a bright summer's morning is a beautiful one,—the white houses and numerous glittering spires framed in by a broad belt of woodland. Below Linz for some thirty or forty miles the banks are low and thinly populated, the stream wide and broken by many islands. As we pass along great herds of cattle and horses are occasionally seen, now and then a village of rudely constructed cottages, and here and there a group of saw mills, worked by the stream itself. Woodcutting appears to be one of the chief occupations of the people of these parts, and in places along the banks we see huge logs in various stages of preparation, piled in heaps, or being made into rafts. The rafts are constructed of thousands of logs fastened together and formed into huge platforms, sometimes hundreds of yards long. These are floated down from the upper Danube, or some tributary like the Enns or Traun, and along the stream to Vienna or Buda-Pest or elsewhere, from which they are distributed to other countries. As they float down at the mercy of the stream, the men on them at times have their work cut out to keep the rafts in mid-stream, to avoid the shallows, and to prevent shipwreck on the rocks of the rapids. Other than these rafts very little traffic is to be seen on the river, except, perhaps, a few barges laden with grain, towed up by tugs.

Presently the river contracts again, and passes between high, wooded, and rugged banks to Grein, a pretty little town, above which rises the castle of Greinburg, owned by the Duke of Coburg. Here is the most interesting, and withal the most dangerous part of the river is found.—Ridges of rock projecting far into the stream produce the "Greiner Schwall," or surging water. Looking over the side of the steamer we see the water rushing over rocky ledges. The island of Wörth here divides the current, the main channel passing along the north side of the island in a rapid called the "Strudel," 300 yards long and about ten or fifteen yards wide. At one time this was very dangerous, and although the Austrian Government has of late done much to improve the navigation, mishaps do still occasionally occur. The steamboat officers exercise the greatest care in passing the Strudel. A little further is a sharp bend in the river caused by the Hausstein, an outstanding lofty rock crowned with a ruined tower. Here is the once dangerous "Wirbel," and the stream checked in its course acts strongly towards the opposite bank. When the steamer is once fairly caught in the full force of the current she is carried onward with irresistible power, and the utmost strength of her engines is required to prevent her being dashed on the rocks opposite. The passage of the Strudel and the "Wirbel" takes but a few minutes, and although excitement is over, we still, for a time, pass between high wooded banks and in a narrow stream.

Between the Strudel and Krems we pass many interesting and historical spots, such as Sarmingstein with its old watch-tower, Freinstein and its ruined castle, near the boundary between Upper and Lower Austria, Pörsberg, Ybbs—the Roman *Pons Iudæis*, Sausenstein and the ruins of a Cistercian abbey, Marbach with its pilgrimage church, Pöchlarn, the former residence of one of the heroes of "Nibelungen-Lied," the castle of Weitenegg, and Melk, a small town at the base of a rock on which stands the palatial and famous Benedictine abbey. Below Melk is the narrow defile of "Wachau,"

noted for wild scenery and legends. Near to Krems is the ruined castle of Dürrenstein, where, so the tradition has it, Richard Cœur de Lion was in 1102 and 1103 kept prisoner by Duke Leopold VI. and here the faithful Blondel is said to have discovered his master. Beyond Krems and very nearly to Vienna the river passes through an extensive plain. On nearing Vienna we pass Kloster-Neuberg and soon reach Neudorf. Here occurred the only drawback to a glorious day. The steamers are too large to pass up the Danube Canal to Vienna, and passengers must disembark on to a smaller vessel which takes them up the canal to the "Franz-Josephs-Quai." The smaller boat was packed with passengers and their luggage, as well as with goods of all descriptions, and, to add to the discomfort, had been newly tarred.

The third stage in our journey takes another day. Leaving Vienna at 7 in the morning we arrive at Buda-Pest at 7 in the evening. Of scenery between Vienna and Buda there is nothing equal to that between Passau and Vienna, for although there are one or two very fine bits, they are far apart, and for the greater part of the distance the scenery is uninteresting. Far more attractive is it to study the habitations and the mode of life and costumes of the peasant people in the villages, who at every stopping-place crowd round the landing-stage to watch the arrival and departure of the daily steamboat.

Among the most interesting spots is Deutsch-Altenburg, with a castle and an elegant Gothic church on a hill. Here is a mound sixty feet high, called the *Häufelberg* from the tradition that it was heaped up by the people in battles to commemorate the expulsion of the hated Turks. Near by are the remains of the Roman *Carnuntum*. A little further down we pass on one side Hainburg with the ruined castle of Rottenstein, and on the other bank Theban or Dévény, a lofty rock surmounted by a ruined castle, and together forming the gateway to Hungary. We next pass Pressburg or Pozsony, a beautiful Hungarian town of 50,000 inhabitants, with its Gothic cathedral and bridge of boats. Below Pressburg the banks again become flat, and remain so for some sixty miles until below Komorn, an ancient and strongly fortified town, which in the Hungarian war in 1849 was successfully defended by the Hungarians. Below Komorn the river is undivided by islands, and presents an imposing width, with numerous villages and small towns along its banks, such as Almásy, Neeröndy and Pisloka, all noted for marble quarries, and Gran or Esztergom and its cathedral, with a dome resembling that of St. Peter's at Rome. The valley now contracts, and is bounded by picturesque porphyry and limestone rocks, upon one of which stands the castle of Visegrád, the residence of the kings of Hungary as early as the eleventh century. The old wall of the fortress extends down to the Danube. After passing Waitzen with its Roman and mediæval relics the banks become flat, and we approach Pest, a fine view of which with its palatial buildings facing the river is suddenly disclosed on passing the Margarethen-Insel. On the opposite bank is Buda or Ofen, crowned by its fortress and palace.

A trip by steamer down the Danube is one full of interest to the student. Not only do we meet with all sorts and conditions of men, but also with people of many nationalities. There are many races in the Austrian Empire, differing widely in language, in dress, in nationality, in character, and in politics, and all of these are found on the Danube steamer. Crowds of second and third class passengers, particularly between Vienna and Buda-Pest, embark and leave the boat at every stopping-place, and it is especially interesting to take an occasional stroll up "forward" to the third-class quarters to listen to the babel of tongues and study the habits and dress of the people. Even amongst the saloon passengers the same intermingling of races is found. Amongst those with whom we conversed were Bavarians, Austrians, Hungarians, Prussians, a Bohemian, a Saxon, a Russian, a Bulgarian, a Roumanian, a Serbian, and a Frenchman, to say nothing of Englishmen and Americans—not that our linguistic gifts extend so far as a knowledge of Magyarish and Czechish, but we were able to get on together partly in German and partly in English.

Of the women's costumes there was an immense variety, with a richness in colour of every hue. Amongst the peasant women sitting or reclining in groups in easy attitudes on the lower deck all shades of blue, green, yellow, and crimson were represented either in skirt or bodice, and this with a gaudy handkerchief fastened gipsy-wise over the head completed the costume.

With the men the dress did not run so much to colour, though even here there was much variety. In many of the wilder and more primitive villages along the banks the men wore continuations of such a baggy description, and made of a kind of coarse calico, that at first sight they looked like women with long aprons.

A large part of the industry of the Hungarian peasantry along the Danube is associated with the cultivation and trade in corn, for this

is one of the most fertile granaries of Europe, and as we pass along many groups of mills, each securely moored in the river by chains and waked by water-power, are seen.

Most of the river traffic consists either of barges laden with grain for export, or of timber.

Of Buda-Pest and the Congress of Hygiene so much has been said in the journals of late that we may dismiss this with a passing notice. From what we saw, the Congress appears to have been a success—at any rate, Pest seemed lively enough with its two thousand odd visitors. The Congressists, however, were very mixed, and we doubt much the wisdom of the scientific hygienist and physician discussing questions of public health at a congress side by side with vestrymen and county councillors.

T. W. SHORR.

Notes.

At the competition for commissions in H.M. Naval Medical Service, held on Nov. 5th and following days, three Bart's men presented themselves, and all of them obtained commissions, viz. Mr. W. C. Peck, B.A., M.B. Cantab., who was third with 2649 marks; Mr. H. Spicer, M.B. (Durh.), M.R.C.S., L.R.C.P., who was fifth with 2493 marks; and B. Ley, M.R.C.S., L.R.C.P., who took the eighth place with 2283 marks.

The degree of Doctor of Medicine in the University of Oxford has been conferred upon Thomas G. Davy.

C. TODD has taken the degrees of M.B. and B.C. in the University of Cambridge.

DR. CHAMPNEYS has arranged to continue his course of lectures on Gynaecology after Christmas, instead of terminating the course then as stated in the Calendar; this, we are sure, is welcome news to every one.

THE VACANCY in the office of Secretary to the Abernethian Society, caused by the resignation of Mr. A. Pain, has been filled by the election of Mr. T. Ashby Barron. Mr. H. B. Meakin has been elected Vice-President.

THE REJECTIONS at the Primary F.R.C.S. Examination this November have been unusually heavy. Sixty-three candidates went up, and only twenty-three passed, *i. e.* 63.5 per cent. were rejected.

PROFESSOR F. H. HANKIN, of Calcutta, has been requested by the University of Cambridge to represent the University at the Indian Medical Congress to be held at Calcutta this month. Professor Hankin is a Fellow of St. John's College, Cambridge, and was a student at St. Bartholomew's before taking up residence in Cambridge. He is now Professor of Bacteriology in Calcutta.

DR. E. KLEIN, F.R.S., has succeeded in preparing a considerable quantity of diphtheria antitoxin serum, which will be supplied to the London hospitals. It is of considerable strength, and the dose to be injected is one drachm. If the use of it is confined, as Dr. Klein requests, to cases in which the diagnosis of diphtheria is confirmed bacteriologically,

there will be a chance now of really and scientifically testing its utility.

SURGEON CAPTAIN J. R. FORREST has been placed on temporary half-pay on account of ill health. He joined the Army Medical Staff in 1885, and was in the Soudan campaign in 1885, receiving the Egyptian medal with clasp, and the Khedive's bronze star.

DR. WALDO, Medical Officer of Health for Southwark, who last year did such good service in calling attention to the condition of London bakehouses, is a "Bart's man." He has recently issued a report pointing out the inadequate character of the main drainage in some parts of London—a condition which during heavy rainfall leads to the flooding with sewage of the cellars and basements of the houses and shops. In one or two cases the cellars beneath butchers' shops where meat was stored had been invaded, and in one instance a bakery had suffered,—the room, in fact, where the bakers were at work had been flooded with sewage. This is a disgraceful state of things, and one which demands immediate attention from the local authorities. Dr. Waldo deserves all praise for having directed attention to it.

AMONGST the officers of the next Annual Meeting of the British Medical Association in London, we note that Dr. Herrington will be one of the secretaries in the section of "Medicine;" Mr. A. Willett will be Vice-President of the section of "Surgery;" Dr. Griffith is to be one of the secretaries in the section of "Obstetrics and Gynaecology;" Mr. C. E. Paget and Dr. R. Dudfield are secretaries for the section of "Public Medicine;" Dr. Clave Shaw is a Vice-President in the section of "Psychology;" Dr. E. Klein is a Vice-President in the section of "Physiology;" Mr. Walsham is a Vice-President in the section of "Anatomy," and Mr. C. B. Lockwood a secretary in the same section; Mr. Bowley is a Vice-President in the section of "Pathology and Bacteriology;" Mr. H. Power is President of the section of "Ophthalmology;" and Dr. Lauder Brunton is Vice-President of the section of "Pharmacology and Therapeutics." Our teachers are therefore taking a prominent part in the proceedings.

DR. SAMUEL WEST has been appointed Examiner in Medicine in the University of Oxford.

MR. J. K. MURPHY, L.R.C.P., M.R.C.S., has been appointed Extra Midwifery Assistant to the Rotunda Hospital, Dublin.

MR. A. W. LEMARCHAND, L.R.C.P., M.R.C.S., has been appointed Medical Officer to the Barnstaple and North Devon Dispensary.

MR. B. HUNT, M.A., M.D. Oxon., has been appointed Assistant Bacteriologist for Diphtheria at the British Institute of Preventive Medicine.

MR. W. ERNEST MILES, F.R.C.S., has been appointed House Surgeon to the Radcliffe Infirmary, Oxford.

DR. C. COLES, M.D.(Lond.), has been appointed Medical Officer for the Fifth District of the Leicester Union.

MR. W. D'E. EMERY, B.Sc.(Lond.), L.R.C.P., M.R.C.S., has been appointed Obstetric and Ophthalmic House Surgeon to the Queen's Hospital, Birmingham.

MR. J. HUTTON, L.R.C.P., M.R.C.S., has been appointed Medical Officer for the High Cross District of the Tottenham Union.

MR. W. ROYDEN, L.R.C.P., M.R.C.S., has been appointed Medical Officer to the workhouse of the East and West Flegg Incorporation.

E. J. P. OLIVE has been admitted to the degree of M.D. in the University of Cambridge.

J. H. THURSFIELD has passed the 1st M.B. examination of the University of Oxford.

F. C. POYNDR has passed the final examination for the degree of M.B. in the University of Oxford.

We have been requested to state that it is proposed to found a Lodge of Freemasons bearing the same relation to St. Bartholomew's Hospital as the Bar Lodges, the Apollo and the Sir Isaac Newton, bear to the respective institutions with which they are connected. A meeting to consider the subject will be held at 26, Bloomsbury Square, on Monday, December 17th, 1894, at 4.30 p.m. All gentlemen interested are invited to attend.

The following have passed the primary F.R.C.S. Examination:—J. E. Williams, M.R.C.S.; G. Rowell, M.R.C.S.; E. Ferrand, M.R.C.S.; and A. M. Sheppard, M.B.(Sydn.).

G. LOWSLEY has passed in Surgery at the final L.S.A. Examination.

The following have passed the final M.B. Examination of the University of London:—1st Division: W. E. Lee, H. B. Meakin, J. S. Sloane. 2nd Division: J. Currie, H. O. Fraser Luckie, J. A. Gray, J. W. Haines, F. S. Locke, J. D. Rawlings, W. Shears, and A. N. Weir.

Six of the candidates obtained Honours, viz.: J. S. Sloane Second Class Honours in Medicine. W. Shears and J. W. Haines, Third Class Honours in Medicine. W. E. Lee, Gold Medal and Exhibition in Obstetric Medicine, and Second Class Honours in Medicine. A. N. Weir, Second Class Honours in Obstetric Medicine. H. B. Meakin, Second Class Honours in Forensic Medicine.

Amalgamated Clubs.

NEW MEMBERS.

J. K. Murphy. G. A. Spear. C. P. White.

GENERAL MEETING.

ON November 12th a General Meeting of the Amalgamated Clubs was held in the Anatomical Theatre at 1 p.m. Dr. Shore (President) took the Chair. There were about one hundred members present. The Secretary for the past year (Mr. H. B. Meakin) resigned, and Mr. H. Bond was unanimously elected Secretary for the ensuing year. Mr. E. W. Woodbridge was elected Assistant Secretary in the place of Mr. Bond. The President explained the present position of the works proceeding at Winchmore Hill, and announced that the ground would be ready for the coming Cricket Season. A resolution formally authorising the change of entrance fee from £5 5s. to £6 6s. for life membership was passed.

FINANCE COMMITTEE.

At a meeting of the Finance Committee held on October 15th last, it was resolved that in future all members of the Amalgamated Clubs shall receive a copy of the JOURNAL monthly for a period not exceeding five years, but no member shall be entitled to this after he has obtained his qualification to practise. In accordance with this resolution every member who is not qualified now receives his copy of the JOURNAL free of charge.

SWIMMING CLUB.

INTER-HOSPITAL WATER POLO CUP.—ST. BARTHOLOMEW'S v. ST. THOMAS'S.

THIS Cup tie, which was unavoidably postponed from the end of the Summer Session, was played off at St. George's Baths on October 22nd, and resulted in a win for St. Thomas's by 4 goals to 2.

Unfortunately our full team was not available for this important match, substitutes having to be provided for both Falkener and Welburn.

At first the game was of an even character, and shots at goal were freely exchanged. Mackintosh and Bennett each scored, and our opponents also obtained two goals in the first half.

During the second half St. Thomas's attacked strongly, and, in spite of a good defence by Litle Jones in goal, succeeded in putting on two more goals. Mackintosh and Bennett, both of whom had hard luck in not scoring on more than one occasion, played well and made the most of their opportunities, but want of combination behind severely handicapped the forwards in their attack.

Team.—T. C. Litle Jones, goal; L. C. Thorne-Thorne, W. S. Codrington, backs; F. G. Richards, half-back; J. S. Mackintosh, W. F. Bennett, S. Mason, forwards.

St. Thomas's subsequently beat Guy's in the final by 3 goals to nil, thus winning the Cup.

This is the first time the Cup has left St. Bartholomew's since its institution, and it is to be hoped that every effort will be made to regain it next year.

At a General Meeting held on Nov. 5th the following officers for the year 1895 were elected:

President.—Howard Marsh, Esq.

Vice-Presidents.—W. P. Herringham, Esq.; P. Furnival, Esq.; H. O. Fraser Luckie, Esq.; E. Kennington, Esq.; J. S. Mackintosh, Esq.

Captain of Water Polo.—W. F. Bennett.

Committee.—J. E. G. Calverley; T. C. Litle Jones; L. Falkener; W. J. Codrington; C. M. Welburn; S. Mason; J. C. S. Dunn; H. Mundy.

Hon. Secretary.—F. G. Richards.

RUGBY FOOTBALL CLUB.

ST. BARTHOLOMEW'S HOSPITAL v. MARLBOROUGH NOMADS.

THIS match was played at Surbiton on October 27th. Andrew lost the toss, and kicked off against the wind; the ball was returned, a scrum followed in our twenty-five, the Nomads heeled, and Ferguson dropped a goal. Shortly after we were given a free kick, and play for a while was transferred to the Nomads' twenty-five, but the ball was soon worked back to the centre of the field, where the Nomads heeling from a scrum, their three quarters gained possession of the ball, and looked like scoring, but Wells intercepting a pass, the ball was again taken into the Nomads' twenty-five. Soon after half-time was called. Nomads 1 goal (dropped), 4 points. Bart's 0.

On changing over, a fine dribble by Cruddas and Bennett brought the ball up to their line, and compelled them to touch down. Bond returned the drop out, punting the ball into touch, again close to their line, and from the throw out, Andrew scored a try, which Simmonds failed to convert. A series of scrums and loose play then followed in the centre of the field, until, while Bart's were appealing for off side, Aston obtained the ball, and scored a try between our posts, which was converted. A touch down on our side soon followed, time was then called.

Result.—Nomads 2 goals (one dropped), 9 points. Bart's 1 try, 3 points.

Team.—H. Bond (back); J. W. Nunn, A. Hawkins, E. G. Simmonds, A. J. Wells (three quarters); G. C. Marrack, F. E. Everington (half); P. O. Andrew (capt.), H. M. Cruddas, W. F. Bennett, F. G. Richards, J. C. S. Dunn, J. W. Hughes, W. M. James, W. J. Codrington (forwards).

ST. BARTHOLOMEW'S HOSPITAL v. ROYAL NAVAL COLLEGE.

THIS match was played at Greenwich on October 29th, and resulted in a win for us by 1 goal and 1 try (8 points) to nil.

The score, without doubt, would have been greater had the crowd kept off the field of play, for in the first half Nunn got behind their line, but tumbling over one of the spectators, lost the ball, which was touched down by our opponents. Throughout the game our forwards had the best of it, and in the first half our three quarters did some good passing, but in the second half they seemed to fall to pieces, so our halves, Bond and Hawkins, stuck to the ball, and both scored tries, one of which Andrew converted.

Team.—H. Goodman (back); J. W. Nunn, C. S. Ridout, H. Randolph, C. V. Cornish (three quarters); H. Bond, A. Hawkins (half); P. O. Andrew (captain), H. M. Cruddas, W. F. Bennett, F. G. Richards, A. L. Ormerod, W. M. James, J. C. S. Dunn, J. E. G. Calverley (forwards).

ST. BARTHOLOMEW'S HOSPITAL v. UPPER CLAPTON.

THIS match was played at Upper Clapton on November 3rd, and resulted in a win for us by a trice (six points) to 1 goal (five points).

We kicked off, our forwards followed up fast, and the Upper Clapton back dropping the ball, Andrew picked up and passed to Wells, who obtained a try, but it was not converted. This put the Clapton men on their mettle, and play settled down in our twenty-five. Time after time their backs looked dangerous, but, thanks to the

splendid tackling of Bond, they only succeeded in scoring once, just before half-time.

After half-time rain came down in torrents, and loose play was the order of the day, in which our superior dribbling told. We made a series of rushes, in which Bennett and Marrack were especially prominent, and Nunn getting the ball, scored another try for us, which, however, Bennett failed to convert.

Team.—H. Bond (back); J. W. Nunn, C. S. Ridout, H. Randolph, C. V. Cornish (three quarters); G. C. Marrack, A. Hawkins (half); P. O. Andrew (captain); H. M. Cruddas, W. F. Bennett, A. J. W. Wells, J. C. S. Dunn, A. L. Ormerod, W. M. James, J. W. Hughes (forwards).

ST. BARTHOLOMEW'S HOSPITAL v. EAST SHEEN.

Played at Richmond, on November 7th, resulted in a win for us by 1 goal (five points) and 1 try (three points). The game throughout was of an even character; our forwards more than held their own, and their three quarters only once succeeded in breaking through the splendid defence of Maturin and Bond. Bond obtained our try, and Maturin converted.

Team.—H. Goodman (back); J. W. Nunn, F. H. Maturin, H. Bond, S. Mason (three quarters); G. C. Marrack, A. Hawkins (half); P. O. Andrew (captain), W. F. Bennett, F. S. Richards, A. J. W. Wells, J. C. S. Dunn, A. L. Ormerod, W. M. James, J. W. Hughes (forwards).

ST. BARTHOLOMEW'S HOSPITAL v. COOPER'S HILL R. I. E. C.

Played at Cooper's Hill on November 10th, opened rather disastrously for us, for in the first half, owing to the splendid passing of their three quarters, they managed to cross our line four times. After half-time the lucky intervention of the flax rain made the game a forward one, they only scored once. Play for the most part consisted of a series of scrums up and down the field. Towards the end of the game we gradually drove them back to their line, and just before time was called Dunn rushed the ball through the scrum, and would have scored but for the whistle.

Result.—Cooper's Hill a goal 3 tries (nineteen points). Bart's 0. Team.—H. Goodman (back); J. W. Nunn, T. Martin, H. Bond, C. S. Ridout (three quarters); G. C. Marrack, A. Hawkins (half); P. O. Andrew (captain), H. M. Cruddas, W. F. Bennett, A. J. W. Wells, F. G. Richards, J. C. S. Dunn, A. L. Ormerod, W. M. James (forwards).

ST. BARTHOLOMEW'S HOSPITAL v. MASON COLLEGE.

THIS match was played at Wormwood Scrubs on November 14th. There is very little to be said about the match, for the ground was under water in parts, and the rain did not cease during any part of the game. Our men had all the best of the game, if it could be called a game; Hodgkins and James scored a try each, neither of which was converted, thus leaving us victorious by six points to nil.

Team.—H. Goodman (back); J. W. Nunn, C. S. Ridout, A. E. Hodgkins, S. Mason (three quarters); G. C. Marrack, A. Hawkins (half); P. O. Andrew (capt.), H. M. Cruddas, W. F. Bennett, A. J. Wells, F. G. Richards, A. L. Ormerod, W. M. James, J. W. Hughes (forwards).

Mr. Jessop presided over a dinner given to the Mason's College Rugby and Association teams at the Horse Shoe Hotel. Mr. P. W. James acted as Secretary, and had left nothing undone to ensure an enjoyable evening. About fifty-five sat down to dinner, Mr. Jessop being supported on either side by the respective captains and Dr. Hayward. Ample justice was done to dinner, and after the Queen's health had been proposed by Mr. Jessop, Mr. Andrew in a neat speech proposed the health of the Mason's College Rugby F. C., which was drunk with musical honours.

Mr. Wood, vice-captain, returned thanks on behalf of the Rugby team.

Mr. Fernie then proposed the health of the Association F. C., to which Mr. Wolfenden responded, saying that although the weather was against good play, he thought they would have been beaten under any circumstances.

Mr. Jessop then proposed Mr. James's health as Secretary, which was enthusiastically received. Mr. James replied. After Dr. Hayward had spoken Mr. James proposed the health of our Chairman, Mr. Jessop, thanking him most heartily for his kindness in presiding. Needless to say, this toast was received with great élan. Mr. Jessop responded, saying it was a great pleasure for him to be present at such a gathering, and hoped the matches would continue an annual affair.

A move was then made to a place of amusement, where we hear the ball was kept rolling until 12 o'clock arrived, when most of our visitors returned to Birmingham by the last train.

ST. BARTHOLOMEWS HOSPITAL v. MIDDLESEX WANDERERS.
 This match was played at Richmond on Saturday, November 17th. Andrew kicked off soon after 3.15, and the ball was returned to mid-field where play settled down. Our forwards soon showed their superiority, and heeled out time after time, but all to no purpose, owing to the bad passing of the halves. The Wanderers now had a very warm time, a number of scrimmages taking place a few yards from their goal-line, straight in front of the posts. Wilson was taken out of the pack to play three-quarter back, and he made several ineffectual efforts to break through. Bond also tried to drop a goal, but the ball fell short, and play was transferred to our twenty-five. One of their forwards got off and looked like scoring, but was pulled up by Bond. Good play by the forwards and halves worked the ball back to the half-way flag, and Hodgkins, with a well-judged kick, found touch near our opponents' goal-line, and we shortly forced them to touch down in self-defence. At half-time neither side had scored.
 Play in the second portion of the game was of a more open character, Hooper putting in some fine runs, which, however, resulted in nothing, owing to his reluctance to part with the ball, and Bond's fine tackling. The forwards soon pressed the Wanderers back into their own twenty-five, and Field just prevented us from scoring by kicking the ball from under Wilson's hands as he was about to touch it down. From the kick-out we were in difficulties, and Bond had to touch down in self-defence. Bennett and Marrack were now noticeable for fine dribbling, and Hodgkins, with a beautiful punt, sent the ball into touch close to their line. Nunn soon after ran in, but the try was disallowed. It was close on time when Hooper dodged our men and scored a try, which field converted. Nothing more was scored, and the Middlesex Wanderers thus won by a goal to nil. Our forwards played a splendid game, and Bond was in grand form at back.

2ND XV v. HONGKONG AND SHANGHAI BANK.
 This match was played at Leyton on October 27th, and resulted in a win for the Hospital by 1 goal and 1 try (8 points) to nil. Randolph scored for us after ten minutes' play, Martin improving from a difficult angle. Before half-time Weeks gained another try for us, but the place-kick, which was an easy one, was a failure. Neither side scored in the second half, and we thus won a hard-fought game as stated above.
 The following represented the Hospital:—H. Goodman (back); S. F. Smith, T. Martin, H. Randolph, S. Mason (three quarters); F. E. Everington, A. Pain (halves); H. Weeks, W. M. McDonald, A. Vaughan, J. Perks, E. H. Stack, G. C. Cathart, and H. M. James.

2ND XV v. CAPTAIN JAMES.
 This match was played at West Bromption on November 7th, and resulted in a win for the Hospital by 1 try (3 points) to nil. The first half of the game was very evenly contested, our opponents perhaps having slightly the best of the game, but they were unable to break through our defence. In the second half we had considerably the best of matters, our forwards carrying the scrummages in fine style, but their back division proved equal to the occasion, and I wanted but two minutes to time when Everington scored the winning point for us. Simmonds took the place-kick, but failed to convert. Nothing more being scored we won as stated above.
 Our team was as follows:—S. F. Smith (back); F. G. Simmonds, T. Martin, A. E. Hodgkins, M. A. Cholmeley (three quarters); H. Davis, F. E. Everington (halves); W. J. Codrington, H. Weeks, E. H. Stack, A. B. Brown, A. Vaughan, J. Perks, G. C. Cathart, and F. Jones.

CROYDON A. v. ST. BART'S II.
 Played at Croydon on November 10th in wretched weather, but before a fair number of spectators. Rain fell heavily during nearly the whole of the game, rendering accurate play impossible. Croydon put a strong team into the field, including some of their first fifteen, but owing to the good all-round play of our team they were unable to score; indeed, once or twice we were nearly over their lines. However, time was called without a point having been scored for either side.
 Team.—S. F. Smith (back); S. Mason, A. E. Hodgkins, E. S. Humphrey, E. C. Simmonds (three quarters); F. E. Everington, H. Davis (half); H. Weeks, W. M. McDonald, W. J. Codrington, A. Vaughan, A. B. Brown, D. Jefferson, J. W. Hughes, J. Perks (forwards).

2ND XV v. OAKLEIGH PARK.
 This match was played at Wornwood Scrubs on November 17th, the Hospital winning by seven tries (21 points) to nil. Our opponents turned up forty-five minutes late, two men short, so to make matters even we gave them Perks. The game throughout was very one-sided, Oakleigh Park never being dangerous. Owing to the slippery state of the ground, accurate passing and kicking were out of the question, and this alone prevented our score from being much larger. Our tries were obtained by Mason (3), Simmonds, Martin, Weeks, and Jones (one each).
 Our team was as follows:—S. F. Smith (back); S. Mason, E. S. Humphrey, T. Martin, F. G. Simmonds (three quarters); M. A. Cholmeley, H. Davis (halves); W. M. James, W. J. Codrington, H. Weeks, W. M. McDonald, A. Vaughan, D. Jefferson, and F. Jones.

2ND XV v. ST. THOMAS'S HOSPITAL AND XV.
 On November 24th the 2nd XV played St. Thomas's Hospital and XV at Wornwood Scrubs, and were defeated by one goal to one try. In this match our team was much weakened by the removal of men for the 1st XV, but the game, as the result shows, was of a very even character. The only point scored was during the first half by Weeks, who dribbled the ball from halfway and obtained a try. The place-kick, which was a difficult one, was attempted by Simmonds, who failed to improve upon it. The outsiders were a good deal handicapped by the muddy state of the ground.
 Team.—S. F. Smith (back); E. G. Simmonds, T. Martin, F. Thomas, A. Hay (three quarters); W. M. Cholmeley, H. Davis (half); W. J. Codrington, H. Weeks, W. M. McDonald, A. Vaughan, J. Perks, F. Jones, D. Jefferson, G. C. Cathart (forwards).

ASSOCIATION FOOTBALL CLUB.
 DURING November we have had very good results to the matches played. Out of seven matches the first eleven have only lost one, and the second eleven two out of the same number of matches. London Welsh scratched with us owing to their having a cup tie on the date fixed for our match, but Marlow agreed to play us, and after a pretty hard game in pouring rain we managed to make a draw with them. The match with Mason's College (Birmingham), too, was spoilt by rain, and it was agreed to stop the game before the proper time on that account. The Hastings match was one of the most enjoyable "outings" that we have had, and although we won easily by 10 goals to 4, the game was not altogether one-sided. After the match both teams were kindly entertained to tea at the Castle Hotel by Dr. Gabb and several other old Bart's men, all of whom took a keen interest in their old hospital team. After the tea speeches were made between each of which songs were sung by various members of the Hastings Football Club. The programme had rather to be hurried towards the end owing to the last train back to town being before 8 o'clock.
 Our record up to the end of November is as follows:

Played.	Won.	Lost.	Drawn.	Goals For.	Against.
First Eleven	13	7	3	41	20
Reserves	13	8	3	39	17

RESULTS FOR NOVEMBER.			GOALS.	
			For.	Against.
Sat., Nov. 3—	Old Castle Swifts	at Hermit Road	2	5
Wed., " 5—	Olympians	" Walthamstow	1	1
Wed., " 7—	Sittingbourne	" Sittingbourne	3	2
Sat., " 7—	St. John's College	" Battersea	1	1
Sat., " 10—	Marlow	" Marlow	1	1
Wed., " 10—	Pokes F.C. (Reserves)	" Edmonton	3	0
Wed., " 14—	Mason's College (Birminghamingham)	" Edmonton	3	0
Sat., " 14—	Aldenhams School	" Aldenhams	1	0
Sat., " 17—	Beckenham	" Beckenham	1	1
Wed., " 21—	Hastings	" Hastings	10	3
" " 21—	St. John's College	" Leathhead	0	1
" " 28—	Berkhamsted	" Berkhamsted	5	0
" " 28—	London Hospital (2nd)	" Edmonton	1	4

Saturday, Nov. 3rd.—ST. BARTHOLOMEWS HOSPITAL v. OLD CASTLE SWIFTS.
 This was the opening match in the professional career of the Old Castle Swifts, and was played on their ground at Hermit Road before a very good attendance.

During the first half Bart's did most of the pressing, and Fernie scored after about a quarter of an hour's play. Crossing over at half-time with one goal to the good, we continued to press for some little time, but then the Old Castle Swifts played up and pressed for the remainder of the game. Towards the end it got very dark, and Old Castle Swifts, who were now pressing, shot five goals in fairly quick succession, while we only obtained one more from a shot by Woodbridge, thus losing by two goals to five.
 Team.—E. H. B. Fox, goal; R. P. Brown, L. E. Whitaker, backs; W. H. Pope, C. C. Costin, H. J. Pickering, half-backs; T. H. Talbot, W. Whramham, right wing; J. F. Fernie, centre; E. W. Woodbridge, A. Hay, left wing.

Wednesday, Nov. 7th.—ST. BARTHOLOMEWS HOSPITAL v. SITTINGBOURNE.
 Played at Sittingbourne. Bart's playing against the wind during the first half scored two goals by Talbot and Robinson, while Sittingbourne, who felt the aid of the strong wind, also scored two goals, the score standing level when the whistle blew at half-time. After commencing play again in the second half we had much the best of the game, and had hard lines in only scoring one goal from a fine shot by Fernie. Sittingbourne did not score again, although once or twice they seemed to be rather dangerous. We thus won by three goals to two.
 Team.—E. H. B. Fox, goal; R. P. Brown, L. E. Whitaker, backs; F. Harvey, C. C. Costin, H. J. Pickering, half-backs; A. Hay, C. A. Robinson, right wing; J. F. Fernie, centre; T. H. Talbot, E. W. Woodbridge, left wing.

Saturday, Nov. 10th.—ST. BARTHOLOMEWS HOSPITAL v. MARLOW.
 This match was played before a good attendance at Marlow, and although it rained heavily during the whole game, fast play continued throughout. Fernie kicked off for Bart's, who with some good passing went clear through the Marlow defence, and scored within the first minute from a good shot by Fernie before any of the Marlow men had touched the ball. Very shortly after this, Shaw put in a very fast shot from half-back and equalised. Both teams tried hard to gain the lead during the second half, but nothing more was scored, and the game ended in a draw, one goal all.
 Team.—E. H. B. Fox, goal; R. P. Brown, L. E. Whitaker, backs; W. H. Pope, C. C. Costin, H. J. Pickering, half-backs; A. Hay, T. H. Talbot, right wing; J. F. Fernie, centre; E. H. Fryer, E. W. Woodbridge, left wing; linesman, Mr. C. H. Hopkins.

Wednesday, Nov. 14th.—ST. BARTHOLOMEWS HOSPITAL v. MASON'S COLLEGE (Birmingham).
 This annual game was played at Edmonton, the Birmingham team arriving at Euston at half past twelve. At first Mason's College pressed, but could not score, the ball being very slippery. Just before half-time Fryer scored for Bart's, who crossed over with one goal to the good. During the second half we pressed most of the time, and Fryer scored two more goals from splendid shots. Both captains agreed to stop the game a quarter of an hour before time owing to darkness and the heavy rain, which had been coming down for twenty-four hours. Having had tea in the pavilion both teams went to the "Horse Shoe," where a dinner was given to both the Association and Rugby teams of Mason's College, W. H. Jessop, Esq., F.R.C.S., being in the chair.
 Team.—E. P. Court, goal; R. P. Brown, L. E. Whitaker, backs; J. C. Powell, C. C. Costin, H. J. Pickering, half-backs; A. Hay, T. H. Talbot, right wing; J. F. Fernie, centre; E. H. Fryer, E. W. Woodbridge, left wing; Referee, Mr. C. H. Hopkins.

Saturday, Nov. 17th.—ST. BARTHOLOMEWS HOSPITAL v. BECKENHAM.
 Played at Beckenham the ground being in very good condition. A hard and fast game took place before a large attendance, and both teams scoring one goal each the game ended in a draw. Bart's pressed for most of the first half of the game, and had hard luck in not scoring more goals. C. A. Robinson scored the goal for Bart's.
 Team.—E. H. B. Fox, goal; R. P. Brown, L. E. Whitaker, backs; W. H. Pope, C. C. Costin, H. J. Pickering, half-backs; A. Hay, C. A. Robinson, right wing; J. F. Fernie, centre; G. A. Spear, E. W. Woodbridge, left wing.

Wednesday, Nov. 21st.—ST. BARTHOLOMEWS HOSPITAL v. HASTINGS.
 After our pleasant experience at Hastings last year we looked forward to this match as one of our most enjoyable fixtures. The ground was rather heavy, but a fast game was witnessed by the large crowd which gathered outside the ropes. Very soon after starting Bart's scored, and continuing the attack throughout the game, scored

ten goals, while our opponents only notched three. Our forwards played very well together, and showed very good combination and passing. The goals were scored by Fernie, 3; Fryer, 3; Robinson, 2; Talbot, 1; Costin, 1. Dr. Gabb and several other old Bart's men kindly entertained us to tea after the match.
 Team.—E. H. B. Fox, goal; R. P. Brown, L. E. Whitaker, backs; W. H. Pope, C. C. Costin, H. J. Pickering, half-backs; T. H. Talbot, C. A. Robinson, right wing; J. F. Fernie, centre; E. H. Fryer, E. W. Woodbridge, left wing; linesman, Mr. C. H. Hopkins.

Wednesday, Nov. 28th.—ST. BARTHOLOMEWS HOSPITAL v. BERKHAMSTED SCHOOL.
 This match was played at the school ground before a good muster of the boys. The school team were very light, and although they played very pluckily were no match for our heavy half-backs. When time was called Bart's led by five goals to nil.
 Team.—E. H. B. Fox, goal; R. P. Brown, L. E. Whitaker, backs; F. Harvey, C. C. Costin, H. J. Pickering, half-backs; T. H. Talbot, C. A. Robinson, right wing; R. Watelhouse, centre; G. A. Spear, E. W. Woodbridge, left wing.

MATCHES FOR DECEMBER.

Sat., Dec. 1—	Windsor and Eton	at Windsor.
Wed., " 5— <td>Holloway Sanatorium</td> <td>" Virginia Water.</td>	Holloway Sanatorium	" Virginia Water.
Thurs., " 6— <td>Hermosa School</td> <td>" Ealing.</td>	Hermosa School	" Ealing.
Sat., " 8— <td>Royal Ordnance</td> <td>" Maze Hill.</td>	Royal Ordnance	" Maze Hill.
Wed., " 12— <td>Crouch End Reserves</td> <td>" Hornsey.</td>	Crouch End Reserves	" Hornsey.
Wed., " 12— <td>Weybridge</td> <td>" Weybridge.</td>	Weybridge	" Weybridge.
Sat., " 15— <td>City of London School</td> <td>" Edmonton.</td>	City of London School	" Edmonton.
Sat., " 15— <td>St. Albans</td> <td>" St. Albans.</td>	St. Albans	" St. Albans.
Wed., " 15— <td>Tonbridge</td> <td>" Tonbridge.</td>	Tonbridge	" Tonbridge.
Sat., " 19— <td>Maldenhead</td> <td>" Maldenhead.</td>	Maldenhead	" Maldenhead.
Sat., " 22— <td>St. Thomas's Hospital (2nd)</td> <td>" Edmonton.</td>	St. Thomas's Hospital (2nd)	" Edmonton.
Sat., " 22— <td>Enfield</td> <td>" Enfield.</td>	Enfield	" Enfield.

Abernethian Society.
 October 18th.—The first Ordinary Meeting of the Society was held, the President, Mr. Maidlow, being in the chair. Mr. Morrison showed a case of supposed chancre of the lower eyelid. The Rev. George Homlow then read a paper entitled "The Diabetic Value of Food stuffs prepared by Plants."

25th.—The quarterly sale of papers was held, the sum realised being £3 2s. 6d., which exceeds the sum realised at any previous sale of the Society. The second Ordinary Meeting of the Society was held, the President, Mr. Cross, being in the chair. Mr. Fraser showed a case of atrophic skin. Mr. Walters showed a case of scleroderma. Dr. Tooth then read a paper upon "Functional and Hypertrophic Disorders."

November 1st.—The third Ordinary Meeting of the Society was held, the President, Mr. Maidlow, being in the chair. Mr. A. Pain resigned the Secretaryship in consequence of his leaving England. A resolution thanking Mr. Pain for the work he had done for the Society was proposed and carried. Dr. Horne showed a case of tubercular ulceration of the soft palate. Dr. Lewis Jones then read a paper on "Paralysis of the Upper Limb." Line-drawing illustrations were given.
 2nd.—A Special General Meeting was held. Mr. Stack moved a resolution to the effect that the present officials should stay in office until next May instead of retiring in March, as is customary. (This had been suggested by the Special Committee, which consists of the Abernethian Committee with the Treasurer, Mr. Willett, and Messrs. Bowly, W. H. Cross, and Dr. Shore.) Some famous precedents were noted. Mr. Stack said that he brought forward this resolution in order that the present officials might be in office at the time of the "Centenary," which rightly occurs in January, and is, therefore, within their year. Mr. Josiah Oldfield questioned the legality of the meeting, and also the auctioneering right of the Secretary. After some discussion Mr. Stack's resolution was carried unanimously.

8th.—The fourth Ordinary Meeting of the Society was held, the President, Mr. Maidlow, being in the chair. Mr. Paterson showed a case of "Centenary," which rightly occurs in January, and is, therefore, within their year. Mr. Josiah Oldfield questioned the legality of the meeting, and also the auctioneering right of the Secretary. After some discussion Mr. Stack's resolution was carried unanimously.
 15th.—The fifth Ordinary Meeting of the Society was held, the President, Mr. Cross, being in the chair. The President declared that the midday election for the office of Secretary, and for which Mr. Brombridge, Mr. Horder, and Mr. Ashby Barron were candidates, was null and void in consequence of gentlemen having voted who had not been admitted members of the Society. Mr. Gill then read a paper upon "The Measure of Anaesthesia."

22nd.—The sixth Ordinary Meeting of the Society was held, the President, Mr. Maidlow, being in the chair. Mr. Maxwell showed a case of venous obstruction of the abdomen, in which the superficial veins of the right leg and right side of the abdomen were varicose. The President drew attention to the article at the end of the editorial of last month's JOURNAL concerning the present system of the selection of the authors of papers. Mr. Meakin proposed that there should be a discussion on the subject. Finally, it was agreed that half an hour previous to the reading of the paper on Thursday, the 29th, should be devoted to it. The result of the election was declared, Mr. Ashby Barrow being elected Secretary. Dr. Herringham then read a paper on "Disorders of Movement."

29th.—In consequence of the disability of Mr. R. C. J. Stevens to attend the meetings of the Society, an election took place for the office of Vice-President; Mr. Paterson, Mr. H. B. Meakin, and Mr. Cochrane being candidates. The seventh Ordinary Meeting of the Society was held, the President, Mr. Cross, being in the chair. Mr. Collyer showed two cases of "frost-bite." The result of the election was declared, Mr. H. B. Meakin being elected Vice-President. Dr. Collins then read a paper on "The Pathology of Insanity." After the paper had been read an animated discussion took place, in which Dr. Hyslop and Dr. Hubert Bond amongst the visitors, and Dr. Jones, the President, and others of the members took part. The attendance at the Ordinary Meetings has been extremely good, averaging ninety-nine members for the last five meetings.

The present Committee of Management is as follows:
 Presidents.—Mr. W. H. Maidlow and Mr. E. W. Cross.
 Vice-Presidents.—Mr. J. S. Slouart and Mr. H. B. Meakin.
 Treasurer.—Mr. Alfred Willett, F.R.C.S.
 Hon. Secretaries.—Mr. Ashby Barrow and Mr. F. A. Smith.
 Additional Committeemen.—Mr. R. H. Brombridge and Mr. II. D. Everington.

The above Committee, together with Mr. Bowly, F.R.C.S., Mr. W. H. Cross, and Dr. Shore, form the Special Committee for the Centenary Conversatione.

Any member who has suggestions to make with regard to the taking in of new papers or periodicals, or who wishes to propose any changes concerning the present papers, &c., is requested to signify his wishes in writing to one of the Secretaries, when his propositions will be brought before the Committee.

The Committee desire to point out that, in accordance with Rule III of their laws, no one becomes a member of the Abernethian Society without being duly elected, and that no member may vote without being duly admitted (vide Rule IV).

They also hope that the question of the authors of papers will be duly discussed.

The present good attendance is a matter for congratulation.

St. Bartholomew's Hospital Smoking Concert Club.

The second Concert of the Season was held in the French Room, St. James's Restaurant, on Saturday, November 17th. It was with pleasure we noted that there was a fuller attendance than on the last occasion. An excellent programme had been got together by the energetic Secretary, Mr. D. L. E. Bolton, and in parenthesis we might propound the question as to what the Club would do without Mr. Bolton. The programme was opened with a pianoforte solo by Mr. H. Wade, who played some of the "Incidental music to Henry VIII," and who kindly acted as accompanist during the first half of the programme; then Mr. E. Cross obliged with "Mandalay," which was well received; he was quickly followed by Mr. Harry Gifford, who sang "Our Appy Home," and "Out for a Reason" as an encore. Dr. A. G. Haydon then played a madrigal, which was well rendered, though perhaps a little too high class for a smoking concert, and was followed by Mr. E. C. Frenck, who sang "Sunshine above." Mr. Frenck has a delightful voice, which was greatly appreciated; he is an acquisition to the Club. Mr. Gummelt made his first appearance at these concerts, and obliged with a barjo solo. Mr. Frank Lane, who is too old a favourite of the Club to need much praise, sang "All through a dear little lady," and in response to a unanimous encore gave "That's his girl." Mr. Gladwin's well-trained voice was heard to advantage in the "Lighthouse Keeper." Special mention must be made of Mr. J. K. Birdseye's song, "The Josses Huntsman;" he has seldom appeared to greater advantage than he did on this occasion, the song being accompanied by roars of laughter from the audience.

In the second half of the programme mention must be made of Mr. Jackson's pianoforte solo. Mr. Jackson is an accomplished pianist, and was kind enough to accompany during the rest of the evening, for which the Chairman thanked him on behalf of the Club. Mr. Gale now appeared on the scene, and sang a new song of his own, entitled "The Evening Paper," the topics of which embraced the Chinese Empire and London Empire. The audience demanded so much of Mr. Gale that there was a doubt whether the other performers would come on before midnight. Mr. Gale sang two more songs, and then to quell the rumour he related one or two little stories which were excellent. Mr. R. F. Standage, who has a fine voice, sang the "Toreador's song" from "Carmen," and was encored. Amongst others who appeared was Mr. Harold Coulter, who sang several songs with great effect. The proceedings terminated with "Auld lang syne" and "God save the Queen." We are glad to see that the Junior Staff are warmly supporting these concerts.—"ONLOOKER."

Inter-Hospital Golf Match.

ST. BART'S v. GUY'S.

ON the 28th November a golf match was played between Guy's and Bart's over the ground of the Stanmore G. C., kindly lent for the occasion.

It was originally intended to have eight a side, but at the last moment two of our best golfers were unable to play.

Subjoined is the list of matches and results, whereby it appears that Bart's won by a majority of twenty-six holes.

Altogether the Bart's men proved too strong for their opponents. A knowledge of the ground on the part of our men had doubtless something to do with the result.

In all the matches, with the exceptions of those between Dr. Herringham and Hamblin-Smith, and between Robertson and Coventry, the representatives of Bart's had matters in their own hands all the way.

Dr. Herringham was playing against a player who, in the first list, was pitted against a player higher up in our list. This doubtless accounts for our only loss. Hamblin-Smith played a strong game.

GUY'S HOSPITAL.		ST. BARTHOLOMEW'S HOSPITAL.	
Mr. C. Coventry	0	Mr. F. W. Robertson	3
Mr. E. N. Srook	0	Mr. W. S. Hargreaves	7
Mr. M. Hamblin-Smith	4	Dr. Herringham	0
Mr. F. G. Thomas	0	Mr. E. L. Evans	5
Mr. C. Shepherd	0	Mr. E. W. Elcombe	6
Mr. H. Munro	0	Mr. R. C. Bailey	9
			40
	4		

Notes on Cystitis.

By H. J. PATERSON, M.B., B.C.

INFLAMMATION of the bladder is the commonest affection of that organ. It occasions considerable pain and discomfort. For these reasons alone it is a disease of practical interest. Further, it is a disease upon the pathology of which much light has been thrown by the researches of modern bacteriologists, and which is a brilliant example of the value of that cleanliness and asepsis in surgery which is the practical outcome of these researches.

Broadly speaking, cases of cystitis may be classified as follows:
 1. Cases due to some diseased condition of the bladder or other part of the urinary tract.

2. Cases in which the disease is due to the introduction of some micro-organism from without.

Under the first division may be included such causes as tumours of the bladder, tubercular disease of the bladder, kidney, or ureter, and the discharge of pus into the bladder from the kidney or its pelvis.

The treatment of such cases is the removal of the local cause. When this, as is not infrequently the case, is impossible, much still may be done by palliative measures, chief among which is careful washing out of the bladder.

In the second class of cases the introduction of a micro-organism into the bladder causes decomposition of the urine and subsequent inflammation of the mucous membrane of the bladder; such cases, therefore, ought to be preventable.

It may be mentioned here that it is probably untrue that mere

irritation of a healthy bladder, such as may be caused by a catheter, does ever cause cystitis. In a case in one of Mr. Willett's wards last year a catheter was retained continuously in a man's bladder for four months, being changed every second day, without the slightest symptoms of cystitis ever ensuing. Cystitis supervening in such a case is almost certainly due to want of cleanliness, and consequent introduction of micro-organisms into the bladder. It is to this second class of cases, and more especially to such cases occurring in women after abdominal section, that the following notes refer.

As a general rule, after abdominal section it is necessary for the first few days to draw off the urine by a catheter. When cystitis occurs in such cases it is usually ascribed to infection by the catheter. Lawson Tait¹ has gone so far as to say that when a case of his gets cystitis after ovariectomy, he considers the nurse guilty of culpable negligence. Doubtless in some cases this may be so, but to lay down such a dogmatic rule is, I think, to take up a position which is unshakable.

When a glass catheter is used, which can be rendered aseptic by boiling, and which is kept in boric lotion and skillfully passed by inspection, after the vulva has been washed, the risk of infecting the bladder by the catheter must be infinitesimal. Yet even when these precautions are most religiously carried out, some cases do get cystitis. Let me give an instance.

A patient in Martha Ward had abdominal section performed on July 30th. The catheter was used regularly until August 7th, when she was able to pass her urine naturally. On August 12th the urine was slightly alkaline. On August 13th it was markedly alkaline, and on August 18th it was strongly alkaline, foul-smelling, with a thick deposit of pus and mucus on standing.

It will be at once noticed that six days elapsed during which period the urine was passed naturally before there were any symptoms of cystitis. Surely if the infection was conveyed by the catheter the last time it was passed, the onset of the cystitis symptoms would not be so long delayed. And, indeed, the occurrence of cystitis can be accounted for without any such assumption.

On account of the incision through the abdominal walls the normal use of the voluntary muscles of the abdominal wall in micturition is interfered with, and in consequence of this the bladder is unable completely to empty itself of its contents. Thus after each act of micturition a small quantity of urine may be retained, the mucus present in this sinks to the lowest part of the bladder, and when it has collected in sufficient quantity some of it escapes during micturition, and being tenacious, is not completely expelled, but retained in the urethra. There is now within the urethra a most favorable medium—tenacious mucus moist with urine—to allure micro-organisms into the bladder.

Further, the previous passage of the catheter has, I believe, to some extent a dilating effect on the urethra and vesical sphincter: a view which is supported by the fact that occasionally patients who have a catheter passed regularly for some time do get true incontinence of urine. This dilatation may increase the liability to infection when the catheter is no longer passed, by allowing more mucus to remain unexpelled in the urethra.

If this theory be correct, it follows that if the use of the catheter be continued longer, until the patient is able urine completely to empty her bladder, cystitis should not occur. And such is indeed the case. It is the cases in which the use of the catheter is discontinued early that cystitis occurs; whereas in those cases in which the catheter is used for a longer period cystitis practically never occurs. My personal experience is limited to about thirty cases, but Sister Martha tells me she has repeatedly observed this.

Again, after perineorrhaphy, although the catheter was passed regularly for the first few days, cystitis practically never occurs. Is this not because the abdominal muscles can act, and so the bladder is completely emptied?

Further, the dilating effect of the catheter, which has been put forward above as favouring the occurrence of cystitis after abdominal section, is probably, as has been suggested to me, replaced in perineal operations by spasm.

To sum up, therefore, after abdominal section two conditions obtain which are not present after perineal operations, viz.—(1) Inability to use the abdominal muscles, and consequent incomplete emptying of the bladder. (2) Retention of mucus in the urethra consequent on a dilating influence of the catheter. May it not thus be fairly argued that the frequency of cystitis in the one class of cases as compared with its infrequency in the other class is connected with these conditions, absent in the one, but present in the other,—in other words, that in cases of abdominal section these two conditions just given act as predisposing causes of cystitis?

¹ Brit. Med. Journ., June 30th, 1894.

Lastly, as to the treatment of cystitis in such cases.
 Firstly, and chiefly, preventive. The catheter should be used as infrequently as possible; the oftener it is used, the more its dilating effect will predispose to cystitis. Hence I think it is a mistake to pass it regularly every four or five hours. During the first few days, at any rate, twice in the twenty-four hours will be found sufficient. Its use should be continued for some days after the patient is able to pass urine naturally.

Secondly, by washing out the bladder. This, I think, is best avoided, because—

1. As a rule it is unnecessary.
 2. By its dilating action it tends to prevent the urethra and sphincter from recovering their tone.

3. It is liable to cause re-infection by carrying the tenacious mucus in the urethra back into the bladder.

Thirdly, by drugs. Those most used are benzoate of ammonium and salol. This latter is much the most reliable and satisfactory. I have never seen it fail in this class of cases to render the urine acid in a very short space of time without any washing out of the bladder. Its effectiveness is greatly enhanced by the addition of boric acid. Ten grains of salol and an equal quantity of boric acid every four hours will usually render the urine acid in from thirty-six to forty-eight hours—e.g. in the case mentioned above the patient was put on salol at 3.15 on August 18th. On the 19th, at 9 a.m., the urine was still alkaline, with much mucus and pus; at 1 p.m. urine was still alkaline, but less pus and mucus; at 3.15 urine neutral, slight increase of mucus and pus; at 5 p.m. urine acid, quite clear, no deposits on standing. I have notes of many similar instances of the rapidity with which it renders the urine acid and relieves the pain and disturbance consequent on the decomposing urine.

In conclusion I have to thank Mr. Willett, Dr. Chamnevs, and Mr. Cripps for their kindness in allowing me to make use of the notes of the cases under their care.

Operation for Diffuse Septic Peritonitis.

Reported with Mr. Lockwood's kind permission.

MR. LOCKWOOD, having recently had a recovery after an operation for diffuse septic peritonitis, the readers of our Journal will be interested to have brief details of a second case which also promises to come to a successful issue.

This class of cases has hitherto been looked upon as almost hopeless. These are, we believe, the first which have recovered at St. Bartholomew's.

E. D.—at. 40, housewife, on September 6th at 11 a.m. was suddenly prostrated by violent abdominal pain, and had at once to take to her bed; she did not faint. The pain was worst in the right iliac region. She immediately began to vomit, and between this and noon the next day she vomited ten times a white frothy material. She was given morphia by a doctor who was called in, and did not vomit again before admission; during all this time she passed neither faeces nor flatus. Her condition becoming worse, she was admitted to President Ward on the morning of September 8th.

She had suffered for years from chronic dyspepsia, with pain immediately after food, usually, but not always, relieved by some warm liquid, and occasional attacks of constipation. She has never vomited blood. She has never had a similar attack before. At her last confinement she is said to have lacerated her uterus, but there is no history pointing to pelvic inflammation. Menstruation has been natural; the last period ceased on September 4th.

Her condition on admission was as follows. She is a stout florid woman, with flushed and dusky cheeks, her pupils equal and somewhat contracted; the tongue is dry and cracked; her pulse beats 80 per minute, and is of low tension; respirations are 40 per minute, and shallow. She complains of nausea, but has not actually vomited since admission. After an enema she passed a little flatus, and a few scybala. Her abdomen is very tender on pressure, especially in the right iliac fossa, but moves with respiration. It is distended and tense, and though the abdominal walls are very fat, the distended coils of intestine can be seen through them. There is no peristalsis. There are no typhoid spots. The percussion note is resonant all over, the liver dulness having disappeared. *Per vaginam*, os patulous. *Per rectum*, nil.

Mr. Lockwood diagnosed acute septic peritonitis with paralytic obstruction, possibly due to perforation, and advised laparotomy. Dr. Norman Moore, who was called in in consultation, agreed with this view, and considered an operation gave the best chance of the patient's life.

At 2.30 p.m., the patient having been put on a hot water bed, Mr. Lockwood opened the abdomen by a median incision 3 inches long, its lower end being about 1½ inches above the pubes, where the bladder prevented further extension downwards. Immediately on opening the peritoneum a quantity of free gas escaped. The intestines were distended and congested, and their peritoneal coat had lost its lustre, especially in the lower abdomen. There was about half a pint of purulent fluid in the pelvis. The cæcum and vermiform appendix were first examined, but, except for the peritonitis, they were found intact, the latter being not distended. The left Fallopian tube was very swollen and inflamed, and surrounded by the chief focus of inflammation. The small intestine was next brought out of the wound coil by coil and examined as high up as the commencement of the jejunum, but no perforation was found. As there was no indication that the mischief was due to any cause in the upper part of the abdomen, this was not explored. The intestines were punctured with a fine trocar in two or three places to let out the gas, and one of these apertures enlarged with a scalpel and a quantity of bile and gas evacuated. This incision was closed with fine silk after all the intestines had been emptied and returned. The abdomen was thoroughly and systematically flushed out with sterilised water at 110°. The abdominal wound was closed by silk-worm-gut sutures passed through the whole thickness of the parietes, a glass tube was put into the pelvis from the lower angle of the wound, iodiform was dusted on, and the wound dressed with carbolic gauze.

After the operation, which lasted one hour and twenty minutes, the patient was a good deal collapsed; she was accordingly given a brandy enema, and later an injection of strychnine. She vomited twice after the operation, and again at 11 p.m. and 4.45 a.m. the next morning. During the night she passed flatus twice by the rectum.

On the morning of September 10th she was rather better; she had some hiccough, but no abdominal pain and no vomiting, and passed flatus twice spontaneously.

Since then she has had no abdominal pain or distension, and her abdomen has continued to move well with respiration, and she has steadily improved. Food, which was given almost exclusively *per rectum* for the first few days, is now given by the mouth, though she cannot yet manage solid food. She has continued to hiccough occasionally at night, and the temperature has been raised, but not above 102°. The glass tube was changed for a rubber one on September 15th, and this was gradually shortened and discontinued on September 19th, and the wound is slowly granulating up. On September 17th she passed a semi-solid motion. She has been rather troubled with sleeplessness, but last night she slept well, and this morning (September 20th) seems to have taken a most decided turn for the better, as her temperature has come down to normal, and she both looks and feels better than she has done since admission.

Mr. Lockwood attributes the successful result in this and other cases to the care taken by heat and stimulants to limit shock; the thorough emptying of the intestines by puncture and incision; the methodical and abundant flushing of the abdomen and its subsequent drainage; and the skilful nursing which the patient had at the hands of Sister President. He also considers that much is due to Mr. Maidlow's unceasing efforts.

Cases Worth Seeing.

MEDICAL.
Luke, No. 3, M., 47, ataxic paraplegia.
" No. 7, M., 46, paralysis agitans.
Matthew, No. 26, M., 54, peripheral neuritis and enlarged liver.
Mary, No. 0, F., 24, enlarged liver.

Clinical Sketch.

By W. P. HERRINGHAM, M.D., F.R.C.P.,
Medical Registrar.

THE following three cases illustrate varieties of meningitis:—
1. J. N., a boy of 16 (Lulse Ward, Dr. Gee), had a blow over the left eye from a bagatelle ball about February 8th. It was followed by giddiness, headache, and stupidity. On February 17th the left eyelid began to swell. On February 18th he was seen to stagger. February 21st, complained of cramp in his right arm, and his speech was noticed to be affected. February 22nd.—Admitted. Anæsthetic and dazed. Speech unintelligible. Purple oedematous swelling of left eyelid; imperfect paralysis of all left oculo-motor muscles; pupils react to light; no

optic neuritis. Right arm very rigid, and probably some loss of power in it, reflexes not increased.

The same evening the respiration suddenly and unexpectedly stopped. The heart continued to beat for fifteen or twenty minutes more; then that stopped too.

P.M.—The convexity of the left cerebral hemisphere was covered with stinking pus, which lay outside the arachnoid. It had not reached the base or the cerebellum. There was no abscess in the brain, and no otitis. It was at first doubtful whether the pus came from. But the left orbit being opened, purulent phlebitis was found in the left ophthalmic vein, and on examining the right side empyema of the speno-ethmoidal sinuses was found, which was very stinking. There was some necrosed bone. The pus was a pure culture of the pneumococcus. Except for a small pyæmic infarct at the right base, the lungs were healthy.

The course of the disease was apparently (1) the blow; (2) necrosis of the right sinus and concomitant or perhaps secondary left phlebitis; (3) purulent meningitis from lymphatic or venous infection.

This mode of death is not uncommon in cerebral disease; cf. *Brit. Med. Journ.*, 1894, vol. 1, p. 393, a case with remarks by Hugglings Jackson.

2. F. S.—, a woman of 33 (Faith, Dr. Church), was quite well until March 7th, when she had severe headache. On March 8th she had diarrhoea, pain in the abdomen, and vomiting. After 10 a.m. that morning she did not speak. March 9th, was admitted, her general condition being that of meningitis. March 10th, herpes appeared about the lips. March 11th, optic neuritis was recognised, and there was left facial paralysis. She died early on March 12th.

P.M.—There was purulent cerebro-spinal meningitis. The pus was an almost pure cultivation of pneumococcus. There was no local focus of suppuration in ear, lungs, or elsewhere. The lungs were healthy.

This was one of those sporadic cases of cerebro-spinal meningitis which occur from time to time in the wards. Three have occurred in the last year, of which two have yielded the pneumococcus. The occurrence of herpes is worth noting in this connection.

We have had another case in which what afterwards proved to be an attack of pneumonia began like meningitis, and for eight days presented the symptoms of that disease. The patient recovered, but in all probability had a meningitis like that in Case 2.

3. A. L.—, a little girl of 3 (Faith, Dr. Church), had a fall on August 20th, 1893. August 23rd, headache. August 25th, two fits.

August 28th.—Admitted. She was semi-comatose; occasional twitchings of right hand and right side of face. September 5th, head retracted; mouth drawn to right; twitchings of left hand. September 12th, squint.

On September 2nd inunctions of mercury were begun, and about September 19th she began to improve.

She eventually recovered, but was left with hemiplegia of the right side, and some rigidity, which was unaltered when she was last seen, January 18th, 1894.

This case illustrates the possibility of recovery from meningitis. It has been debated whether this is possible if the case be tubercular—a barren question, not admitting of answer. This may have been one of those cases of posterior basal meningitis (*i.e.* around the medulla and fourth ventricle chiefly, in contrast to the usual tubercular form, which prefers the interpeduncular or anterior basal space). These are sometimes certainly syphilitic. (*Gee and Barlow, St. Bart's Hosp. Rep.*, xiv, p. 22.)

Pathological Laboratory.

The classes in Pathological Histology will commence early in January.

Dr. Kanthack will begin a course of Bacteriology for the D. P. H. early in January. The course will be a continuation of the work now being conducted by Dr. Drysdale.

There will be a series of demonstrations in pathology for the M.B. examinations on Wednesdays and Saturdays at 9.15 a.m., commencing Wednesday, January 9th.

The names of those who intend to take the Bacteriology or M.B. classes should be given to Mr. C. P. White.

"Master's Day" with the Society of Apothecaries of London.

On Tuesday, the 24th of October, in accordance with ancient custom, the Master and Wardens wearing their sable-bound robes,

accompanied by the Livery of the Worshipful Society of Apothecaries, proceeded to the Church of St. Andrew, by the Wardrobe, with St. Ann, Blackfriars, and attended Divine Service at 2 p.m. The Rector, the Rev. P. Clement-Smith, preached an impressive and eloquent sermon to a large congregation, insisting on the power and efficacy of prayer in connection with the healing art, and tracing the history of the apothecary to the foundation of the Temple by King Solomon. After the service "Master's Day Dinner" was held in the handsome old hall; this is indeed a handsome hall, with its massive carved oak panelling black with age, here and there lighted up by fine pictures, and the names of successive generations of benefactors inscribed in letters of gold. At one end of the hall is the bust of Gideon de Laune, Apothecary to Queen Anne of Denmark; and in the Court Room adjoining, the celebrated and original portrait of John Hunter by Sir Joshua Reynolds. About ninety members of the Livery, together with some of the Court of Examiners, sat down to a most excellent dinner, during which an admirable selection of music was given under the direction of Mr. Henry Parker; the artists were Madams Isabel George, soprano; Miss Frances Hippwell, contralto; Mr. Charles Conyers, tenor; Mr. Douglas Powell, baritone; and Mr. Henry Parker at the piano.—M. S. A. and CITIZEN.

Arrangements for the Use of the Operating Theatres.

The following scheme for the use of the Old and New Operating Theatres has been published by the Surgeons:

	OLD THEATRE.		NEW OPERATING.	
Monday	1.30. Mr. Langton.	1.30. Mr. Cripps.	2.30. Mr. Willett.	1.30. Mr. Butlin.
Tuesday	1.30. Mr. Willett.	3. Mr. Cripps.		
Wednesday	1.30. Mr. Walsham.	2. Mr. Smith.	1.30. Mr. Bruce Clarke.	2.30. Mr. Langton.
Thursday	1.30. Consultations.	4. Mr. Walsham.	2.30. Mr. Marsh.	
Friday	1.30. Mr. Walsham.	2.30. Mr. Marsh.	3.30. Mr. Bowley.	
Saturday			1.30. Mr. Butlin.	2.30. Mr. Smith.
				1.30. Mr. Lockwood.

Correspondence.

To the Editor of St. Bartholomew's Hospital Journal.
LONDON; October 26th, 1894.

SIR,—It may reasonably be hoped that within a short time the Amalgamated Clubs, with their new ground at Winchmore Hill and by the aid of the JOURNAL, will do much to bring old and present Bart's men closer together. But although these two powerful agencies are capable of great things in this direction, a Bart's Golf Club would do much to further their efforts.

Golf has invaded England, and there must now be a large number of Bart's men who are golfers. If some of these would take the matter in hand, and if a suitable course could be rented at Winchmore Hill near the new ground, a "St. Bartholomew's Hospital Golf Club" would soon be an *fait accompli*.

The first thing to do is to prospect Winchmore Hill and neighbourhood for links. There must be many farmers who would only be too pleased to accommodate a club of seventy to eighty members at a moderate rental.

If three or four of the Hospital golfers would take the matter up there should be no difficulty in commencing operations early next year. Probably a two guinea subscription with a guinea entrance fee to cover the initial outlay would be found sufficient.—I am, Sir, your obedient servant, GOLFER.

To the Editor of St. Bartholomew's Hospital Journal.
DEAR SIR,—I venture to intrude upon your valuable space in consequence of certain remarks that have recently been made concerning the Amethernian Society, and events that have occurred to disturb the somewhat somnolent tendency of that institution, a century old; events, therefore, that must be considered distinctly advantageous to it. *Imprimis*, is the present selection of the Thursday evening papers best, or how may it be improved upon?

At present the selection is in the hands of the Committee, who select the papers according to the tastes they have or had as students, and which they consider exist or tend to exist amongst the mass of their fellows.

This season their choice by design, and probably also by necessity, has fallen upon rather senior men; men, however, recently associated with the Hospital, and notoriously good workers on its behalf, and likely to read interesting papers. This has been described by cavillers as the catering for "cheap grinds," who suggest that students or present members of the junior staff should be more in evidence; that the Society should have a more debating and academic character. The upholders of the present system say "Very good, but your idea is Utopian." We doubt whether more than the reader's immediate friends would attend in these days of examination. Men will only go who absolutely reliable information is obtained. In the old days meetings partook of the nature of Pandemonium. Debating societies and fierce discussions have been left behind at college as amusements of less mature youth, not to be indulged in now.

The present House Staff have their hands full of work, and cannot find time to read papers. They will be the writers of the next season.

Third and fourth years' men have still less time. So you must rely upon the second year's man. He is quite ephemeral, and will soon join the ranks of his erstwhile seniors.

The mass of men aim at their "final" subjects, and like good papers on them.

These are probably the sentiments of the arrangers of the present system. They see the force and weakness of the arguments of the younger members. They bewail the lack of discussion now, but consider the present programme most conducive to the welfare and utility of the Society.

The writer would urge a moderate course, and would point out that the object of the Society is also to train men for the great Medical Societies of London, and that the same arguments that compel men to support the other institutions of the Hospital apply here. He feels sure the Committee would welcome all suggestions. Another event is the friction that is believed to exist between some of the junior members of the Committee.

I do not hold a brief for the latter, but I would point out that at their election they represented all "years," they have been men who have worked for the Society, and in some cases have been members and officials of the various clubs. I need not particularise. They have nothing to gain by their position and would court a "vote of confidence." Whatever advantage they have they seem to me to have fairly earned.

Personally I know they are anxious to do their best for the Society's interests. The wisdom of the special Centenary Committee have postponed the day of celebration till May. At a meeting when most of the malcontents were present a vote was carried *nem con.* that those in whose year of office the centenary celebration occurs should exist till May. Their present position seems thus quite clear and logical.

Let us hope, then, that before this great event in the Society's history a clearer understanding between the discordant elements will leave a cloudless May.—NUNC ADI NUMQUAM.

To the Editor of St. Bartholomew's Hospital Journal.

SIR,—Without wanting space by dilating upon my own unworthiness, and the celebrity and influence of your JOURNAL, I wish to ask you if it would not be desirable to get up a Debating Society at this Hospital (not a Medical Society).

It would be easy enough to start, and, as there would be no reason that I can see why there should be any subscription, such a club would be highly popular.

When we go out into the world sooner or later—some of us later—we may find ourselves so situated that a little power of public speaking would be to our great advantage, but one does not "public speak" until one has had practice and gained a little confidence.

I do not wish, sir, to lay down any scheme or to make any suggestions with regard to such a club. I merely wish to start the idea in order to see what kind of disturbance the proposal will bring forth.—Yours faithfully, F. W. G.

To the Editor of St. Bartholomew's Hospital Journal.

Dear sir, I know you'll think me mad
To urge in "poetry" so bad
A notion, which perhaps is worse;
But, sir, I promise I'll be terse.
On every Thursday night at eight
A paper's read—on something great,
Confusing to the average pate,
Of course 'twould not affect yours.
In fact, these learned homilies
Somewhat or other do not please;
The Fresher's not sure if his fees
Cover this course of—lectures.

The treatment of this case is clear:
Of lighter topics let us hear,
What's going on both far and near;
We've quite enough of work
I also think the authors should
Not all be teachers; students would
Write scolding papers if they would,
But this they seem to shirk.—T. A.

Reviews.

THE Pharmacopœia of the London Hospital is a very excellent little book, sent to us by the publishers, S. F. Hodson, of the Free School Press, Rupert Street, E.

The book contains really very much more than its name implies, since it is a complete *volume-mecum* for the "Clinical Clerk" or "Dresser."

Together with a very complete list of general prescriptions, it includes prescriptions for children, diets, instructions for preparing peptonised foods, instructions for case-taking and methods of qualitative and quantitative examination of urines, the more common poisons and their antidotes, methods of preserving pathological specimens and staining for tubercle bacilli, abbreviations used in prescriptions, and other useful information; altogether a book which will diminish the worries of a House Physician or House Surgeon, and prove of material assistance to a man new to the wards.

Obituary.

THOMAS WILLIAM WAKE SMART, M.R.C.P.—There are very few Bart's men now living who became qualified so early as 1827, and one of these has just passed away at the ripe age of eighty-nine. Mr. Thomas William Wake Smart, of Cranborne, near Salisbury, entered the Hospital in 1824, and qualified as M.R.C.S. and L.S.A. in 1827. In 1847 he became an Extra Licentiate of the Royal College of Physicians, and in 1860 was made a Member of the College. After passing through the curriculum at Bart's, which was shorter in those days than now, he studied for a time at Paris; and in the *Medical Gazette* in 1831 he first proposed intra-venous saline injections in the treatment of Asiatic cholera. This is a method of treatment which has been tried several times since, and upon which a paper by Mr. H. J. Manning Watts appeared in our columns in December last.

Mr. Smart was for many years Physician to the Salisbury Infirmary, and was the author of a book on a *Retrospect of Medicine and Surgery* in 1842. He was much respected in Cranborne and neighbourhood, and by his death another of the physicians of the old school has passed away.

MR. WALDEMAR JOSEPH ROECKEL, M.B., B.S.(Lond.), F.R.C.S.

WE regret to record the death of Mr. W. J. Roeckel, which took place suddenly at Melbourne, Australia. The cause of death appears to have been an overdose of cocain

injected hypodermically. Mr. Roeckel was born at Bath in 1851, and was therefore forty-three years of age at his death. He entered at Bart's in 1868, and qualified as M.R.C.S. in 1873. In 1874 he took the L.R.C.P., and in 1876 became a Fellow of the Royal College of Surgeons. In 1882 he took the degrees of M.B. and B.S. of the University of London. After his course at St. Bartholomew's he studied for a time at Paris, Leipzig, and Vienna. From 1878 to 1880 he was an Assistant Demonstrator of Anatomy in our Medical School. Subsequently he became Demonstrator of Anatomy at the London Hospital, and was for a short time also on the Teaching Staff of the Charing Cross Medical School. Amongst other appointments he held that of House Surgeon to the Bolingbroke Hospital, Clinical Assistant to Moorfields Ophthalmic Hospital, House Surgeon to St. Mark's Hospital, City Road, House Surgeon to Bath Royal United Hospitals, and Surgeon to the Orthopædic Hospital, Great Portland Street. He suffered greatly from gout, and this prevented him from pursuing his profession regularly. After two voyages to Australia he found that his health was better in the drier Australian continent, and resolved to settle down in private practice in Melbourne. Whilst in London he was well known in medical, literary, and musical circles, and we are sure that his many friends amongst old Bart's men will hear of his death with regret.

Births.

ROBERTS.—Nov. 14, at Silverleigh, Tonbridge, the wife of Henry Roberts, M.D.Br. M.R.C.S., L.R.C.P.Lond., of a son.
DAVIDSON.—Nov. 25, at the White House, Teddington, the wife of Harold Davidson, M.R.C.S., L.R.C.P., of a son.
ECCLES.—Dec. 3, at Brighton, the wife of G. Tolcher Eccles, M.A., M.B.Cantab., of a son.
PARKER.—Dec. 2, at Swindon, Wilts., the wife of George Dimes Parker, M.B., of a son.

Marriages.

ORMEROD—JAGUES.—Nov. 20, at the parish church, Croydon, by the Rev. G. M. J. Hall, vicar of Fishill, Oxon., uncle of the bride, assisted by the Rev. W. F. H. Randolph, vicar of St. Andrew's, Croydon, Charles Evelyn Ormerod, M.D., M.R.C.S., L.R.C.P., elder son of the late Rev. C. H. A. Ormerod, of Croydon, to Rosalind Mary, second daughter of John Jagues, of Duppus-hill, Croydon.
FRANCIS—KAVANAGH.—On Nov. 15, at Dacca, Ernest E. Francis, M.R.C.S., L.S.A., Surgeon Assam Bengal Railway, to Amy, youngest daughter of the late T. H. Kavanagh, V.C., of Lucknow.
ROGERS—TILLSTONE—McCALL.—Nov. 30, at Kelvinside, by the Rev. J. Frazier Graham, John M. Rogers-Tillstone, M.R.C.S., L.R.C.P. Lond., of Ditton, near Maidstone, to Rosie, youngest daughter of the late Captain Alex. McCall, Chief Constable of Glasgow.

Death.

ROECKEL.—On Sept. 10, 1894, at Melbourne, Australia, suddenly, Waldemar Joseph Roeckel, M.B., B.S.Lond., aged 43.

ACKNOWLEDGMENTS.—*City's Hospital Gazette* St. Thomas's Hospital Gazette. *The Student* (Edinburgh). *St. George's Hospital Gazette*. *Choice of Microscope*, by A. A. Kanthack, M.D. *Case of Encysted Stone in Bladder*, by Wm. Royden, M.R.C.S., L.R.C.P. *Paper on the "M.D.Brux."*

St. Bartholomew's Hospital



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NOTICE.

All Communications, Articles, Letters, Notices, or Books for review, should be forwarded, accompanied by the name of the sender, to the Editor, ST. BARTHOLOMEW'S HOSPITAL JOURNAL, St. Bartholomew's Hospital, Smithfield, E.C., BEFORE THE 1ST OF EVERY MONTH.

The Annual Subscription to the Journal is 5s., including postage. Subscriptions should be sent to the MANAGER, MR. W. E. SARGANT, at the Hospital.

All financial communications, relative to Advertisements ONLY, should be addressed to J. H. BOOTY, 29, Wood Lane, Uxbridge Road, W.

St. Bartholomew's Hospital Journal,
JANUARY 14th, 1895.

"Æquam memento rebus in arduis
Solvare mentem." Horace, Book ii, Ode iii.

Introductory Remarks on beginning the Course
of Lectures on the Principles and Practice
of Physic. 1890-91.

By Sir DYCE DUCKWORTH, M.D., LL.D.

GENTLEMEN,—I have the honour to begin this course of lectures this session. It has long been my ambition to hold the Chair of Medicine in this great School. Now that the time has come, and I succeed to my eminent senior colleague, Dr. Andrew, in this course, I may tell you my feelings in respect of my assumption of the duties of it.

When I reflect on the changes which have so rapidly followed one another in the whole field of medicine, even since the days—now some thirty years ago—when I was a student, I naturally feel rather overwhelmed by the vastness of the subjects, and their complexity, compared with their condition at the time I refer to. I could hardly place before myself a higher standard of teaching than that I listened to in my time, when men like Burrows and Kirkes held forth in this place, when Addison and Gull taught medicine at Guy's, Jenner at University College, Laycock and Begbie in Edinburgh, and Stokes in Dublin. But, in truth, were that now the standard, splendid as it was, it would be deemed inadequate. Could these men be here to-day, they would be the first to acknowledge the fact.

The whole subject of medical education is now a very burning question. I am naturally, as a member of the General Medical Council, much engaged in discussing it.

In particular, the value and necessity of systematic lectures is now much called in question, and for several reasons. First, it is averred that the modern student of medicine is, on the whole, a superior person to the average of his predecessors; that he is more highly educated, and can therefore read and think for himself. Secondly, he is now provided with excellent text-books. Thirdly, it is thought that he can better employ his time in clinical study and reading than in listening to lectures which may be dry and tedious, and perchance unprofitable.

I will accept more or less fully all these statements. But mature consideration leads me to believe that the average student still requires the guidance of preceptors, and especially requires the inspiration of teachers who know their subjects. Medicine cannot be learned entirely in the study, in the wards, or in museums. It is essentially a practical art, but a good artist is something more than the *habitué* of a studio. He has to acquire the principles of his art, and to be guided in his efforts by the master. The self-made artist is commonly rather a narrow man, and he comes to discover this regretfully as he gets on in life, when it is too late to gain width of conception and fertility of power.

You need your text-books, you need the wards, the deadhouse, and your study; but you also need the personal influence of teachers in all these places. And amongst the great developments of modern teaching in the schools provision is made for this personal directing influence.

Gentlemen, it is no light office that, in a great school like this, you as your teachers hold. We feel our great responsibilities to you, to this place, to the great Profession outside, and, no less, the stimulus to try and be worthy of the great lights that have preceded me on this classical ground. And here and now I would only refer to the man I succeed to-day, my eminent colleague Dr. Andrew, whose learning, skill, and greatness as a physician and a scholar are only equalled by his modesty and sweetness of character. I know, if you do not, what you miss in losing the benefits of his teaching here; and one thing alone consoles me in humbly trying to follow in his steps, and it is this—the remembrance that I was privileged to be his pathologist and physician here, and so to imbibe from him something of his earnestness, thoroughness, and love of truth. I gladly tell now of all I owe to him, and would fain take up his torch, fan its flame, and try to carry it well aloft for your guidance.

If we must keep pace with the times, then, we are not to make systematic lectures numerous, tedious, or irksome.

Much of the matter formerly imparted into this course related to purely pathological details. This is now taught apart, and so far lectures on medicine are no longer much encumbered with these details.

The whole subject, however, is still too large to be treated in one winter session, nor is it necessary, indeed, to touch every part of it. You will learn here, amongst other things, what subjects we deem of the highest importance for you to know. In this school you have the great advantage of tutorial instruction, and in the hands of my colleague, Dr. West, many points of detail, though of deep importance, will be fully laid before you. A tutorial course is now a necessary supplement to any systematic course, and the Medical Council recognises and recommends this method of instruction.

You will find that systematic lectures differ much—or they should do so—from clinical lectures, relating to principles and general methods

of practice. The teaching in both should agree, for you will hardly have patience with your teacher if he inculcates one method in his prelections and practises another in the wards.

In systematic lectures it is impossible to spare time on details. A large sketch must be drawn for you, and this must be filled in subsequently by clinical study and experience. It is here that you will learn to be schoolmen and theorists. In the wards and in our clinical lectures we shall seek to convert you into artists and practitioners.

Next I will say that in all I purpose to carry out in this theatre I shall seek to be clear, intelligible, and not dull. I could wish it fell to my lot to meet you early in the day, with your best and brightest intelligence to give me. I know that it is hard on a dark winter afternoon, after many hours of work, to give keen attention to a new subject—and I know, too, how very human human nature is, and I sympathise with it; but I appeal to your better nature, and I count on the diligence and earnestness—which are everywhere notorious—of all the *alumni* of St. Bartholomew's to make our meetings here both pleasant and fruitful.

In the discussion of the parts of the course which fall to me to treat I propose to make no material change. I am not a radical, and so shall not pull up the plantings of my great predecessors by the roots. But I shall hope to bring before you all the latest and approved teachings I can gather. I am not a novelty-monger, as many of you know, and I have a somewhat unfashionable veneration for the past.

I try to conserve what is worth keeping, and to accept what I believe to be solid advances which are trustworthy and dependable.

Were I to introduce any alteration, it would probably relate generally to the very large and important subjects of disease as met with first in its acute, and secondly in its chronic forms.

Disease is disturbance, an interference with the natural course of bodily function. Our bodies are constantly subject to such interruptions, but, happily, possess very often the power not only to suffer them, but to survive them and return to their natural rhythmic functions. The number of diseases or ailments is very large, and the physician's duty is to trace the origin, cause, and locality of each one of them.

In dealing with acute diseases you take the patient's life in your hands, and have but a short time to act for good or for evil. There may be little for you to do sometimes, but even then you must learn the art of holding your hand. There may be something very urgent and imperative for you to do, and you must know exactly how and when to do it.

In dealing with chronic diseases, which will constitute for you in after life the greater part of your work, the element of time is either for or against the patient. Your conduct of such cases is often less concerned with treatment, strictly so called, than with what I would term management, and relates much to very simple matters of diet and habits—very simple indeed, but only to be enjoined by those whose knowledge of morbid processes is founded on sound anatomical and physiological knowledge. I need only illustrate what I mean by contrasting your conduct of an acute disease like tonsillitis and your management of a case of chronic diabetes.

I lay stress on the importance of your gaining, while *in statu pupillari*, a sound knowledge of the principles of medicine. If you fail in grasping this now, you expose yourselves to the blasts of various doctrines which are always active and in force in the world, and you may thus, without conscious violence to your moral sense, become the victim of a miserable scepticism on the one hand, or entangle yourselves as believers in some system, some one system of medicine, which is founded on quackeries and fostered by more credulity or pig headedness on the other.

You may safely regard all so-called "systems" of medicine as false and wrong. It may be strange, but it is no less true, that in this last decade of the great nineteenth century we know for certain of no one single method and no universal system for treating disease. This may sound very unpromising, and may almost scare you from the pursuit of physics as a study. It has scared many, and in its difficulties and abstruseness medicine has less attractions certainly for many minds as compared with what appear to be the certainties and exactness of a study of surgery.

The clinics in every hospital school testify to this; the surgeons always having larger followings than the physicians in their daily rounds. It is a much more tedious proceeding to stand by a bedstide and track the hidden processes of disease from organ to organ, and estimate their effects, than it is to see an artery cut down upon or an abscess opened. But remember that in after life, for most of you, you will be far oftener engaged in gauging the effects of chronic disease within the body than in performing even minor details of surgical handicraft. You cannot as students venture to prosecute any line of practice exclusively; and every good surgeon will tell you that if

you would be a good surgeon yourself you must know medicine. Hence I sometimes tease my surgical friends by saying that surgery is a very important branch of medicine, and, parenthetically, I would add here that one tendency of modern times has been to bring the physician and surgeon into much closer relation than formerly existed. Lives are now saved which ten years ago even would have been lost, by early surgical interference, and it is the duty of the physician of to-day to determine promptly and accurately when the limits of his art are reached, and operative measures are indicated. The vast improvements in surgery have had their lessons for the physician, and he has been quick to avail himself of them. I need only allude to the triumph of modern surgery in respect of the abdomen, the cranial cavity, and the spinal canal, and in this connection recall what I was taught a quarter of a century back in the following terse sentence—"All abdominal surgery is abominable surgery."^{*} *Tempora mutantur* indeed.

Physicians are often taunted with following fashions in their practice, and quite justly so, as I think. I am ready to condemn every one of them, and I will follow none. There can, and there must be, no fashion in physic. All methods have been and will be absurd. For me, there is no fashion in respect of the use of any method that will do good, ease suffering, and promote a patient's welfare. And so I bleed, I use calomel, I use much, little, or no alcohol, I give simples, I use the most powerful drugs, I use any means; I simply exert the art of the physician, an art founded on many sciences, founded largely, too, on a knowledge of humanity, founded on that growing experience which can only come soundly to any man by constant contact with disease, and by honest observations carried on with an open and docile mind.

That alone, gentlemen, is the temper in which to study physic. And all this knowledge you have, each one of you, to make your own.

No one, not I certainly, can impart it to you. We can only teach you principles and methods.† Study these, copy your instructors, try for yourself. No books will make you physicians.

"What is the best book for a young physician to read to gain a knowledge of his profession?" asked one of the great Edinburgh physician and his genius, John Brown. "Book 2" said he, "let him read Don Quixote."

That was no paradoxical reply, but one charged with a great moral. "Doctrines and maxims, good or bad, flow abroad from a public teacher as from a fountain, and his faulty lessons may become the indirect source of unspeakable mischief and suffering to hundreds of men who never even heard his name." "Those thoughts," said Sir Thomas Watson, on an occasion similar to this, "fill my mind with an almost painful sense of the obligation imposed on me by my present office of closely sifting the facts and meditating carefully the precepts which I offer for your instruction and guidance."

It is often asserted of the men we turn out from the schools now-a-days that they are sufficiently learned in the theory of their work, but are very unpractical. This is not quite a true or fair allegation. I have replied to it in the Medical Council by affirming that it is not to be expected that in four years we can turn out skilful practitioners, fully equipped and fit as some men of ten or twenty years' experience; but we do claim to train you here to educate yourselves soundly by bringing into practice the principles and methods we impart to you, and no more can reasonably be looked for. I am prepared to say that the amount of work now accomplished by the average student of medicine in four years' time is highly creditable to him, is far more than those of my standing contrived to do in the same time, and that therefore a fifth year of study, mainly practical and clinical in all branches, is imperatively called for. And your successors will have this fifth year allotted to them. The increasing demands of medical knowledge call for this. You and the public will both be the gainers in consequence. If the exigencies of modern study render this plan necessary, it may be that we may see our ranks somewhat thinned. If any less worthy aspirants are thus held back, I have no fears for the best interests of our profession.

Gentlemen, I have extended my preliminary remarks beyond the limits I originally purposed. I must not occupy more of your time, but proceed now for the remainder of the hour to direct your attention to the first subject in my course—the functional disorders of the heart.

^{*} Professor Miller, of Edinburgh.

† "Science ascertains principles, Art applies them."

DR. CHURCH, our Senior Physician, has been appointed to deliver the Harveian Oration to the Royal College of Physicians next year.

Some Cases of Paraplegia.

CLINICAL LECTURE BY DR. GEE, NOVEMBER 30TH, 1894.

Reported by L. C. THORNE THORNE, M.B.



CASE 1.—A man *æt.* 24. Had scarlet fever May last, got up towards the end of last June, and then found he was very weak in the legs; he also had some tanning attacks. He went to bed again for a week, but on getting up found he was still weak on the legs; this weakness continued to increase until he was admitted into the hospital on August 6th, 1894.

Condition on admission.—The muscles of the legs were flabby, and the patient says they were wasted; the movements were, the knee-jerk natural. All the muscles of the arms and legs react to galvanism and faradism to a slightly stronger current than natural. The muscles are therefore atrophied, but not degenerated. There is some anaesthesia and analgesia of legs. There is nothing distinctive about the gait, and patient is slightly weaker on one leg than on the other. He left the hospital in a few days at his own desire. Two and a half months after, *i.e.* nearly four months from the beginning, he came in again, October 23rd, 1894, having in the meantime been partly in London and partly at the sea-side. His condition was not improved. He walks with his legs apart, dragging them after him. The electrical reactions, reflexes, and sensation are unaltered. Whilst in the hospital he had massage, franklinism, electric baths locally, and strychnia internally. This as a case of simple paraplegia is not a disease of the spinal cord, otherwise we should find other hospital in a few weeks perfectly well.

CASE 2.—A woman *æt.* 31 was admitted to Hope on November 6th, 1894, with weakness in the legs and excessive reflexes, and pain in the back (a common symptom); this pain is one of muscular debility—a myalgic pain.

Her present condition.—Seven years ago, after a confinement, she kept her bed for some months with "fever." She got up occasionally, and was able to walk a little for a week or so, but except for these breaks she could not walk for eleven months; she was then taken ill for three years, when she got influenza, after which she kept her bed for seven months, being unable to walk from weakness and quivering of the limbs and some anaesthesia. She was then fairly well until five months ago, when she had pain in the belly and chest, and passed blood in her water;—this pain being due to a displaced kidney, to which we need not refer again. For the last two months she has only been able to walk with the aid of a stick.

Here is a patient, then, who has been weak on the legs for seven years, keeping her bed with varying intervals of being able to get up and about a little. As to the legs there is no apparent loss of sensation either to touch or pain, the movements are weakened. There is no wasting. She cannot stand alone, and has to be supported in walking. Her patellar tendon reflexes are excessive, and ankle-clonus is present. The muscles are more excitable to faradism than natural, a symptom of no value. After some weeks in hospital the patient walks by herself. Such cases often begin gradually by weakness after walking a little distance, and pain in the back (myalgia) often occurs. There is no good name for this condition, its nature not being properly known. *Hypertonic palsy* has been suggested among others, and is perhaps the best, "hypertonic" referring to the excessive tendon reflex. One might think it was lateral sclerosis, but there is no rigidity, although it has lasted seven years. There is probably no organic disease at all.

Prognosis is not good. It often lasts a long time, and relapses are apt to occur. It does not lead to anything more serious.

Treatment.—Avoid fatigue; rest, good food, and sunlight.

CASE 3.—Admitted into Luke, October 28th, 1894. One in which there is serious organic disease. A man *æt.* 40 had a chancre on his penis thirty years ago; no other signs of syphilis. In June, 1894, he had pain in the left hip and shooting pains down the calves; he was treated for sciatica, but has since then gradually got weaker on his legs.

The eyes react to light and accommodation. The legs are wasted, and the movements whilst in bed good; the gait is distinctly that of ataxia. Sensation in the legs is apparently normal, but there is partial anaesthesia of a zone round the body, the region affected being supplied by the tenth and eleventh dorsal nerves. The electrical reactions are normal. Micturition is usually slow to begin.

This might be taken for a case of locomotor ataxia, but the knee-jerks are exaggerated, and ankle-clonus is present. The patient, therefore, has had lightning pains in the legs, but no ocular symptoms, and the reflexes are not abolished, as one would expect in locomotor

ataxia. One might think it was a case of spastic paraplegia, but there is only very slight rigidity. It is, in fact, a case of spastic ataxia; anatomically a combined postero-lateral sclerosis of the spinal cord.

The prognosis is bad, there being no probability of recovery. CASE 4.—Admitted into Hope Ward, November 5th, 1894. She was quite well until two months ago, when she began to feel languid. One month ago she had continuous pain in the neck (vertebrae), and later on the back; three weeks ago the pain left the neck and back, and began in the legs. The legs could be moved about all right in bed, but she could not stand without support.

The diagnosis lies between multiple sclerosis and hysteria, or a combination of the two. It is best at first to assume that the patient suffers from the more serious disease, and I am disposed to think that it more often happens that the early stages of multiple sclerosis are wrongly supposed to be hysteria, than that hysteria is mistaken for multiple sclerosis. The course of events usually enables us to clear up the diagnosis before long.

Symptoms.—All the muscular movements are weak; the walk is weak. There are tremors (tremors) of the hands and head, and tremulousness of tongue of two kinds—tremulousness as a whole and fibrillary or partial tremulousness. The patellar tendon reflex is excessive, and ankle-clonus is present, common both in multiple sclerosis and hysteria. There is extreme wasting of her muscles, but the electrical reactions are normal. The chief symptoms, therefore, are muscular weakness, tremors, and excessive reflexes.

Probably a case of multiple sclerosis, inasmuch as the patient is a woman and an adult of about middle age. There is, however, no nystagmus, which should be present, nor is the speech scanning, but natural; neither does the patient walk as a multiple sclerosis, the gait being merely weak and timid. There is no direct evidence of hysteria, no affection of sensibility, and against hysteria are the tremors of the tongue, a symptom sometimes seen in bulbar paralysis.* CASE 5.—That of a man *æt.* 36, admitted into Luke Ward, November 13th, 1894.

On October 10th his wife died, after which he was despondent, and sat in a cold room for some days, drinking a great deal of beer, and eating little. He has been a great beer-drinker, and has occasionally taken spirits. Three weeks ago he began to have crampy feeling in the calves and weakness of the legs on walking; the weakness of the legs increased and soon began in his arms also.

Legs.—No apparent wasting, gait weak, no tremors. Tendon reflexes are absent in both legs. No ankle-clonus. Three important symptoms, *i.e.* incomplete paralysis of both legs, loss of patellar tendon reflex, some muscles, *i.e.* extensors of toes, tibialis anticus, and peronei, act very feebly to very strong faradic current. There is, therefore, either disease of the nerves or of the origin of the nerves. Disease of the anterior horn of the grey matter in the cord is hardly likely in a patient of that age, and not likely to come on in the way the above illness did, therefore it is probably a neuritis. The patient also had a very rapid pulse for some days after admission; 140 per minute on the day after admission. The man has, as before mentioned, been drinking very hard lately, therefore doubtless an alcoholic neuritis.† Contrast the above case with the following.

CASE 6.—In which is disease of the anterior horn of the grey matter on one side (the affected side). A man *æt.* 25 admitted into Luke Ward on September 24th, 1894.

On August 7th, 1894, the patient suddenly lost the use of his left leg.

On admission, there was complete paralysis of the left leg, except the sartorius muscle, loss of patellar tendon reflex, loss of faradic excitability, and diminished galvanic excitability, with polar changes in some of the left leg muscles. Taking the nerves, neuritis is seldom other than symmetrical. There might be pressure on the nerves, but the sartorius has escaped.

This is a case of acute anterior poliomyelitis, uncommon in adults, and when occurring in children known as infantile paralysis. He left the hospital unimproved.

* Since the above lecture the patient's symptoms have so improved that the case seems to be more probably one of hysteria.

† He recovered the use of his legs after two months' treatment.

The first operation in the New Theatre was done by Mr. Lockwood (who operated on a case of double inguinal hernia for radical cure) on December 11th, 1894. We intend to print an account of the New Theatre in our next issue.

Notes on Aseptic Surgery.

By C. B. LOCKWOOD, F.R.C.S.,
Assistant Surgeon to the Hospital.

(Continued from page 36.)



WHEN cultures are inoculated with the fluids from the peritoneal sac in cases of perforative peritonitis the *Bacillus coli-communis*, or, as it is often called, the *Bacterium coli-commune*, nearly always grows. I have found it in cultures inoculated from perforation of the stomach, duodenum, and small intestine. Great attention is now given to this microbe because it has been found in the fluid in the sacs of strangulated hernie, in the pneumonia which often complicates intestinal obstruction, in dysenteric abscesses of the liver, in abscess of the gall-bladder, in prostatic abscess, and in excessive numbers in the diarrhoea of infants. Tavel has found it in wounds. Obviously it is of great importance to surgeons.

The shape of the *Bacillus coli-communis* is rather variable. As a rule the bacteria are short rods with rounded ends, about 0.5 μ broad and 2 μ long. Sometimes coccus forms are met with. Perhaps this diversity of form indicates the existence of more than one species. Tavel and Lanz,* who have lately written an admirable monograph on peritonitis, think that the *Bacterium coli commune* is like that which was formerly called *Bacterium termo*, and therefore includes several species.

The *Bacterium coli-commune* grows in pairs or in short strings. Spores have not been found. It stains well with aniline dyes, and is decolourised by Gram's iodine solution. It is indifferent, and grows either in the presence or absence of free oxygen. It does not liquefy gelatine. The growth upon the surface of media is in circular colonies, which are heaped up in the centre but thin and transparent at the edge, which is irregular. The central thick part of the colony is a yellowish white, which becomes almost brown as the culture grows older. The colonies in the depth have similar characters, but are smaller and spherical. It is important to note that bubbles of gas are formed in the gelatine. Variations in growth are common, so that a work like Sternberg's† ought to be consulted. The *Bacillus coli-communis* grows rapidly in all kinds of media, such as broth, gelatine, agar-agar, milk, and urine. In the last it soon causes decomposition of the urea, with the production of ammonia. It has probably often been described as the *Bacillus urea*. It coagulates milk in a day or two, and this effect is useful for diagnostic purposes. As I have already said, under certain circumstances the *Bacillus coli-communis* produces gas. This fact is of importance in relation to some kind of peritonitis and emphysema of the tissues. Indol is produced when the *Bacterium coli-commune* is grown in media.

Its presence is easily ascertained in broth by the usual nitric acid test.

Under some circumstances the *Bacillus coli-communis* is not very pathogenic. For instance, in perforative peritonitis the peritoneal effusion and lymph may contain countless numbers. Nevertheless the patient seems to be dying from acute intestinal obstruction and distension, and not from bacterial poisoning. This year two cases of this kind have recovered after I had done laparotomy, and relieved the distension by puncturing and incising the intestines, and washed out the peritoneum. Of course the washing out removes but a part of the bacilli. Those which remain are probably dealt with by the peritoneal cells. When large doses of cultures of *Bacillus coli-communis* are injected into the cellular tissues of guinea-pigs or rabbits suppuration ensues. These animals may be killed with very large subcutaneous doses. They suffer from a high temperature and diarrhoea, due to enteritis. The same occurs if the bacillus is injected into the blood-stream. Injected in large doses into the peritoneum or serous cavities, the *Bacillus coli-communis* causes a fibrino-purulent inflammation. In thirty-one cases of peritonitis investigated by Fraenkel* *Bacillus coli-communis* was found in nine, *Streptococcus pyogenes* in seven, *Bacillus lactis-aerogenes* (a close relation of *Bacillus coli-communis*) in two, and *Staphylococcus aureus* in one. In the eleven others were various kinds of bacilli, some of which have not been described.

The most contradictory statements are made about the pathogenic properties of the *Bacillus coli-communis*. Working with fresh cultures from cases of peritonitis, I have found it to be exceedingly pathogenic for some animals. Doubtless much depends upon its source and the dose which is used. Dr. Klein has identified the *Bacillus coli-communis* with a bacillus which causes inflammatory oedema with emphysema of the tissues. Quite recently the *Bacillus coli-communis* has been found by Eisenhart in a fatal case of mepheral infection. If this be confirmed its importance is obvious.

After death the *Bacillus coli-communis* soon emigrates from the intestines, and appears in the various closed cavities, organs, and fluids of the body. A source of fallacy is thus introduced into the study of human tissues. There are probably many other kinds of cadaveric bacilli, but although of great importance to investigators, singularly little seems to be known about them.

The conditions under which the *Bacillus coli-communis* passes through the intestinal wall are beginning to be understood. It seems quite certain that it passes through gut which has gangrened. Further, that injuries far short of gangrene may permit its escape, as in acutely strangulated hernie in which the bowel is deeply engorged but viable.

* Ueber die Aetiology der Peritonitis, Basel, 1892, p. 167.
† Sternberg, New York, 1892. This is one of the clearest and most useful of the larger and more expensive works on bacteriology.

* Ueber peritoneale Injection, Alexander Fraenkel, Wiener klinische Wochenschrift, 1891, p. 265. This is a very valuable and exhaustive essay.

This important topic has lately been investigated by Arna,* who, by ingenious experiments, found that after from four to forty-eight hours of venous stasis caused by strangulation, the rabbit's intestine permitted the passage of bacteria from the interior to the exterior. The viability of this intestine was definitely proved.

Arna also ascertained that when such bacilli as *hyocyanus*, *prodigosus*, or *Subtilis simulans*, had been given by the mouth, they passed through the walls of the constricted bowel.

These experiments are contradictory of those of Waterhouse and Ritter, but it seems reasonable to suppose that bacteria should transude the strangulated gut just as serous fluid does.

It is probable the hemorrhage into or ulceration of the walls of the intestine also permit the passage of the intestinal bacteria.

The *Bacillus coli-communis* is said to be especially virulent when the bowels have been obstructed or inflamed, also in cases of diarrhoea, typhoid, or cholera.†

The typhoid bacillus, which is very closely allied to the *Bacillus coli-communis*, is met with in abscesses which follow typhoid fever. I have recently found it in an abscess over the tibia. It was still present and alive in the body a year and three months after the original attack of typhoid.

I do not propose to say anything more about the bacteria which are found in septic wounds. Anyone who is convinced by the foregoing that the common diseases of wounds are caused by such bacteria as *Staphylococcus pyogenes-aureus*, *Streptococcus pyogenes*, *Bacillus septicus*, and so forth, must admit that bacteria ought to be excluded. This is the aim of aseptic surgery. Nor can the pathogenic bacteria be excluded apart from the non-pathogenic. As I proceed it will be seen that methods of wound treatment which admit one kind cannot exclude the others. Fortunately, the methods which exclude one exclude all, and, fortunately, those methods are simple.

But for the exclusion of bacteria from wounds we must know whereabouts they are, and how they can be killed. These will be the next topics, but before going on with them, the way to see bacteria in fluids from wounds may be shortly described.

The methods by which anyone can see bacteria in fluids from wounds, or in the pus from a cellulitis or from a pyæmic joint, or in pyæmic urine, are very simple and easy. Every dresser should practise them because the various bacteria only become entities to the mind when they have been seen and, if possible, grown.

Cover-glass preparations have been repeatedly mentioned. They are so easy to make and stain that there is no excuse * "Ueber die Durchgängigkeit der Darmwand einge klemmter Brüche für Mikroorganismen," Centralblatt für Bakteriologie, 1893, vol. xiii, p. 173.

† Treves, Lectures on Peritonitis, 1894, p. 41. This author has, with much labour, collected a good deal of the literature referring to this important microbe.

for the non-examination of fluids from joints, peritoneal cavities, cysts, discharges from wounds, urine, and so forth.

The following is the way to proceed. Thoroughly clean an extra thin cover-slip by dipping it into strong nitric sulphuric, or hydrochloric acid. If these be not at hand, spirit answers fairly well. After removing all traces of the acid, and thoroughly drying the slip, smear upon it the thinnest possible layer of the fluid. I have generally observed that too much is used. Next dry the film of fluid upon the cover-glass by gently heating it over a flame.

The heat required for drying the film is learnt by practice. If the heat is too great the bacteria shrivel up and refuse to stain. Koch* recommends that after the cover-glass preparation is quite dry it should be passed moderately quickly three times through the flame of a Bunsen's burner.

A safe and convenient plan for fixing cover-glass preparations is to hold them for about a minute over the funnel of an argand burner, the flame of which has been turned down until the heat can be comfortably borne by the hand. The idea which I keep in mind in doing this is to dry the albumen in the fluid without coagulating it; remembering also that bacteria, like other protoplasmic elements, are shrivelled up by heat.

When thin fluids like urine or broth culture fluids have been dried upon the slip, great care is required in washing away the superfluous dye. A very gentle waving to and fro in a glass of water is often all that can be done with safety. If the dye does not wash off in water, equal parts of spirit and water may be cautiously tried, with an after washing in water.

The best and most convenient stain for all ordinary purposes is Ziehl's solution of carbol-fuchsin.† It is by far the best stain to keep in stock. It retains its properties for a long time, and there are probably hardly any bacteria which it will not stain. It has the great advantage of not fading, and is an excellent colour for microphotography. The solution is made as follows:—Put 10 grammes of fuchsin crystals in a small glass mortar, and pour over them 10 cubic centimetres of absolute alcohol. Next add 90 cubic centimetres of a 5 per cent. solution of pure carbolic acid in water, and stir with a glass rod until all the dye is dissolved; pour into a stoppered bottle, and label "Solution of Carbol-fuchsin." In this preparation the alcohol helps to dissolve the fuchsin, and it is well to add a little more from time to time: the solution of carbolic acid acts as a mordant and as a preservative. This stain must be kept in a stoppered bottle, as the alcohol and carbolic acid are volatile; also it must be filtered each time it is used. To stain the cover-glass preparations, pour a few drops of the carbol-fuchsin solution upon a filter and allow it to drop upon the film. Leave it to soak for five minutes, and wash off the excess of the dye with

* "The Aetiology of Tuberculosis," translated by Stanley Boyd, New Sydenham Society, 1886, *Microparasites in Disease*, p. 77.

† Professor Kühne's small *Practical Guide to the Demonstration of Bacteria in Animal Tissues* gives many hints on staining. It has been translated by Dr. V. D. Harris.

water, or alcohol and water, until the film is sufficiently decolourised to be transparent. Then dry the film again with a gentle warmth, cover it with a drop of Canada balsam dissolved in xylol, and mount upon a glass slide and label at once. To examine the specimen properly a microscope which has an Abbé's sub-stage condenser, a $\frac{1}{2}$ in. oil immersion objective, and a good fine adjustment is required.

Professor Hamilton, in his new and admirable work on Pathology, gives some excellent common sense rules for the choice of a microscope. It is impossible to attempt modern pathology without such an instrument as that which has been mentioned.

The bacillus of tubercle and the bacillus of leprosy retain fuchsin so tenaciously that they do not give it up even in the presence of strong acids.* Should, therefore, tubercle or leprosy bacilli be suspected, advantage may be taken of this peculiarity. Washing in a 10 per cent. solution of nitric acid will decolourise all bacteria except those of tubercle or leprosy. It is to be remembered, however, that prolonged exposure to strong acids will decolourise tubercle and leprosy bacilli. Wash, therefore, for a few seconds only, and until the film becomes of a slate colour, not until all its colour has departed.

(To be continued.)

Case of Encysted Stone of the Bladder, with Rupture of the Cyst, Peritonitis, and Death.

By WILLIAM ROYDEN, M.A., M.R.C.S., L.R.C.P.

RETIRED tradesman, æt. 64, had suffered from hæmaturia on and off for nearly ten years. He had no real pain, and, to use his own expression, "if he had not seen the blood in his urine he would not have known that he suffered from any bladder trouble." The blood appeared suddenly, lasted for some days, and disappeared suddenly, and recurred perhaps four or five times in a year.

In September, 1894, I saw him for the first time and sounded him, but detected no stone. The bleeding had then been going on for a week, and finding after a few days it still persisted, and that he was steadily losing flesh and strength, he was visited by Mr. Cadge, of Norwich. At this time the urine had become offensive, it contained a fair amount of dark blood intimately mixed with the urine, but no coagula, very little albumen, no mucopurulent deposit, but small gritty particles of phosphatic matter were discovered. Mr. Cadge sounded but found no evidence of stone, only a hard smooth bladder, slight enlargement of the prostate, but not enough to impede the use of instruments. The bladder was washed out with warm water. In three or four weeks after this he was seized with sharp pain, and voided a small piece of phosphatic concretion. The pain

* Fuchsin is a basic aniline dye, and combines with an acid after the manner of other bases.

subsided, but recurred in a short time, and again he passed some phosphatic grit and was relieved.

His general health gradually improved, he left his bed, and was able to walk out, and his urine became clear and healthy with only now and then a little blood.

In October, however, pain at the end of the penis and vesical tenasmus came on and persisted for several weeks. Then came on the fatal seizure. I was suddenly called, and found him in a state of collapse, unable to pass any water, with distended abdomen, and all the signs of peritonitis. I passed a soft catheter and drew off only a little very offensive urine, and tried to wash out the bladder with a few ounces of boracic water, but none returned.

His collapse increased, and he died in a few hours.

The necropsy shows that there was acute peritonitis, the bowels were glued together by recent lymph, and there was a quantity of offensive fluid—apparently urine and serum mixed—free in the abdominal cavity; the bladder flaccid and empty; the muscular walls were of average thickness; the mucous membrane was rather dark in colour.

The examination was made under difficulty, and I was not allowed to remove the parts. With the finger, however, the interior of the bladder at first felt smooth and empty, but presently I detected at the lower fundus a small sac with a communication which admitted the tip of the finger unwillingly. In this sac were a quantity of concretions, the largest of which was about the size of a marble; this was composed of white phosphates, loosely compacted into a stone, and had no uric acid nucleus. The sac was apparently composed of mucous and peritoneal coats only, and at its bottom was a round hole through which the urine had escaped to set up the fatal peritonitis.

Remarks.—The occurrence of encysted stone would not by itself call for special notice, but I have never seen or heard of spontaneous rupture of a portion of the containing sac. Mr. Cadge tells me that he has repeatedly observed fatal peritonitis, the starting-point of which was the thin walls of a sac which contained fetid urine, urine which was probably not regularly changed, and which eventually produced inflammation and even sloughing of the mucous and serous walls of the sac; but he has never seen actual perforation with the escape of urine into the peritoneal cavity.

Biology as a Mental Training for Medical Students.

PROVE the use that a biological training should be to a student of medicine is by no means so easy a task as that of pointing out the practical utility of anatomy and physiology. For while the latter furnish many practical facts which are of use every day in the wards, the former can only claim to bestow indirect advantages on a medical practitioner. But these advantages are none the less real or great because they are difficult of

demonstration, and it would be well if every man who is now compelled to learn biology could realise what a powerful influence might be brought to bear on his future success by its careful study.

In the first place let me clearly state that biology is not intended primarily to teach medical science or *facts* connected directly therewith. For instance, it is not intended merely to teach men to recognise the characters of a tape-worm or a flea in the out-patient room, or to know which end of its body a leech bites with. Its objects are far deeper and subtler than this, and so I have ventured to express them in the title of this article as "the Mental Training of Medical Students."

So my subject naturally divides itself into two propositions—First, that medical students require an education beyond that provided by either their school career or by the study of medical subjects; and second, that biology goes some way towards providing this education.

In dealing with the former proposition it is necessary to say something as to the object of a professional education. I will only deal with one point. A profession is distinguished from a trade by this among many other features, that its practice deals with ever-varying factors, and this is true of no profession so much as that of medicine. No two cases of disease are alike, no two patients are alike in either circumstances, disposition, or mode of life; so that as no one method or rule can guide us it is necessary that we should be the masters, and not the servants of our methods, and be able to vary, combine, and direct them at our will, and not merely be the puppets of an empirical system. In short, to do good medical work it is surely the first object to produce a good workman, and the second to provide him with good tools. But it may be asked, Is not this object attained by general school education? and if not, does not the mere acquisition of medical knowledge of itself provide sufficient mental training? To this I would answer that if a man is already educated any fresh process of education is a pure pleasure, which provides rather than absorbs mental energy; and if he is not educated the sooner he is the better, for then he will be fit to acquire the facts which he is going to use, and will know how to use them. The intellectual habit of thought is in this respect like the physical art of swimming; once acquired, its exercise is a keen pleasure; but if its acquirement be shirked till circumstances sternly demand its application, the pitiable floundering of the uninitiated are only less sad than his pathetic end.

And, again, school education—even the best—is too general, while the study of medical subjects—even of physiology—is too specialised and detailed to produce a scientific mind; so that most men require some kindly intermediate influence to lead them from lines of general thought about men, matter, and force to the specialised study of one microcosm—man.

And biology claims to be just this influence, an influence

which focuses all the methods of mathematics, classics, and political economy upon the problem of animal life, its mechanism and disorders. A man may have grasped the exactness of Euclid's logic, but may fail to apply it in so heterogeneous a subject as medicine; or he may be a master of the rules and rhythm of language, and deplore that his profession has neither: but biology supplies the connecting link when it shows him that the human organism is but a part of a vast scheme whose fundamental principles are exactness on the one hand, and rhythmic change and variation on the other. What partial, one-sided, arbitrary knowledge of gravity would a man have who confined his study to the terrestrial manifestations of that force, ignoring the fact that it is the governing principle of the vast solar system of which our earth is but a small part.

And not only is biology an introduction to medicine, because man is the culmination of that "bios" of which it treats, but because the methods of medicine are becoming more and more biological with every stride that science makes. Two instances of this will suffice. The first is bacteriology, with its fascinating exposition of the struggle for existence between the simplest and yet the most wonderful of living organisms—the leucocytes and bacteria—a struggle upon whose issue the human life is often at stake. The second is the law of the morphological differentiation of a simple type under physiological selection, to form all kinds of varying structures with specialised functions. How simple and how beautiful is the development of the typical Arthropod appendages (as seen in the cray-fish), with its simple protopodite, endopodite, and exopodite into organs which serve as sense organs, swimming organs, masticatory organs, and predatory organs, and even as genital organs! And yet by such a simple phenomenon is a willing student introduced to the complex theory of *omnis cellula e cellula*, and enabled to understand the relations of the highly differentiated nerve cell or muscle-cell to the simple leucocyte.

But at this point I feel it necessary to address myself to the objections of the reader of this article, whom I can almost hear saying, "All this is high-flown; and none of us who work in the biological laboratory ever think of such far-fetched similes, and none of us who have not so worked are a bit the losers for our ignorance." I would reply that true knowledge and education are like plants of slow growth, whose fruit is generally not gathered for a long time after they are planted. If you will only be content to learn biology for its own sake earnestly, patiently, lovingly, you will be richly rewarded by-and-by, and the phantom of the examination which haunts, and too often demoralises you, will be so easily passed that your only wish will be that it had been harder and its scope larger, so that your studies might have extended themselves further afield. The fact that the study of biology is an irksome task, and its facts an uninteresting jumble to you, is the strongest proof that you

need its influence, and that you are not yielding to that influence in the proper spirit. The men who have been accustomed to learn propositions of Euclid by heart, to get others to do their mathematical exercises for them, to translate classics by cribs, are the very men who bitterly complain that biology is "no good," and that their valuable time is wasted (!) in learning long names about insignificant animals. Well is it for such a man if he humbly learns the lesson and begins to take a pleasure in knowledge for its own sake. But, alas! how often do men blindly shut their eyes to the gift that biology would give them, and "cram" for their examination, and so flounder on to the end of their life, ever refusing to associate "work" with "pleasure"!

Lastly, as to the methods of biology, I can summarise in two words: "Be thorough." Make it a rule in this, as in anatomy and physiology, to learn the maximum that circumstances will permit, and not the minimum that the examiners will allow. In conclusion, three "methods" may be specified, which are especially valuable as a "mental education" to medical students.

1. *Learn facts from personal observation.*—This is in biology far easier than in physiology, and far more interesting than in anatomy. Try to so patiently observe and dissect, that you can see everything you learn about for yourself. Above all, associate facts with objects, and not with names. For example, dissect out, mount, magnify, and draw the excretory tubes of an earthworm before you allow yourself to use such terms as "nephrostomata," &c.

2. *Cultivate the habit of exact comparison.*—This becomes an instinct when practised regularly as a habit. If a frog be carefully dissected and observed, when you begin a dog-fish every structure that the scalpel reveals will be contrasted with the former type, and so many and varied facts will be naturally related to one another.

3. *Learn to describe accurately and succinctly all that you see.*—For this purpose the most important process is that of drawing carefully everything you learn; and as with your pencil you build up some structure, put the process mentally into words. Then when you find yourself in the examiner's chair a mental picture of everything you are asked about will present itself to the retina of your brain, and your answer will be both accurate and fluent.—E. W. G.

Obiter Dicta.

How little in abdominal inflammation does the temperature help us to judge whether suppuration has begun! It is not uncommon for the temperature to be even subnormal while there is pus, either free in the peritoneum or localised in an abscess. I imagine that this depends not so much upon the exhausted state of the patient, for he is not by any means always exhausted, as upon the development of some poison from the pus which tends to lower temperature.—DR. GEE.

Cases of Interest.

Swelling of radius, Henry Ward, Bed No. 1.
Tertiary ulceration of palate, Harley Ward, Bed No. 19.
Tumour of base of tongue, Sitwell Ward, Bed No. 9.

Notes.

WE regret to hear that Surgeon-Lieutenant B. G. Seton, I.M.S., Bengal Establishment, who is in charge of No. 16 Native Field Hospital Waziristan Delimitation Escort, was slightly wounded in an attack on the enemy's towers in the village of Karam, near Kaniguram, on December 22nd, 1894.

WE have been requested to draw the attention of Governors of the Royal Medical Benevolent College, Epsom, to the candidature of the son of an old Bart.'s man. Ernest Guy Robertson is nine years old, and is the son of Frederick Frier Leslie Robertson, M.R.C.S. (Eng.), M.B. (Aber.), who died in 1891, leaving a widow and four children with very small means. The case is strongly recommended for the election in May, 1895, by Sir W. D. King, J.P., Henry Rundle, F.R.C.S., E. J. Wallace, M.D., E. Elliott, M.D., and others, all of Southsea, and by Joseph Walker, M.D., of Grosvenor Street, W.

Proxies will be thankfully received by Mrs. Robertson, Crescent Lodge, Kingston Crescent, Portsmouth.

CHRISTMAS was kept in the hospital with the usual festivities. The wards were prettily decorated and various entertainments, such as Christmas-trees, bran-tubs, mariottes, and teas were arranged for the patients. Many visitors were seen going from ward to ward, and all seemed to be enjoying themselves; certainly no patient had a chance of forgetting that it was Christmas.

WE are glad to hear that at the last meeting of the Medical Committee, on the proposition of Dr. Thorne-Thorne, F. J. Waldo, M.A., M.D., Cantab. D.P.H., was appointed to the newly created office of "Tutor in Public Health to St. Bartholomew's Hospital Medical School."

Dr. Waldo has for some time assisted Dr. Thorne Thorne, unofficially, in preparing Bart.'s men for the D.P.H. by taking them with him on his outdoor sanitary rounds, over works and institutions having special hygienic interest.

Dr. Waldo is an old Bart.'s house physician; he subsequently conducted special bacteriological and chemical research in Koch's private laboratory (at the expense of the German Empire), and has also worked in the laboratories of Pasteur in Paris, and of Pettenkofer in Munich. Dr. Waldo is at the present time Medical Officer of Health to St. George's, Southwark, and to the two Temples. We congratulate the Committee on their selection for the new office.

IN THE LIST of St. Bartholomew's teachers who are taking offices in connection with the coming meeting of the British Medical Association published in last month's JOURNAL we omitted to state that Mr. Edgar Willett is Secretary to the Pathological Museum Committee, Mr. W. T. H. Spicer is Secretary to the Section of "Ophthalmology," Mr. D'Arcy Power is Vice-President of the section of "Diseases of Children," Sir Dyce Duckworth is Chairman of the Reception Committee, and Mr. Walsham is Chairman of the Soirée Committee.

DR. DRYSDALE, who has been in charge of the Bacteriological teaching during Dr. Kanthack's absence, has been appointed Casualty Physician to the Hospital, *vice* Dr. H. M. Bowman.

DR. H. H. TOOTH has been appointed an additional Examiner in Medicine for the second part of the third M.B. Cantab. This appointment is in consequence of the large and increasing number of candidates.

DR. F. DE HAVILLAND HALL, who was educated at St. Bartholomew's before he became a member of the Staff of the Westminster Hospital, has just succeeded to a full physicianship, *vice* the late Dr. Sturges.

Amalgamated Clubs.

NEW MEMBERS.

D. Jeaffreson.	E. A. C. Matthews.	J. C. M. Bailey.
A. E. Jeaffreson.	A. M. Sheppard.	T. M. Body.
C. F. Lillie.	E. J. Buttar.	J. A. Willett.
T. H. Moleworth.		

FINANCE COMMITTEE.

At a meeting of the Finance Committee held on December 17th, 1894, a report from the cricket and tennis clubs recommending (1) that on the day of opening of the new Club ground at Winchmore Hill there should be a cricket and a lawn-tennis match.

(2) That the cricket match be, if possible, between "Past" and "Present" students.

(3) That if possible there be a "Past *v.* Present" tennis match.

(4) That the date of the opening ceremony be Saturday, June 8th, 1895.

After a discussion it was resolved to refer this report to the Medical School Committee for their opinion before deciding to adopt it.

The question of the "colours" of the Amalgamated Clubs was also discussed, and ultimately was referred to a sub-committee, consisting of Mr. James, Mr. Codrington, Mr. Nimmo, Mr. Baird, and the Secretary for consideration and report.

AMALGAMATED CLUBS.

BALANCE-SHEET FOR THE YEAR 1893-4

Cr.	By Members' Subscriptions, as per subscription book	£ s. d.	Dr.	To Grants to Clubs:	£ s. d.	£ s. d.
	By Subscriptions from Hospital Staff	578 12 0		Rugby Football Club	51 16 10	
		10 10 0		Association Football Club	48 19 0	
				Racing	27 17 3	
				Athletic	34 1 4	
				Cricket	50 16 10	
				Swimming	9 5 0	
				Lawn Tennis	50 3 7	
				To Abernethian Society, 123 members at £1 10.	272 19 10	
				To Musical Society Grant from Staff due from last year	129 3 0	
				To deficit on JOURNAL Account*	20 0 0	
				To Maintenance and Reserve Fund	92 14 9	
					74 4 3	
					£589 2 0	£589 2 0

Audited and found correct according to vouchers and bank pass book.

H. J. WARDING.
A. N. WEIR.
P. O. ANDREW.

MAINTENANCE AND RESERVE FUND.

Cr.	By Balance from last year	£ s. d.	Dr.	To stamps for cheques	£ s. d.
	" Funds as per General Account	104 7 1		" subscriptions to Hare and Hounds	0 8 4
	" Abernethian Society's share of Year-book	74 4 5		" wages of clerk	3 3 0
		3 15 0		" Messrs. Adlard, for printing Year-book and cards, &c.	5 0 0
				" Secretary's petty cash	24 11 1
				" balance to next account	4 0 0
					205 14 1
					£242 16 6

Audited and found correct according to vouchers and bank pass book,

H. J. WARDING.
A. N. WEIR.
P. O. ANDREW.

* The deficit on the JOURNAL account is owing to the bankruptcy of our late publishers, who owe us £135. We hope, however, to recover the major portion of this amount.

RUGBY FOOTBALL CLUB.

ST. BARTHOLOMEW'S HOSPITAL v. BRIGHTON.

This match was played at Preston Park, Brighton, on November 24th. The game was started at 3.15 in the presence of about 2000 spectators. Play settled down in mid-field, and in the scrummages which took place our forwards showed to advantage. Marrack, Hodgkin, and Nunn were instrumental in transferring the ball to the home twenty-five, and Brighton were forced to concede a minor. From a scrumage in the centre Phillbrick got off, but was pushed into touch in our twenty-five. Bond and Dunn brought the ball back, and Andrew crossed their line, but was ordered back for a scrumage. Brighton shortly after had to touch down again. The only score in the match was now obtained by Duckworth, who after a fine run scored a try near the corner flag. The place kick failed.

Early in the second half our forwards showed signs of flagging, and were penned by their opponents, but Goodman relieved by kicking into touch at the centre, which seemed to rouse our pack, for they rushed the Brighton men into their own twenty-five, where we were awarded a penalty kick, but Bond failed at goal. Play now became of a give-and-take character, first one side and then the other gaining the advantage, but nothing further was scored, and Brighton thus won a fast and well-contested game by one try to *nil*. Doud, Bennett, and Andrew were most noticeable for the Hospital.

From the team given below it will be seen that we were without Wilson and Ridout.

The team.—H. Goodman (back); J. W. Nunn, A. E. Hodgkins, H. Bond, S. Mason (three quarter backs); G. C. Marrack, F. F. Everington (half-backs); P. O. Andrew (captain), H. M. Cruddas, W. F. Bennett, F. G. Richards, A. L. Ormerod, W. M. James, J. W. Hughes, and J. C. S. Dunn (forwards).

BART'S v. WICKHAM PARK.

Played at Lee on December 1st, in cold and foggy weather, resulting in a win for the Hospital by two tries to one penalty goal (3 points).

Andrew lost the toss and kicked off up the hill, Wickham Park being one man short for the first ten minutes. Play was chiefly confined to the forwards, who were neatly evenly matched, Wickham having a slight advantage in weight. The Hospital forwards, by means of keeping the ball loose, managed to work up to the twenty-five, and a fine bout of passing among the outsiders ended in Nunn scoring far out. The kick at goal failed, and the teams crossed over without any further score being added.

In the second half play continued very even. Several times the Hospital lines were in danger, but Bond was very safe. From a free kick awarded to the Hospital, Marrack rushed up, and dribbling past the back, scored a try behind the posts, but the kick again failed. After the drop out play was of a give-and-take character, first one and then the other side holding an advantage. The three quarters on both sides were marked very carefully, and consequently got few opportunities. Wickham Park were several times very nearly over the Hospital line, but the defence was too good. They were given a free kick in front of goal for off-side play, from which Snowden placed a goal. Nothing further was scored, and the game resulted as stated above.

Team.—H. Bond (back); J. W. Nunn, C. S. Ridout, W. H. Randolph, A. E. Hodgkins (three quarters); G. C. Marrack, A. Hawkins (half); P. O. Andrew (captain), H. M. Cruddas, A. L. Ormerod, A. J. W. Wells, W. F. Bennett, F. G. Richards, J. W. Hughes, W. J. Cordington (forwards).

LEICESTER v. ST. BARTHOLOMEW'S HOSPITAL.

Woodvatt returned Andrew's opening kick for the Hospital, and play ruled mid-field. It could be seen that Bart's were going to play a much better game than was expected, for although their opponents, by means of short kicks into touch, were the first to press, the tackling of the backs; and more especially of Bond, left nothing to be desired. Stimpson, for the home contingent, was the first to distinguish himself by a run, but Hitchcock aided his side by his kicking. The best piece of play in the first half was a burst of the Hospital forwards from the centre almost up to the goal line, the ball, in short, quick passes, travelling between Andrew, Roger Wilson, Wells, Randolph, and Hodgkins. The leather was then kicked over the line, and Ormerod forced Brown to touch down. Later the crowd greatly applauded some clever passing and repassing between Hitchcock, Lewis, and Woodvatt, the latter eventually kicking down to the twenty-five, and Bond was collared before he could return. A rush by the home forwards, headed by Akers, took the ball to a corner. A miserable result ensued to a free kick awarded the "Saints," and, from a scrumage, Foreman dashed round and got a

try just by the corner flag. No goal resulted. About five minutes later Randolph, by intercepting, gave his side a chance, and, after some smart forward play, in which Wilson distinguished himself, Mason got over, but Andrew failed at goal. Until half-time Ridout and Randolph were of great service to their side, and Bennett put an end to some clever passing between Foreman, Lewis, and Hitchcock just before the whistle sounded.

Bond, in the second half, tackled time after time, and brought off one or two sensational saves, the game getting very exciting, as Leicester were pressing hard to win. The winning try for Leicester was obtained by Cook near the corner; although Bond tackled him he was lifted by a colleague over the line. Then the whistle blew. The crowd of 5000 cheered, and the Hospital men left, defeated by 2 tries to a try, but after giving the victors a splendid game. The students, and more especially the forwards, are to be congratulated on playing so good a game. They are the more to be praised as both Guy's and St. Thomas's Hospitals had been beaten, the latter easily, the week previously.

Team.—H. Bond (back); A. E. Hodgkins, C. S. Ridout, W. H. Randolph, S. Mason (three quarters); G. C. Marrack, T. Martin (half); P. O. Andrew (captain), R. P. Wilson, H. M. Cruddas, W. F. Bennett, A. J. W. Wells, A. L. Ormerod, F. G. Richards, J. C. S. Dunn (forwards).

ST. BARTHOLOMEW'S HOSPITAL v. EASTBOURNE.

This match was played at Eastbourne on December 15th, and resulted in a win for us by two tries (6 points) to *nil*.

Our team was not a representative one, Doud, Wilson (on account of the North v. South match), Hawkins, and Ridout being absent.

The play throughout was bad; the forwards played each one for himself, and never formed a decent scrum, thus spoiling any chance which their halves might have had of feeding the three quarters.

The tries were obtained by Wells and Randolph.

After the match Dr. Harding entertained us at dinner, for which we tender him our heartfelt thanks.

Team.—S. F. Smith (back); J. W. Nunn, A. E. Hodgkins, W. H. Randolph, S. Mason (three quarters); G. C. Marrack, T. Martin (half); P. O. Andrew (captain), H. M. Cruddas, W. F. Bennett, A. J. W. Wells, A. L. Ormerod, F. G. Richards, J. C. S. Dunn, W. J. Cordington (forwards).

ASSOCIATION FOOTBALL CLUB.

Not so many matches as usual were played during December owing to the Christmas vacation beginning in the middle of the month. Of the four matches played by the first eleven we won three and drew one. Beating Casuals, and making a draw with Royal Ordnance, we consider very good performances, both being very fast and exciting matches. The fixtures with Ealing and Maidenhead were scratched, the former being engaged in a cup tie on that date, and the Christmas vacation preventing our being able to raise a team against the latter.

In the London Cup we are drawn against Ilford, on our ground in the first round of the Competition proper. This will be a hard game to win, as Ilford have been doing exceedingly well this year, but we hope to manage to beat them, and get into the second round.

In the Middlesex team C. A. Robinson has been selected to play inside right, and H. J. Pickering is chosen as left half-back in the Reserves.

Our record up to the Christmas vacation is as follows:

	Played.	Won.	Lost.	Drawn.	Goals.
First Eleven	17	10	3	4	51
Reserves	17	10	5	2	50

RESULTS FOR DECEMBER.

	Goals.	For.	Agst.
Sat., Dec. 1.—Windsor and Eton at Windsor	3	2	
" 1.—Holloway Sanatorium " Virginia Water	3	5	
Wed., " 5.—Hermosa School " Ealing	5	3	
Thurs., " 6.—Royal Ordnance " Greenwich	3	3	
Sat., " 8.—Crouch End Reserves " Hornsey	3	1	
Thurs., " 13.—Casuals " Leyton	2	1	
Sat., " 15.—St. Albans " St. Albans	2	1	
" " 15.—Tonbridge " Tonbridge	0	4	

The draw for the Inter-Hospital Association Cup resulted as follows.

First Round.

A. University College Hosp. v. St. Mary's Hosp.
Byes.—Guy's, St. Thomas's, St. Bartholomew's, London, King's, Middlesex, and Charing Cross.

Second Round.

R. St. Bartholomew's Hosp. v. London Hosp.
C. Charing Cross Hosp. v. Middlesex Hosp.
D. St. Thomas's Hosp. v. King's College Hosp.
E. Winner of A. v. Guy's Hosp.

Semi-Final.
F. Winner of C v. winner of E.
G. Winner of D v. winner of B.

Final.

H. Winner of F v. winner of G.
The first named in each instance has choice of ground except in the case of the semi-final and final, which must be played at Leyton.

Saturday, Dec. 1st.—ST. BARTHOLOMEW'S HOSPITAL v. WINDSOR AND ETON.

The above fixture was played at Windsor, before a good number of spectators. In the first half Marshall scored a good goal from a long shot at right half-back, and shortly afterwards Talbot put in a good shot from the left wing, and scored a second goal for Bart's. The home team several times made some good attacks, but only scored one goal during the first half, and on crossing over Bart's were leading by two goals to one. The game became somewhat rough at times during the second half, and numerous fouls were given. Waterhouse scored a third goal for Bart's, and another goal was scored by Windsor, and when time was called we left the field victorious by three goals to two.

Team.—E. P. Court, goal; R. P. Brown, C. G. Watson, backs; J. C. Marshall, C. C. Costin, H. J. Pickering, half-backs; A. Hay, R. Waterhouse, right wing; J. F. Fernie, centre; T. H. Talbot, E. W. Woodbridge, left wing.

Thursday, Dec. 6th.—ST. BARTHOLOMEW'S HOSPITAL v. ROYAL ORDNANCE.

A good crowd assembled to witness this match at Maze Hill, Greenwich. Fernie kicked off for Bart's, and, not long after the game had commenced, Fryer put in a hot shot and scored the first goal. Royal Ordnance then attacked our goal for some time, and from a "scrum" in front of goal one of their forwards equalised. Fast play continued until half-time, and, neither team having scored again, the teams were on level terms on crossing over. The second half was also hard fought, the forwards of both teams making very good runs, and the combination was also good. Fryer scored a second goal, and almost immediately afterwards Bryan headed the ball for the Ordnance, and once more the score was even. On re-starting the Ordnance attacked, and after Fox had saved several shots a third goal proved the home team one ahead. The Bart's forwards soon after made a good run, and Robinson, after a splendid dribble, scored the third goal for Bart's. Play continued fast until time was called, the game ending in a draw, 3 goals each.

Team.—E. H. B. Fox, goal; R. P. Brown, L. E. Whitaker, backs; W. H. Pope, C. C. Costin, H. J. Pickering, half-backs; A. Hay, C. A. Robinson, right wing; J. F. Fernie, centre; E. H. Fryer, E. W. Woodbridge, left wing.

Thursday, Dec. 13th.—ST. BARTHOLOMEW'S HOSPITAL v. CASUALS.

The Weybridge match on December 12th having been scratched Casuals agreed to play us on the following day at Leyton. A strong wind was blowing, and Casuals, having won the toss, agreed to play against it during the first half. Bart's attacked nearly the whole of the first half of the game, and had it not been for the splendid goal-keeping of E. H. Foy, would certainly have scored several times. However, when the whistle blew neither team had scored. Soon after commencing play again in the second half Fernie made a magnificent run down the field, and, outpacing both the backs, scored the first goal for Bart's. Casuals then had several shots at goal, and from a throw-out by Fox, T. N. Perkins got possession and scored for Casuals. Not long before time Woodbridge centred well and Robinson headed the ball through. Nothing more was scored, and Bart's thus won by 2 goals to 1.

Team.—E. H. B. Fox, goal; R. P. Brown, L. E. Whitaker, backs; J. S. Mackintosh, C. C. Costin, H. J. Pickering, half-backs; A. Hay, C. A. Robinson, right wing; J. F. Fernie, centre; T. H. Talbot, E. W. Woodbridge, left wing.

Saturday, Dec. 15th.—ST. BARTHOLOMEW'S HOSPITAL v. ST. ALBANS.

This match was played at St. Albans, the home team having secured a splendid new ground this season. St. Albans pressed at the start but did not score, and about a quarter of an hour after play had commenced Pope put in a splendid long shot from right half-back which the St. Albans goal-keeper failed to stop, and at half-time

we were leading by 1 goal to *nil*. From a struggle in front of goal one of the St. Albans forwards sent in a shot which struck the post, and Rose afterwards fisted out, but the referee blew his whistle, thinking it had gone through, and allowed the goal for St. Albans. Hay scored the winning goal for Bart's after the St. Albans goalkeeper had saved several shots. Result:—Bart's 2 goals, St. Albans 1.

Team.—E. F. Rose, goal; R. P. Brown, L. E. Whitaker, backs; W. H. Pope, C. C. Costin, H. J. Pickering, half-backs; A. Hay, C. A. Robinson, right wing; J. F. Fernie, centre; E. H. Fryer, E. W. Woodbridge, left wing.

FIXTURES FOR JANUARY.

Date	Opposition	Place
Sat., Jan. 5.	Old Wilsonians	at Denmark Hill.
" "	5.—Leigham	" W. Norwood.
Wed., " "	6.—Old Brightonians	" Edmonton.
Sat., " "	12.—Crouch End	" Edmonton.
" "	12.—Old Vermontians	" Away.
Wed., " "	16.—St. Mary's (Southampton)	" Southampton.
" "	16.—Holloway Sanatorium	" Virginia Water.
Sat., " "	19.—Barnes	" Edmonton.
Wed., " "	23.—R. M. A.	" Woolwich.
Sat., " "	26.—Ashford United	" Ashford.
" "	26.—Tonbridge	" Tonbridge.

Obvernetarian Society.

December 6th.—The eighth Ordinary Meeting of the Society was held, the President being in the chair. The Minutes having been read, Dr. Roberts showed a case of intra-uterine constriction or of embryonic mal-development. Dr. Champneys considered it was a case of deformity due to both the named causes. Mr. Maidlow read a short extract from Meade on maternal impressions.

Dr. Roberts then read a paper on the common causes of white leg, which will appear at a later date *in extenso* in the JOURNAL. A discussion occurred afterwards, in which Dr. Champneys took part, and Dr. Roberts having replied the meeting adjourned.

December 13th.—The ninth Ordinary Meeting of the Society was held, the President, Mr. Cross, in the chair. The minutes having been read, the President called upon Mr. Berry to read a paper on "Fractured Patella." He showed some very interesting results from various methods of treating this injury. He came to the conclusion that primary wiring or suturing should never be performed. A discussion afterwards took place, Mr. Berry replied, and after a vote of thanks to the reader of the paper the meeting was adjourned.

January 16th.—The Mid-session Meeting of the Society was held in the medical theatre.

There was a good attendance of members, but the nurses were missed; the absence of a chapron through unavoidable circumstances prevented their appearance. Mr. Maidlow, the President, was in the chair, and after the minutes were read he called upon Dr. Lauder Brunton to give the address "On Little Things." Dr. Brunton first of all touchingly referred to the great loss Sir James Paget had recently sustained through the death of his wife. Afterwards he pointed out the great importance of investi-

gating and being able to rightly construe the smaller details in observations on science and medicine. Dr. Brunton made his address most interesting by interspersing his more solid advice with anecdotes, and illustrating these by drawings. A fuller report of the address will appear in a later number of this JOURNAL.

After a few remarks from the President, Dr. Horne proposed, and Mr. Weir seconded, a vote of thanks to Dr. Lauder Brunton, which was carried with acclamation. Dr. Brunton said it always gave him great pleasure to address Bart's men, and the meeting was adjourned.

The Christmas Entertainment.

IN the 3rd and 4th of January the usual Christmas Entertainment was given by the St. Bartholomew's Hospital Amateur Dramatic Club in conjunction with the St. Bartholomew's Hospital Musical Society. On the 2nd a similar entertainment was given to those patients who could be moved to the Great Hall for the occasion. We print the programme in full. The acting seemed hardly up to the standard of former years, but was yet extremely good, while the musical portion of the programme showed a very marked improvement upon the Summer Concert.

PART I.

OVERTURE ... "Poet and Peasant" ... *Suppl.*
"THE BURGLAR AND THE JUDGE."

A Farce in One Act.

By F. C. PHILLIPS and C. H. BROOKFIELD.

Characters

(By Members of the Hospital Amateur Dramatic Club):

Mr. Justice Gyves ... Mr. L. C. THORNE-THORNE.
Parkhurst ... Mr. F. V. DICE.
Joe ... Mr. J. C. POWELL.

SCENE.—Mr. Justice Gyves' Dining-room.

PART II.

ORCHESTRA ... Selection from 'Carmen' ... *Biset.*
PART SONGS { "The Douglas Raid" ... *Oliveria Prescott.*
"Break, break" ... *G. A. Macfarren.*
"The Miller's Wooing" ... *Eaton Faning.*

After Part II there will be an Interval of 15 Minutes.

PART III.

OVERTURE ... "Le Philtre" ... *Auber.*
"OLD SOLDIERS."

An Original Comedy in Three Acts.

By H. J. BRON.

Characters

(By the Members of the Hospital Amateur Dramatic Club):
Lionel Leveret (a young country gentleman) ... Mr. J. HOBDAY.
Cassidy (his servant, formerly in the army) ... Mr. J. BOYAN.
Captain McTavish (unattached) ... Mr. F. J. CLOWES.
Gordon Lockhart (attached) ... Mr. R. F. STANDAGE.
Major Fang ... Mr. C. H. R. PROVIS.
Podger ... Mr. W. C. DOUGLAS.
Kate McTavish (Captain McTavish's only daughter) ... Mr. MARTIN COOKE.
Mary Moss ... Mr. B. J. COLLYER.
Mrs. Major Moss (widow and woman of the world) ... Mr. J. C. POWELL.

ACT I RECRUITS.

Scene.—Outside of Leveret's Cottage.

ACT II VETERANS.

Scene.—The same.

ACT III MULLINEARS.

Scene.—Inside Leveret's Cottage.

Between the Acts will be played Selection from 'Gaiety Girl,' &c.

Conductor.—Mr. R. W. METCALFE, Mus.B.

Stage Manager.—Mr. J. BOYAN.

Assistant Stage Manager.—Mr. G. H. FORMAN.

Acting Manager.—Mr. F. J. CLOWES.

The first piece—"The Burglar and the Judge"—did not afford scope for much brilliant acting, but the three parts were admirably taken. Mr. J. C. Powell is hardly as good, perhaps, in a male part as in a female one, but his "Joe" was distinctly good, as also were the "Judge" and "Parkhurst," as played by Messrs. L. C. Thorne-Thorne and Mr. F. V. Dice respectively. The "Judge" part, inasmuch as it necessitated the display of considerable emotion, was distinctly the most difficult, and Mr. Thorne-Thorne is to be congratulated on his rendering of it.

In the second piece the acting was very good throughout, and the scenery very prettily arranged; the players knew their parts well, and the faults and peculiarities so characteristic of amateur actors were distinctly rare. There had evidently been much careful rehearsing, and the stage managers, Messrs. J. Doyan and G. H. Forman, and the acting manager, Mr. F. J. Clowes, are to be congratulated on the general effect.

Mr. Boyan's "Cassidy" was magnificent; his Irish brogue was maintained throughout in a perfect manner, and he well deserved the applause which the audience gave him. Mr. Hobday as "Lionel Leveret," and Mr. Clowes as "Captain McTavish," did some excellent acting, and showed that they thoroughly understood and knew how to play their respective parts. The other three male parts were also worthy of commendation.

As regards the female parts—that never-failing source of amusement in the performances of the Bart's Amateur Dramatic Club,—though they were well acted, the actors did not seem to fit their parts so well as has been the case on several former occasions; this was their misfortune, not their fault.

Mr. J. C. Powell as Mrs. Major Moss was sublime, but Mr. B. J. Collyer's angularity was not hidden by the "properties" of "Mary Moss," and Mr. Martin Cooke's tones could not be brought by the wildest flight of imagination within the range of female voices. Still, difficult as it may be for a man to play a male part well, it is immeasurably harder for him to play a female part, and the actors to whom female parts were allotted well deserve praise for the excellent manner in which they attacked the difficulty.

The musical portion of the programme was excellently carried out under the direction of Mr. R. W. Metcalfe, Mus.B., to whom the thanks of the Hospital are again due for his kindness.

The number of visitors to be seen among the orchestra was as usual large, and though we are not ungrateful to the visitors for their assistance, we cannot help thinking what a pity it is that their presence should be necessary in an orchestra with so large a number of students to draw from.

The part songs, especially the "Miller's Wooing," were a great improvement on anything of the sort that has been done in Bart's for some time.

The Hall was crowded on both nights as usual, there being not even standing room to spare, and every one seemed to enjoy the entertainment thoroughly. Certainly the popularity of the Bart's Christmas entertainment shows no sign of diminution.

St. Bartholomew's Hospital Smoking Concert Club.

THE third concert of the season took place at St. James's Restaurant on Saturday, 8th of December. There was a very considerable increase in the attendance,—in fact, about half-time the room was crowded in every part.

Mr. Furnival occupied the chair, and rattled through the programme without any of those lulls to which we are accustomed. This was a distinct improvement. The programme opened with a pianoforte solo by Mr. Collingwood Banks, and was followed by a song, "The Charmed Cup," well sung by Mr. E. C. Friend. Some of the performers not having put in an appearance, Mr. Bolton stepped into the breach, and casting off for the moment that austere countenance begotten of a long course of subscription hunting, he successfully performed the difficult feat of singing the "Royal Fusiliers" and scattering smiles upon his friends at one and the same time.

Some of the audience appeared to have heard this song before, and joined in the chorus in the most gratifying manner. Mr. Bolton received an "encore," and told us that girls in general were all very well, but give him "Nancy Lee, Yo Ho!" but nobody seemed disposed to oblige him.

Somebody must really speak to Mr. Birdseye, we cannot afford to lose our comic men like this—where was he?
Mr. S. F. Smith sang a remarkably pretty song, entitled "Astoria," and then Mr. Newington obliged with "We'll all go a-hunting to-day," which was encored. Mr. Newington is an acquisition to the Club.

There were plenty of good things in the second portion of the programme. Mr. Forman seized a banjo, and having made himself thoroughly comfortable, he gave an excellent comic song, and, in response to a roar of applause, favoured the company with a second, which was even better than the first.

Mr. F. W. Gale, to whom the success of the evening was mainly due, then sang, "What shall we do with our daughters?" and, in response to an unanimous encore, gave "The Night of Bartholomew's Ball" and on again being encored, he obliged with "The Lament of the Midwifery Clerk." Later in the evening Mr. Gale gave an ocarina solo and some pianoforte selections. This being his last appearance at the Club concerts the audience naturally demanded as much as they could get, so Mr. Gale again appeared, and sang "A Summer's Day in the Surgery."

Mr. P. Furnival, in a short speech, thanked Mr. Gale on behalf of the committee of the Club for the interest he had taken in the concerts; he hoped that Mr. Gale would see his way to reconsider his decision, and sing again on a future occasion. He concluded by wishing Mr. Gale every success in the approaching examinations. After his health had been drunk, Mr. Gale replied.

The next on the programme was Mr. F. Lindo, who was very successful with his two songs, "That's the chief thing" and "Take a little something," also with his imitations of leading actors, in which Irving, Beerbohm-Tree, Arthur Roberts, &c., were admirably hit off without being caricatured.

Mr. W. W. Giblin then sang "The Young British Soldier," which met with warm approbation.

Special mention must be made of Mr. H. J. Walton's flute solo, which was much enjoyed.

Mr. R. F. Standage then sang "The Sands o' Dee." He is fast becoming a favourite with the Club.

The next item was a song by Mr. E. Cross, "Honey, my Honey," which was well rendered.

Mr. H. J. Paterson sang "Father O' Flynn," the audience joining in the chorus.

Mention must also be made of Mr. A. H. Wade, whose songs were much appreciated.

A most enjoyable evening was brought to a close by singing "God save the Queen" and "Auld Lang Syne."

Dr. Herringham, Dr. Lewis Jones, Dr. Fletcher, and Mr. Bailey represented the teaching staff. Dr. Herringham and Dr. Fletcher bore up manfully until they had heard the ocarina solo, when they suddenly remembered an engagement and left. Dr. Lewis Jones and Mr. Bailey sat it out with admirable fortitude, and were not even seen to flinch. There must be something in electricity after all.

One word in conclusion to the executive of the Club: is it necessary to hold the concerts at a place where they charge six shillings a bottle for whisky and sixpence a glass for beer?—"ONLOOKER."

The Cambridge Graduates Club of St. Bartholomew's Hospital.

THE Nineteenth Annual Dinner of this Club was held on November 19th at the Café Monico. There was an excellent attendance, forty-three being present. Sir George Humphry and the Master of Downing came down specially from Cambridge for the occasion, and it gave great satisfaction to the members of the Club to learn that the Professor of Surgery had recovered in great measure from his recent illness.

Dr. Griffith occupied the Chair, and after the usual loyal toast had been drunk he proposed the health of the Club, giving an interesting account of its origin and development. To this Sir George Humphry responded, and referred to the pleasure he felt at being able to be present after his recovery from illness.

Dr. Shelley proposed the health of the Secretaries, Dr. Tooth and Dr. Fletcher. Hitherto the attendance at this Dinner has been entirely limited to members of the Club, but it was decided, following a proposition of the Secretaries, that at the Dinner in 1895, being the twentieth Anniversary, members should be allowed to bring guests. During the evening Dr. Shelley gave a very amusing recitation, and Herr Galrein played two solos on the 'cello accompanied by Mr. Burns. Mr. Blandford sang a couple of songs.

In conclusion, the Master of Downing proposed the health of the Chairman, and this was drunk enthusiastically; and so terminated a most enjoyable evening.

Clinical Lectures.

The following lectures will be given during the three months from January to March.

Medical.—Fridays, at 1 p.m.	
Jan. 11th	..... Dr. Church.
" 18th	..... Dr. Gee.
" 25th	..... Sir Dyce Duckworth.
Feb. 1st	..... Dr. Hensley.
" 8th	..... Dr. Church.
" 15th	..... Dr. Gee.
" 22nd	..... Sir Dyce Duckworth.
Mar. 1st	..... Dr. Hensley.
" 8th	..... Dr. Church.
" 15th	..... Dr. Gee.
Surgical.—Wednesdays, at 2.45.	
Jan. 16th	..... Mr. Smith.
Gynaecological.—Dr. Champneys, Thursday mornings at 9 a.m.	

Appointments.

PATERSON, H. J., M.A., M.B., B.C. Cantab., has been appointed Junior Assistant Anaesthetist, *vice* Mr. Charles Butler resigned.

BRIDGES, E. C., M.B., B.S. Dur., M.R.C.S., L.R.C.P., has been appointed Junior House Surgeon to the Great Northern Hospital.

HUTLEY, C., M.R.C.S., L.R.C.P., has been appointed Junior House Surgeon to the Wakefield Clayton Hospital.

MAHOOD, ALLAN, E., M.D., M.Ch., M.A. Oxon., R.U.S., F.R.C.S., who was a student of Bart.'s when reading for the final F.R.C.S. last year, has been appointed Medical Officer and Public Vaccinator for the Northern District of Bideford Union.

BLACKER, A. BARRY, M.D. Lond., has been appointed Assistant Electrician to the Hospital.

BYERS, H. S., M.B. (Dul.), L.R.C.P., M.R.C.S., has been appointed Junior House Surgeon to the Northern Hospital, Liverpool.

CARRÉ, L. J. G., M.D., L.R.C.P., M.R.C.S., who was a student of Bart.'s for a year or two, has been appointed Registrar and Anaesthetist at the Royal Hospital for Children and Women, Waterloo Bridge Road.

BOOTH, HENRY, L.R.C.P., M.R.C.S., to be Medical Officer of Health to the Brentford Local Board.

Examinations.

S. K. ALCOCK, H. W. Armstead, W. A. Clark, H. O. Davies, M. L. Hepburn, W. B. Jones, J. Morrison, and K. Rogers have passed the Examination for the degree of M.D. in the University of London.

C. COLES, M.D., and G. W. Willoughby, M.D., have passed the M.D. Lond. (State Medicine) Examination.

S. S. F. BLACKMAN has passed the 1st part (Pharmaceutical Chemistry) of the 2nd M.R. Cantab.

H. L. BROWNLOW, L.R.C.P., has been admitted a Fellow of the Royal College of Surgeons of England.

THE following have passed the 2nd part (Medicine) of the 3rd M.B. Cantab.: L. Falkner, E. C. Hedgco, W. Norbury, J. B. Norris, O. Paget, J. H. Peard, L. C. P. Phillips, J. J. Taylor, and Howard Marshall.

H. P. PRACHEREK has passed the First M.R. Cantab. in Chemistry and Physics.

THE following have passed the Second M.B. Cambridge in Anatomy and Physiology, viz. J. Gutch, C. C. I. Turnbull, A. E. Carsberg, A. C. Hill, and C. S. Myers.

J. ATLEE and L. G. Glover have been admitted to the degree of M.D. in the University of Cambridge.

G. B. WOODROOPE has been admitted to the degree of M.B. of the University of Cambridge.

F. C. POYNTER has been admitted to the degree of M.B. of the University of Oxford.

L. B. BURNETT, W. G. Clark, A. Eichholz, J. Woolley, and G. V. Worthington have passed Part I (of Surgery and Midwifery) of the Third M.B. Cambridge.

W. McA. ECCLES and E. P. Paton have recently taken the M.S. degree of the University of London. Mr. Eccles obtained the Gold Medal.

Reviews.

PHYSIOLOGY FOR BEGINNERS, by M. Foster, M.A., M.D., F.R.S., and Lewis E. Shore, M.A., M.D. (Macmillan, 1894).—Under what are known as the New Regulations of the Conjoint Board, the examination in Elementary Physi-

ology has disappeared. A student has now but one examination, which may be looked upon as corresponding to the second examination of previous years. A student at the present time attends a course of lectures on Physiology in his second winter session, and with these passes through a course of practical work in the Physiological Laboratory. If he is reasonably diligent he may hope to pass in Anatomy and Physiology at the end of this session. But this entails a very considerable amount of hard work, and the majority of students find it more satisfactory to spend an extra three months in revising the studies of the winter session, and present themselves for examination in the succeeding July.

We may take it that in the case of the average student it is a matter of some difficulty to be sufficiently prepared in the subject of Physiology to go up for examination at the end of the winter session. The chief cause of this is that the subject is largely new to them when starting at the commencement of the session. This leads us to consider how far an elementary study of Physiology should be included in the course of Biology which a student passes through before commencing the study of Physiology proper. In our own school it is very plainly recognised that biology is not simply morphology, and a considerable amount of our success in the examination in biology is to be attributed to this. It must be clearly understood that a student is liable to be called upon to display an elementary knowledge of physiology in this examination, and his success in this is an element in his prospective success in the later examination in physiology.

We are brought, then, to consider how much physiology should be taken in conjunction with his biology. A book has lately been published which seems to us to conform very satisfactorily with the requisite demand. This is the *Physiology for Beginners*, lately published by Professor M. Foster and Dr. Lewis Shore. This book is written in even a more elementary and didactic style than the *Elementary Lessons* of Professor Huxley. It appears to us to furnish exactly the amount of knowledge in physiology which should be expected from a candidate presenting himself for the examination in biology. And we can recommend the book with the firm conviction that a student will find the paths of his later study of physiology made vastly more easy to follow.

PRACTICAL LESSONS IN ELEMENTARY BIOLOGY, by P. T. B. BEALE, F.R.C.S., (J. and A. Churchill).—This little book, consisting of twenty lessons in elementary biology, is intended primarily for use in connection with the practical work required by the examination of the Conjoint Board, and it must be confessed that in many respects it serves its purpose well. We fancy, however, that most Conjoint students will find two lessons (presumably of two hours' duration each) upon such a type as the dog-fish rather short for the acquisition of even a superficial knowledge of this important type. Some of the lessons on the frog, again,

are too full to enable the student to do the work properly; thus, in Lesson XVII, he is expected in two hours to dissect and master the whole circulatory system, the lymphatics, and to prepare specimens of striped and unstriped muscle, and of cartilage. This is too much; it cannot be done in the time. If, instead of arranging the work for twenty lessons, he had doubled the number, and insisted on more thorough work of each, the author would have produced a book of far more value. Still it has its good points, and one of these is that unnecessary detail is omitted, and only important matters insisted upon.

FROM MESSRS. Adlard and Son of Bartholomew Close we have received a specimen of a new "Diphtheria Chart" which they are bringing out.

The chart is so arranged that in one long vertical column, representing one day of the disease, are recorded the temperature, pulse, respiration, condition of the urine and bowels, amount and particulars of the antitoxin used, together with the exact time of injection, and the condition of the parts locally affected. Further spaces are arranged for recording other details of interest in the progress of the disease, each under its own special heading, emphasis being very properly laid upon bacterioscopic investigation.

The back of the chart is also arranged so that on it may be recorded observations for which no special place has been prepared on the front of the chart.

We think that the correlation secured by arranging all the observations made on one day in one column is a very great advantage in investigating the usefulness of the antitoxin treatment, besides greatly increasing the facility with which one case can be compared in detail with another; indeed, it may be safely said that, without the aid of standard charts such as these appear to be, the comparison of different cases with one another presents difficulties which are all but insurmountable.

The chart has been especially designed for Messrs. Adlard by Dr. Walter Jobson Horne, late House Physician to Dr. Church. We congratulate Dr. Horne on the completeness of the chart, which really leaves nothing to be desired.

POST-NASAL GROWTHS, by Charles A. Parker (London: H. K. Lewis, 1894, pp. 96).—Under the term "Post-nasal growths" the author only includes that variety of disease of the naso-pharyngeal region which by the majority of surgeons is known as "adenoid vegetations of the naso-pharynx." The second chapter of the work has already been published in our Hospital Reports of last year. In the first chapter the symptoms of the disease are given in detail, and the pathology also is discussed. The third chapter deals with deafness and other complications, whilst the final one is devoted to a consideration of the diagnosis and treatment. As a small monograph upon the affection under consideration the book can be recommended; but we do not agree

with the growing practice of devoting a whole volume to a single disease, especially when that disease presents few if any difficulties in its diagnosis and treatment.

A PRACTICAL MANUAL OF DISEASES OF WOMEN AND UTERINE THERAPEUTICS, by H. Macnaughton Jones (London: Baillière, Tindall, and Cox, 1894, pp. 766; 487 illustrations).—This volume is the sixth edition of the work. According to the author the book has been in great part rewritten, and is completely rearranged and re-illustrated. Some chapters of the former edition have been omitted, and in their place other chapters have been added, notably those on tubal pregnancy and ovarian and uterine tumours, the material for which has been supplied by Mr. Bland Sutton. In a short appendix the recent advances in gynaecological pathology and treatment are incorporated. Like most books upon gynaecology, it contains many statements which may be considered either incorrect or scarcely justifiable; but on the whole the book can be commended to the student as containing a fairly representative account of gynaecological practice.

SWIN, SWALE, AND SWATCHWAY, by H. Lewis Jones, M.A., M.D., assisted by C. B. Lockwood, F.R.C.S. (Waterlow and Sons, 10s. 6d.).—This is a handsome and most interesting book, which all Bart.'s men should read. In it Dr. Lewis Jones and Mr. Lockwood relate some of the experiences and recollections of their numerous cruises in their three-and-a-half-ton sailing boat among the rivers, creeks, and reaches of the lower Thames. The estuary of the Thames and the numerous waters connected with it, such as the Medway and its many creeks on the Kentish side, and the Crouch, the Roach, and the Blackwater on the Essex bank, form a fine sailing ground, full of interest and not without an element of danger. The numerous extensive sand-banks at the mouth of the Thames and its tributaries, many only covered by shallow water even at high tide, render an accurate knowledge of the various buoys and light-ships an absolute necessity. These banks, separating the many anastomosing channels and creeks of deeper water, are in places of great extent, and render navigation difficult except in favorable weather. Difficult though the navigation may be, any one who will explore the reaches of the lower Thames in a small boat, with shallow draught and not too much keel, will be well repaid by the fun there is to be had in wandering along the out-of-the-way parts of the Kent and Essex shores. How well he will be repaid may be learnt by a perusal of "Swin, Swale, and Swatchway," which teems with interesting anecdote and adventure. Dr. Jones gives us some useful particulars of the sort of boat required, of the best places to make our head-quarters, and takes us on various trips through the numerous "Swins" and "Swales" and "Swatchways," telling us in a chatty way of the many things to see, and dangers

to avoid. As an example of these dangers, and of Dr. Jones' way of describing them, we may quote the following passage:

"I was cruising one summer with a friend, and on this particular occasion was more or less acting as pilot. We had turned her down all the way off Faversham Creek against a north-east wind, and reached the Swin Middle Lightship at low water. The breeze was fresh, and we had come along capably with the ebb. Somewhere off the Maplin Light we overtook and passed a big ketch, bound north. Our owner meant business that day, and was holding on to his big jib like grim death, although we were getting green water into it pretty often; and the crew, resigned to the chances of a ducking, was standing by all ready to jump forward to clear away the wreck in case the head gear carried away. However, fate was kind, and the jib and jib-sheet and bowsprit all held. Well, when we had reached the Swin Middle Light the flood began to make up hard against us, and the end of it was that we could not weather the Whitaker Beacon, and had to make a few boards off and on, and then stand her over the sand inside it. There was a nasty sea over the flat as we went across, not without some anxiety, but the lead gave us our water all the time, and only one of the breakers managed to get aboard, and that not badly, and soon we were over it, and heading for the Swallow-tail Buoy and in the fair way for Burnham. Then we began to ask ourselves where was the entrance to the Burnham River. We saw some trees on the horizon, looking as if they grew out of the water and we steered or them, thinking they were on Foulness Point, but soon found ourselves shoaling, and at last touched the ground. What was the matter? Were we too far to the southward and on the Maplin, or were we too far north and on the Buxey? We felt all at once as if we had totally lost our way, and, unhurrying quickly, we pulled out the compass, and took the bearings of the lightship, and the South Buxey Buoy, and the Whitaker Beacon. That soon told us what was wrong. We had been heading for the Maldon River by mistake, and the course steered had been right across the Buxey. Luckily, no harm was done, and we steered a compass course until we made out the entrance to the Burnham River. This was a lesson in the use of the compass, and convinced us that it is not safe to go down Swin without one" (pp. 116-118).

The book is beautifully illustrated with twenty-eight views; the illustrations are well done, and are executed from Dr. Jones' own photographs. We cordially commend the book to our readers.

Obituary.

LADY PAGET.—It is with the deepest regret that we have to record the death of Lady Paget—the wife of our respected veteran in Surgery, Sir James Paget, Bart.—which took place on Monday, January 7th, at her residence, 5, Park Square West, Regent's Park. Lady Paget, who was eighty years of age, was the daughter of the Rev. Henry North, Domestic Chaplain to the late Duke of Kent, and was married to Sir James in 1844, who was then Warden of the College. Only last summer we had the pleasure of congratulating Sir James and Lady Paget on the occasion of their golden wedding. The funeral took place on Thursday, January 10th. We offer our most sincere and heartfelt sympathy to Sir James and his family in their bereavement.

Correspondence.

To the Editor of St. Bartholomew's Hospital Journal.

SIR,—I see a letter in your current issue signed "Golfer," in which it is suggested that efforts should be made to obtain a golf course near the new ground at Winchmore Hill.

Though not a golfer myself, I can quite understand his feelings, and I agree that a close relationship between past and present students is "a consummation devoutly to be wished," but I fear that there are very great difficulties to be overcome, about which I will write a few lines. I was born and brought up at Winchmore Hill, and have been in practice there for nearly ten years, so that I may claim some knowledge of the locality. There are no large grazing farms for three or four miles, and the land is cut up by a great number of small roads and lanes, so that it would be difficult to get one hundred acres not intercepted by lanes. There is also a great deal of market garden and nursery cultivation, with a mile or two of tomato houses; the soil also in most places is a sticky clay, and waterlogged for two or three months in the year.

However, it is possible that a course might be obtained about one and a half miles north-west of the new club ground, and I should be most happy to assist with maps and my local knowledge any gentleman who thought it worth while to come down and prospect the neighbourhood; and if an active committee were formed, probably some satisfactory arrangement might be made. I remain, yours obediently, F. CRESSWELL.

COTTERSTOCK, WINCHMORE HILL, N.;
December 20th, 1894.

To the Editor of St. Bartholomew's Hospital Journal.

DEAR SIR,—Will you kindly permit me to correct a printer's error which occurred in my letter *re* the "Abernethian Society" in your last issue?

The line I refer to runs, "Another event is the friction between some of the junior members of the Committee." What I wrote in my letter was, "Another event is the friction between some of the junior members and the Committee."

As will be readily seen, the mistake implies the existence of a friction between the members of the Committee which, I am advised, does not exist.—I am, &c., NUNC AUT NUNQUAM.

Births.

FARRAR.—Dec. 17th, the wife of Reginald Farrar, M.D., Stamford, of a son.

MAYNARD.—On Sunday, Dec. 9th, 1894, at the Medical Officers' Quarters, General Hospital, Calcutta, the wife of Surgeon-Captain F. P. Maynard, M.B., F.M.S., of a son.

Marriages.

DELING—LIGHTING.—Dec. 5th, at St. James's Church, Standard Hill, Nottingham, Davy Turner Delding, L.R.C.P., M.R.C.S., of East Dereham, Norfolk, to Elizabeth Lighting, of Nottingham, second daughter of the late Chas. Lighting of Newark.

SCHOFFIELD—NUNN.—Jan. 1, at St. Mary's Church, Adderbury, Oxfordshire, Gerald Schoffield, M.D., son of Thomas Schoffield, Esq., of Cromwell Road, South Kensington, to Constance Emily, second daughter of Philip W. G. Nunn, I.R.C.P. Lond., M.R.C.S. Eng., of Romney Marsh, Hants.

Death.

PAGET.—On Jan. 7th, 1895, Lady Paget, wife of Sir James Paget, Bart., aged 80.

ACKNOWLEDGMENTS.—*Chor.'s Hospital Journal (with supplement), St. Thomas's Hospital Journal, St. George's Hospital Journal, The Student (Edinburgh University), Annual Report of the Vestry of St. George the Martyr, Southwark.*

St. Bartholomew's Hospital



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NOTICE.

All Communications, Articles, Letters, Notices, or Books for review, should be forwarded, accompanied by the name of the sender, to the Editor, ST. BARTHOLOMEW'S HOSPITAL JOURNAL, St. Bartholomew's Hospital, Smithfield, E.C., BEFORE THE 1ST OF EVERY MONTH.

The Annual Subscription to the Journal is 5s., including postage. Subscriptions should be sent to the MANAGER, MR. W. E. SARGANT, at the Hospital.

All financial communications, relative to Advertisements ONLY, should be addressed to J. H. BOOTS, 29, Wood Lane, Uxbridge Road, W.

St. Bartholomew's Hospital Journal,
FEBRUARY 14th, 1895.

"Æquum memento rebus in arduis
Servare mentem."—Horace, Book ii, Ode iii.

It has been said that there is no variety or form of knowledge which cannot at some time or other be made use of by the medical man, either in the actual practice of his profession or in his capacity as general practitioner. It has been further said that no class of educated men, as a whole, is so utterly and consistently ignorant of literature outside its own particular sphere as the members of the medical profession.

There is, doubtless, much truth in each of these statements. The surgeon, in the practice of his profession, practises in turn almost every art, from that of the seamstress to those of the carpenter and blacksmith, while every one knows that a first-class physician should be also a first-class cook. In the capacity of family medical adviser the general practitioner is called upon to assist in choosing a school, and, later, a profession for his patient's children, to read the character of a new housemaid in her face, to advise on financial investments, and to give an opinion upon a new horse, the latest Parliamentary Bill, the harvest, and the sermon preached last Sunday. It is obvious that the laity

are unable to pass judgment upon a medical man's technical knowledge, and on this account they are more or less compelled to base their opinion of his technical knowledge, of which they know nothing, upon his ability to discuss questions of which they know—or think they know—something.

With regard to the second of the two statements—that medical men as a class are illiterate,—there can be very little doubt that, with some notable exceptions, it is a true bill. Medical men read little, if any, standard non-medical literature during their student days, mainly because there is already such a vast amount of solid reading to be got through; and when they become medical practitioners they still lack, in the majority of cases, either the energy, the time, or even the inclination, to do much reading. They are more than content if they can manage to keep themselves *au fait* with the advances of medicine and surgery by a weekly perusal of either the *British Medical Journal* or the *Lancet*.

Every one will agree with us in thinking it deplorable that such should be the case. Such a condition of things must tend towards narrow-mindedness and arrested mental development. It is, however, by no means easy to suggest a remedy. It is useless in these high-pressure examination days to advise men not to forget their study of standard literature, and to warn them that to do so will cause much subsequent regret. Examinations are continually in front of them, and their desire to see these examinations behind them is naturally so great that no other question has, from their point of view, anything like the same degree of importance.

There has been lately some talk, both in the School and in our Correspondence column, of the desirability of starting a Debating Society, which, in no sense a rival to the Abernethian Society, shall hold meetings for the discussion of questions outside the profession.

We are inclined to think that such a step, if actively carried out, and provided that a sufficient number of men could be persuaded to attend its meetings and to take part in the discussions, would do much towards the improvement of the existing state of affairs.

It is reasonable to expect that there would be far less of that diffidence felt by a junior when speaking in the presence of his seniors than is the case in the discussions of the Abernethian Society, where purely medical subjects are discussed. Thus, in all probability, men would be far more ready to avail themselves of the opportunities offered by it for practice in public speaking. To nearly every one, it happens on some occasion or another that he is, "willy nilly," called upon to speak in public, and greatly to his advantage is it if he has already enjoyed that familiarity with the task which breeds contempt for its difficulties.

We should be glad to publish the opinions of any members of the School upon this subject, and to do anything in our power to further so excellent an object. We have little doubt that the Amalgamated Clubs would look upon it much in the light that we do, and that if a Debating Society were formed and properly supported by a sufficient number of students, they would no doubt admit it to the amalgamation, and help it forward in every possible way.

We trust that the project will not be allowed to lapse, but that before long we shall have the satisfaction of publishing the reports of the St. Bartholomew's Hospital Debating Society alongside those of the Abernethian Society.

Notes on Aseptic Surgery.

By C. B. LOCKWOOD, F.R.C.S.,
Assistant Surgeon to the Hospital.
(Continued from page 54.)*

BEFORE I proceed with the sources of wound infection another useful method of staining may be mentioned. Gram's method demonstrates with clearness erysipelas and nearly all the pus cocci, especially *Staphylococcus pyogenes aureus* and *albus* and *Streptococcus pyogenes*. It is as follows:—Prepare a solution of aniline oil water by shaking up some aniline oil with distilled water (a stock bottle of this solution is usually kept). Filter some of this into a clean test tube until a quarter full. Add to this aniline oil water a drop or two of a saturated alcoholic solution of gentian violet or methyl violet. After this addition the solution should be dark but translucent. If it has become turbid add a few drops of alcohol. Filter a little of this staining solution into a clean watch-glass, and place the cover-glass preparation or section into it for three to five minutes. Sections of tissues are transferred into it direct from alcohol. After staining the preparation is well washed in clean water, and placed for a minute in some of Gram's iodine solution, which is made as follows:—Pure iodine 1 gramme, iodide of potassium 2 grammes, distilled water 200 grammes. The

* In the last of these notes a few lines of proof were not sent for correction. Therefore, on page 53, *Arna* ought to be *Arnd*, and the title of his paper calls for correction.

specimen emerges from this a rich brown, but after washing in alcohol and water it loses this, and becomes a sort of slate-colour. After this stage the cover-glass preparation is put up with Canada balsam; sections are dehydrated, clarified with bergamot oil, then with xylol, and mounted in the usual way. It is dangerous to use clove oil, as it decolourises the sections. Gram's iodine solution acts both as a decolourising reagent and as a mordant. The bacteria stand out as almost black objects, and in sections are upon a ground of slate-coloured or brownish tissue.

Gram's method requires practice, but gives beautiful results when successful. In sections which have not been well decolourised by washing in spirit little particles of dye are apt to remain. These are easily mistaken for cocci. They are, however, distinguished by the variability of their sizes and shapes.

We now come to the sources of infection. Bacteria, such as those which I have mentioned, are introduced into wounds from the air; by water or anything brought in contact with wounds; from the skin of the patient; from the skin of the hands and arms of surgeons and nurses; and sometimes they are carried into wounds by the patient's blood-stream. All this applies, of course, to cases in which no local sepsis exists before the operation; these will be taken separately, and their disinfection described.

The chief of the above forms of infection are air infection, water and contact infection, and skin infection. Infection through the circulation, auto-infection, is rare.

The air has long been thought a potent source of infection. It is probable that the work of Lister and of Tyndall gave surgeons an exaggerated idea of the quantity of bacteria in the air. Tyndall drew attention to the swarms of dust particles in the air of cities and dwellings. Possibly by a confusion of thought the abundance of these particles may have been taken to indicate the actual quantity of bacteria in the air. At any rate, surgeons used to try either to exclude air from wounds, or to surround them with a purified atmosphere. This was the reign of the spray.

At present there is a reaction against air infection and the spray, and now some seem to think that the air is harmless. This is not justified by the facts. Haegler[†] found *Staphylococcus pyogenes aureus* in plate cultures exposed for five minutes in one of Socin's wards. The air of Billroth's wards was found to contain all kinds of moulds, yeasts, and bacteria † Amongst the last were various bacilli and cocci, and the streptococcus of erysipelas. The appearance of this was simultaneous with the entrance of cases of erysipelas into the wards. The streptococci were obtained by exposing culture media in plates near the heads of the

* *Beiträge zur klinische Chirurgie*, Bd. IX, Heft 3.

† Von Eiselsberg, "Nachweis von Erysipelkokken in der Luft chirurgischer Krankenzimmer," *Archiv für klinische Chirurgie*, von Langenbeck, 1887, p. 1.

patients. Von Eiselsberg,* who records this, says that Emmerich has found the streptococcus of erysipelas in the air of a dissecting room.

Mr. Waring † exposed gelatine plates for a minute in our operation theatre and wards, and afterwards found colonies of various kinds of bacteria, including *Staphylococcus pyogenes aureus* and *albus*. In the air of the isolation ward for erysipelas he found *Streptococcus pyogenes seu erysipelatis*.

The tubercle bacillus has over and over again ‡ been found in the dust of wards where phthisical people were collected and allowed to expectorate their highly infectious sputum.

In addition to these well-recognised pathogenic bacteria the air may contain other cocci and bacilli, together with yeasts and moulds. Obviously much will depend upon the sources of the dust. As I have pointed out, the dust from roads and fields nearly always contains the *Bacillus septicus*, the bacillus of tetanus, and the *Bacillus coli-communis*.

The laws which regulate the number of bacteria in air are now beginning to be understood. In the air of rooms and dwellings they are always present, but dryness and disturbance are essential for their presence in large numbers. Neumann § found from 80 to 140 bacteria in ten litres of the air of the wards of the Moabite Hospital after the wards had been swept and the convalescents had risen. At night when all was quiet only four to ten were found; ventilation did not increase their numbers.

The presence or absence of moisture has an important relation to the dissemination of bacteria in the atmosphere. Nageli's || experiments showed that bacteria could hardly be detached from moist surfaces—very strong currents of air might occasionally carry particles of fluid containing bacteria a short distance through the air, but they soon subsided. The inability of bacteria to detach themselves from moist surfaces explains their absence from the breath. Bacteria are present, however, in expired air when, as in coughing or sneezing, it carries with it particles of saliva or of mucus, but it is easy to prevent either of these entering wounds. Fluids, such as pus or blood, do not part with bacteria to the atmosphere until they have been dried and pulverised; but when converted into dust the particles of pus or blood may be virulent for many months. Tubercle bacilli retain their vitality in the dry state for six months, ¶ so that the puulent sputum of tuberculous patients is a danger as great as is the milk of tuberculous cows. No wonder, when we consider the laxity with which the phthisical are treated, that

* Page 17.

† *St. Bartholomew's Hospital Reports*, vol. xxix, 1893, p. 101.

‡ See Cornet on "The Diffusion of the Tubercle Bacillus External to the Body," *Med. Record*, 1889, p. 222; also *Zeitsch. für Hygiene*, vol. 7, 1889.

§ "Ueber den Keimgehalt der Luft in städt. Krankenhäusern Moabit," *Vierteljahrsschrift für gerichtliche Medizin und öffentliches Sanitätswesen*, Bd. xiv, 1886, p. 310.

|| Quoted by Flügge, *Micro-organisms with Special Reference to the Etiology of the Infective Diseases*, New Sydenham Society's translation, 1890, p. 687, et seq.

¶ Flügge, *loc. cit.*, p. 737.

"a third of the deaths between fifteen and forty-five in England is due to this terrible disease."*

Marpmann † seems to have had little difficulty in finding tubercle bacilli in the dust of the streets of Leipzig. He claims that they can be grown, and that tuberculosis can be produced with them.

It is known that pyogenic organisms, such as *Staphylococcus pyogenes aureus*, live for years in culture media. The duration of their life in dust is hardly known, but is doubtless considerable. The spores of anthrax, tetanus, and of the *Bacillus septicus* live for an indefinite period in dust and earth, and merely require to be placed under proper conditions of warmth, moisture, and nutriment to sprout and give birth to fresh swarms of virulent bacilli.

Tyndall, ‡ in his admirable experiments with closed chambers, definitely proved that when the air is still all the dust and bacteria gravitate, and that thus a pure atmosphere, similar in this respect to that over the ocean or mountain tops, is produced. Bacteria gravitate in the same manner in operation theatres and dwelling-rooms, as was shown in Neumann's experiments.

Bearing upon this point we may quote Flügge, who says that in ordinary air one to five hundred living bacteria have been found in each cubic metre. He adds that this proportion becomes much less in rooms which have not been disturbed. §

The lessons to be learnt from this are clear. Dust is to be avoided, especially dust which has been mingled with pus, blood, or sputum. Obviously those fluids, or any other infected materials, might never be allowed to dry, but be removed or wiped up at once. It is also desirable in planning wards and operation theatres to have smooth and polished surfaces, such as retain but little dust, and are easily wiped down with cloths wet with disinfecting solutions. The frames of doors and windows should be flush with the walls, and corners ought to be rounded. Every chink and cranny ought to be open to inspection, and arranged for easy and efficient dusting. Curtains should only be used where absolutely necessary, and should be frequently washed.

When it is necessary to prepare a private dwelling-room for an operation it should be done the day before, and left for the dust and bacteria of the atmosphere to subside.

The risk of air infection during operations is diminished by rapidity in operating; by keeping the wound covered as much as possible with an antiseptic sponge or layer of gauze; and by irrigating it with a stream of antiseptic lotion. When a large cavity like the abdomen is opened the protection of a flat sponge is particularly important. If, in the midst of an operation, it becomes necessary to

* Fagge's *Medicine*, vol. i, p. 1052.

† "Die Untersuchung des Strassenstaubes auf Tuberkelbacillen," *Centralblatt für Bakteriologie und Parasitenkunde*, Band xiv, 1893, p. 225.

‡ *Essays on the Floating Matter of the Air*, 1881, p. 131, et seq.

§ Page 68.

move the table or light the gas, the wound and field of operation should be covered with sterilised towels until the change is completed. Neither the operator nor any of his assistants should assist in moving the patient or in lighting the gas. Should they do so they ought to take special pains to immediately disinfect their hands and arms.

Ordinary tap water contains an extraordinary array of bacteria. Most of these are saprophytes, and can, therefore, only live upon dead tissues; but others are pathogenic. Eisenberg tabulates twenty-six species of non-pathogenic micrococci and fifty-eight of non-pathogenic bacilli as having been found in water. Ten kinds of pathogenic bacteria have been found, including *Staphylococcus pyogenes aureus* and the *Proteus vulgaris* and *mirabilis*. But Eisenberg's list is already incomplete. Landmann,* whilst examining the water of a well for diphtheria bacillus, found that it contained *Streptococcus longus*, which was most virulent for mice. The bacillus of leprosy has recently been found in abundance in water used by lepers.† Obviously ordinary care demands that only sterilised water be brought in contact with wounds, particularly those which are closed and sealed with dressings.

Although the saprophytes which inhabit water cannot flourish in living tissues, yet it is dangerous to introduce them into cavities in which blood-clot, pus, or albuminous fluids can collect. Such collections provide saprophytes with suitable food, so that they multiply and manufacture sapric substances, which being absorbed cause the phenomena of sapremia.

The pathogenic bacteria of water are seldom or never present in numbers, but it would be unwise to ignore their occasional occurrence. Therefore the water which is applied to wounds or used for irrigation is always mixed with chemicals or boiled. I have never known an instance in which boiling for five minutes has failed to disinfect ordinary tap water or distilled water. Moreover water becomes sterile when mixed with small quantities of chemicals.

Some time ago I tested the ordinary supply of hot water at the Great Northern Hospital.‡ This supply is pumped up to the operation theatre from large boilers in the basement. To test the water the operation theatre basin was filled in the usual way, and the water inoculated into gelatine tubes, which remained sterile. Mr. Waring§ tested the hot water at St. Bartholomew's in the same way. Water taken from the hot-water tap of the operation theatre contained several varieties of micrococci and bacilli, but none of them appeared to be pathogenic.

Instruments are the most potent source of wound infection. However well they are made, and however well mechanical means are used to cleanse them, particles of blood, pus,

or infecting material must often lodge in their joints and serrations. Suppuration has been so long regarded as a normal event—indeed, books still talk about laudable pus—that direct evidence of the infection of wounds with pyogenic organisms is hardly to be found. The inference, however, is none the less clear. But in other diseases than suppuration direct evidence is at hand. In speaking of tubercle I gave instances of its transmission by instruments. Roswell Park* says that Thiriar lost ten cases of major operation from tetanus before he discovered that his leucostatic forceps were the source of infection. It would be easy to cull from the records of midwifery and obstetric surgery instances of the conveyance of infection by forceps and other instruments.

The mere fact of an instrument being new from the maker is no guarantee of its sterility, or even of its cleanliness. As Reverdin says in his excellent manual,† our instruments come from the greasy and dirty hands of the workmen, their crevices full of oil and filth; whilst the instruments of veterinary surgeons, pathologists, knackers, and even those used for inoculations in the laboratory, are sharpened upon the same stone.

A bacteriological examination of the instruments of bygone times would have been instructive. I once obtained a set of instruments which had been used for a case which died of pyæmia. Material from amongst the teeth of the forceps did not infect gelatine. Some blood upon a holder with an ivory handle grew a micrococcus, probably *Staphylococcus pyogenes albus*. I afterwards learnt that the forceps had been boiled after the operation and just before my examination. Moreover, they had previously been used for another case which died of pyæmia.

But anyone who has performed inoculation experiments upon animals with cultures of tetanus, anthrax, tubercle, or the pyogenic cocci needs no arguments to convince him of the danger of the conveyance of infection by instruments. Every one should see inoculations performed with some of the more virulent microbes. My own bacteriology classes would not, as a rule, believe that a mouse would die of anthrax after it had been merely punctured with a needle conveying a dose of anthrax inappreciable to their unaided senses.

In laboratory work no one would dream of touching culture media with unsterilised instruments. If such were used a growth would certainly ensue. The nature of the growth would depend upon many circumstances, but, as a rule, would consist of moulds, sarcinae, hay bacilli, white micrococci, or other common inhabitants of air and dust. Had the instruments previously been used for an inoculation with anthrax or *Staphylococcus pyogenes*, they, too, might be expected to grow.

The towels, sponges, catgut, silk, and dressings may all

* *Centralblatt für Bakteriologie*, vol. xiv, 1893, p. 430.

† *Report of the Leprosy Commission*, 1893, p. 493.

‡ "Report on Aseptic and Septic Surgical Cases," *British Medical Journal*, May 28th, 1892.

§ *St. Bartholomew's Hospital Reports*, 1893, vol. xxix, p. 101.

* *Lectures on Surgical Pathology*, St. Louis, 1892, p. 175.

† *Antiseptia et Asepsis chirurgicales*, Paris, 1894, p. 79.

be contaminated by air, dust, or water, and contain, therefore, bacteria such as I have mentioned, but in addition each thing may have upon it bacteria of particular kinds. For instance, I have found in towels, besides *Staphylococcus pyogenes albus* and moulds, a bacillus which grew with a strong sebaceous odour, and had, without doubt, been derived from some one's skin. Hobbin* found that under-clothing was also infected by the bacteria which Bizzozero had described as living in the skin.

It is to be expected that towels would contain skin bacteria, but they may also be infected in a host of other ways. It is hardly necessary to mention the uses to which towels are put, or to point out that those which have been used in the pathological, anatomical, or other departments may all be mingled and washed with those which are used at operations.

The sponges which are used in operations ought to be of the soft fine Turkish variety. A glance at the way in which these articles are prepared for the market shows that even new sponges leave much to be desired, and that they may harbour all kinds of bacteria.

After sponges have been fished up by divers they are exposed to the sun until decomposition has begun. Then they are beaten in running water to remove the soft animal matter. If this part of the process is postponed for only a few hours after the sponge has been exposed a whole day to the air, it is almost impossible to completely purify it. After draining it is hung up in the air to dry, and then, with others, finally pressed into bales. As sponges are sold by weight, sand is often added as an adulteration. Before sponges are sold to the public by dealers they are cleansed of sand and bleached with sulphurous acid.

I have usually tested the sterility of sponges after they have been prepared for operations. These sponges have been commendably aseptic. Once I met with *Staphylococcus pyogenes albus*, and once with a micrococcus, probably derived from the hands. Upon one occasion I met with a bacillus about the size and shape of tubercle bacillus. This grew singly, and in short leptothrix. At summer temperature it grew slowly near the surface of the gelatine as a delicate white cloud, and produced a slow liquefaction. On agar-agar it grew on the surface and in the depths, the surface growth being a smooth white streak with slightly irregular edges. The bacillus made broth slightly turbid. I have not before met with any bacillus exactly like this one.

(To be continued.)

Cases of Special Interest.

MEDICAL.

Luke, No. 15.—M., 37. Muscular atrophy of right upper limb.
Matthew, No. 14.—M., 47. Muscular atrophy of both upper limbs.
Luke, No. 13.—M., 40. Tabes dorsalis.
John, No. 13.—M., 41. Abdominal aneurism.

* *Zeitschrift für Hygiene*, 1890, p. 218.

† See article, *Encyclopædia Britannica*, vol. xxii, p. 429, edit. 0, 1887, W. J. Sollas.

The Pathology of Insanity: the Means and Methods of its Study.

Delivered before the Abernethian Society on November 29th, 1894, by W. J. COLLINS, M.D., J.P., L.C.C.,
Fellow of the University of London.



HIS is the ninth occasion on which I have had the honour of reading a paper or opening a discussion before the oldest Medical Society of London; and it was an especial pleasure with which I accepted your Secretary's cordial invitation, in this your centenary year. Though my connection with your hospital has long since terminated, though my work has led me into other paths, I retain a lively sense of my former and unbroken connection with the Abernethian Society, the Presidency of which I held for two consecutive years, during the last decade, in a manner less worthy, though not less proud, than that, sir, with which you occupy that honoured chair to-day. Last year I ventured to speak of some medical work on the L. C. C., and, although I endeavoured to disarm those critics who look with suspicion upon any medical work which does not partake of the nature of compounding a rhubarb pill, or supporting the perineum, I was good-naturedly chided in the discussion which followed (and to which I always look forward with zest), and reminded that I had laid under contribution aforesaid pharmaceutical and obstetric critic.

To-night, I will endeavour to keep well within the fold; the Pathology of Insanity is a realm in itself, at once vast, obscure, and in part untraversed. I am not so presumptuous as to think I can treat of it, even in skeleton outline, within the limits of your patience, and at my disposal. I have but poor qualification for such a task, and I make this admission at the outset, and without reserve; my object is rather to survey from the outside, as it were, the methods of study, the facilities for research, the attitude of mind to be assumed, in approaching the annexation of this dark and outlying continent of pathology to the better known and more illumined and well-worn tracks of medical science.

The reasons for the relatively backward state of the pathology of insanity compared with the well cultivated fields of other areas of disease are not far to seek. Complexity, alike, of chemical constitution and physical structure of the nervous system, the proportionate littleness of lesion with the magnitude of the malady; inaccessibility to direct investigation, mystery supported by witchcraft, and often, frammelled by a spurious theology, are among the things that have stunted and dwarfed the onward progress of mental pathology. Take, for instance, the case of Sir William Lawrence—a name to be mentioned with reverence within this place, himself apprenticed to the man whose name this Society perpetuates, and whose intellectual features look down upon us from these walls—yet he, in his early prime, endangered his position by the breadth of his views, and the freedom of his speech upon matters wherein, it was foolishly thought, religion conflicted with science. His mind, which was singularly endowed, was sedulously cultivated, and he had deeply drunk of that philosophy which possessed the intellect of Europe after the French Revolution. Science, he said in his memorable work on the natural history of man, requires an expanded mind, a view that embraces the universe. Cuvier was his ideal, and his praise he never tired of singing. Hunter might be a surgical physiologist, he said, but Cuvier was a philosophical naturalist. Hunter's view of life as something superadded to matter, a belief which Abernethy declared to be cardinal, was the object of his unsparring attack and merciless criticism. The defenders of the dogma branded him as a sceptic and materialist, and his heinous doctrine that *the brain was the organ of mind*, which sounds inoffensive enough to-day, was held to be so impious that the governors of Bridewell and Bethlehem demanded recantation or resignation. Alas! thus impaled, he did not prove superior to Galileo, and the most enthusiastic admirer of his splendid intellect would find it difficult to reconcile his recantation with the principles he professed to hold. In the introductory lecture he gave in 1817, in which he attacked Mr. Abernethy, who was no literary match for him, he declared, "However flattering it may be to my vanity to wear this gown, if it involve any sacrifice of independence, the smallest dereliction of the right to examine freely the subjects on which I address you, and to express fearlessly the result of my investigations, I would strip it off instantly. I willingly concede to every man what I claim for myself—the freest range of

thought and expression; and am perfectly indifferent whether the sentiments of others on speculative subjects coincide with or differ from my own. Instead of wishing or expecting that uniformity of opinion should be established, I am convinced that it is neither practicable nor desirable; to quarrel with one who thinks differently from ourselves would be no less unreasonable than to be angry with him for having features unlike our own." Such noble liberality of sentiment, however, is less apparent in his lectures than that subtle earnestness and inventiveness of which he was such an accomplished master. As to the teaching for which he was so blindly abused, Sir William Savory, in his sympathetic biography, says he was far in advance of his time; the doctrine he exposed has become a dogma of the past. Lawrence inquired, "Where shall we find proofs of the mind's independence of the body? Of that mind which, like the corporeal frame, is infantile in the child, manly in the adult, sick and debilitated in disease, frenzied or melancholy in the madman, enfeebled in the decline of life, doting in decrepitude, and annihilated by death?" His reply is, "Nowhere: all life depends on organisation, as the light of day upon the sun. Philosophy, since Lawrence's time, has shown the problem is not quite so simple. We know more of the unintelligibility of our knowledge of matter as matter than he did. We should agree with him, 'ignorance is preferable to error; he is nearer to truth who believes nothing than he who believes what is wrong.'" Materialism held the field in Lawrence's day. Idealism, thanks to the belated influence of Berkeley and Spinoza, and more modern thinkers, has knocked the bottom out of materialism, and the relativity of all knowledge goes behind the reckonings of the mere materialist. But then, as now, opinions were denounced because they were dangerous, not because they were erroneous, and such mock morality was fair game for Lawrence's satire. "The foundation of morality undermined," he cried, "and religion endangered by a little discussion and a little ridicule of the electro-chemical hypothesis of life! No, I shall not insult your understandings by formally proving that this physiological doctrine never has afforded, and never can afford, any support to religion and morals; and that the great truths, so important to mankind, rest on a perfectly different and far more solid foundation."

I would, therefore, lay it down, in the first place, that progress in knowledge of mental phenomena and mental disease is impossible so long as authority requires their study to be subjected to, and fitted in with, some theological system. Demonology, as a pathological doctrine, has had its day; the laws enacted against witchcraft in the time of the Stuarts, and the spirit that occasioned them are, or ought to be, as dead as Queen Anne. Our methods of study here, as elsewhere, must be by induction and deduction, by synthesis and analysis, by investigation of the objective facts of the nervous system, and the subjective experiences of the mind, regardless of consequences, and with a single eye to what is true.

Another factor which has been operative in the direction of attracting more attention to the lot of the insane, and consequently, though indirectly, to the causes of lunacy, has been that movement so well called the "new philanthropy," whose rise may be dated from the latter half of last century, and which in the present century has been codified, and perhaps thereby unduly fettered, in the Acts relating to the provision for the poor and afflicted. Accommodation for the systematic care of persons of unsound mind in this country generally, and in London, has been mainly of recent date. It is true that, in 1537, a house was set apart in Bishopsgate for the maintenance of some fifty lunatics, and that in 1675, a Bedlam was established at Moorfields, but the evidence of any humane movement for the amelioration of the condition of the insane is scanty until we near the close of the eighteenth century.

Hogarth, who died in 1764, has recorded on canvas the scenes of squalor and neglect which these *Bethlehems* of the last century concealed within their walls. What a study in pathological portraiture are his "scene in Bedlam" in the Rake's Progress. There we behold on one small canvas a crowded panorama of London's intellectual refuse; there sits apart the large-brained melancholy with clasped hands, listless and unaffected by the barking dog; above him the general paralytic self-donned with dunce's cap, and tawdry sceptre dilating of his wealth and power. The solitary cell to the left shows, stretched on straw, the last stage of senile dementia; in the forefront the manacles are being applied to the limbs of the maniac, whose head is examined by the apothecary as if in dubious anticipation of its modern methods of cerebral localisation. The final satiric touch is given by the visit of two ladies of quality and fashion, inspired by prurient curiosity; and, perhaps, the one redeeming feature of the whole is the mob-rapped nurse, whose ministrations serve as an earnest of that great reform in the care of the sick and insane which it has been the privilege of our era to have witnessed.

In 1793, Pinel was unchaining the patients in Bicêtre, and the humanitarian outburst which had inspired Howard to reform our prisons, Romilly to revise the barbarous criminal code, and Wilberforce to enfranchise the slave, had, through the Quakers of York with Tuke as the pioneer, initiated a revolution in asylum management. "Non-restraint" was the watchword of the new system, which found its complete recognition at Hanwell Asylum under Conolly between 1829 and 1832. Hanwell is thus a connecting link between the old and the new methods of dealing with the insane, and it is now under the same management as that new Lunacy Palace at Claybury recently opened by the London County Council, and which comprises all that modern science could require and the new philanthropy demand. Although this development of humanitarianism which I have sketched had for its object the amelioration of the treatment of insanity, it had, indirectly, a far-reaching influence upon the study of its causes and prevention. The origin of the old Bedlam was mainly traceable to the desire to remove the scandal of neglected imbeciles from the public eye, and the shut imagination of the time was easily saved if no gross neglect or public exhibition took place "to the high displeasure of God and damage to the King's people." Now-a-days, thanks to the great confidence our asylum management commands, a large number of early and acute and slight cases are admitted, which previously would have remained outside, the hopeless and helpless, fully one in relatively smaller proportion, amenable cases, and cases yet in an amenable stage come under observation, and our medical superintendents are not depressed and hampered by a dreary round of treatment with little else but enthusiasm as its goal, but are quickened, inspired, and cheered by the knowledge of successful issues, of sanguine prognoses, and by a feeling that, in part at least, this destroyer of man's mind is within their power and control.

Thus it comes about that in our modern asylums there is a vast mass of mental aberration, of infinite variety of nature and degree, available for the philosophic pathologist to observe and generalise upon, and I turn to consider how far this so-called "clinical material" is utilised in the interests of society and science for the advance of knowledge calculated to prevent or to relieve.

According to the forty-eighth report of the Commission of Lunacy there were, on January 1st, 1894, 92,007 persons retained as of unsound mind in England and Wales, of whom 83,025 were pauper cases, 8,311 private cases, and 731 were criminals. The pauper cases of London, for whom the London County Council is responsible, were, on January 1st, 1894, 11,668; they are maintained at the five asylums at Hanwell, Colney Hatch, Banstead, Cane Hill, and Claybury at a cost of between £300,000 and £400,000 per annum; we are about to build a sixth asylum at Bevelly, as even now the demand upon our beds is greater than the supply. I pass by the question of the real or apparent increase of lunacy, interesting and intricate as that question is, and I also pass the question of the desirability or otherwise of private asylums, and proceed to inquire what is being done by way of pathological investigation at the county asylums of London with their 11,000 lunatics; how this compares with work done elsewhere; and what proposals have been or are being made with a view to stimulate further advance?

The first County Council considered a plan prepared with infinite pains, as the result of much inquiry, by Mr. Brudenell Carter for a hospital for the insane—the report on the subject is full of interesting matter, but the plan did not commend itself to the Council, and it was accordingly dropped.

When the second County Council came into office, now nearly three years ago, the question was again mooted, and a sub-committee was appointed on November 1st, 1892, and its terms of reference were—

"To consider as to whether a pathologist should be appointed at each asylum, or whether one or more pathologists should be appointed and their services be rendered available for all the asylums; and also as to the precise nature of the duties to be performed by the pathologists, the salary attaching to the office, and upon any other details that may arise during consideration, with power to confer with the medical superintendents."

I had the honour to be elected chairman of that sub-committee, and we felt it to be our first duty to ascertain the nature and extent of the pathological work at present carried on in the then four county asylums, and by a series of questions directed to the medical superintendents to obtain their views as to the direction in which any further development might be expected to secure.

The following questions were accordingly addressed to the Medical Superintendents of the London asylums:—

1. What is the number of the post-mortem examinations made in your asylum each year since January 1st, 1889?

2. What is the nature of the various observations noted in each post-mortem examination? Is the report made in accordance with a prescribed form? (If so kindly forward copy.)

3. Is the present mode of examination in your opinion adequate or exhaustive?

4. To what extent are microscopical, chemical, or other elaborate methods of examination employed?

5. Are macroscopic and microscopic specimens preserved, and is any permanent record of them kept?

6. Please state the titles and references of all communications made by the members of the present medical staff of the Asylum bearing upon the pathology of insanity to any of the learned societies or medical periodical publications.

7. Do you think that beyond the routine post-mortem examination there is scope for a wider and profitable research into the pathology of insanity?

8. Is there reasonable prospect that such research would lead to improvements in the cure and prevention of insanity?

9. Have you any suggestions to make as to laboratory accommodation?

10. Will you state for the information of the Committee any general observations you may desire to make upon the matter referred to the Committee?

I will venture to read the replies to these ten questions by one of the Medical Superintendents who is well known to Bart's men and because his replies are the least sanguine of the four, and so present the case in its lowest terms.

Replies of Dr. T. Clave Shaw, Medical Superintendent of Danstead Asylum

1. 1889—69 males, 46 females, total 115; 235 deaths. 1890—75 males, 77 females, total 152; 204 deaths. 1891—65 males, 64 females, total 129; 248 deaths. We never make a post-mortem without the consent of the friends. All unclaimed bodies are sent to the schools for dissection, a plan which reduces our number considerably. It is, however, a great benefit to the schools, and the withdrawal of the custom would be a great loss to the profession.

2. There is no printed form of book, but the examination is thorough, all the external appearances being first noted, and then every internal organ being noted whether healthy or otherwise. The spinal cord is not invariably examined. The condition of the various constituent parts of the brain is noted when affected, and if the other parts are healthy it is so stated.

3. I think that the present mode is adequate for ordinary asylum purposes, &c. for verification of causes of death, ascertainment of unsuspected injuries. Such is the motive chiefly urged by our Commissioners in their demands for as many post-mortems as possible. Several things combine against a very exhaustive examination, e.g. it often happens that several post-mortems are on the same day; in many instances minute examination is impossible, because the bodies are not sufficiently fresh, owing to the difficulty of getting early examination. An exhaustive examination (including microscopical work) would occupy many hours, and as a rule (here at any rate) the "pathologist" has other duties besides those in the post-mortem room.

4. Only when so-called "interesting" specimens are seen is any special microscopical examination made. Ordinary section-cutting is not practised, and it is difficult to see what would be the advantage of it beyond familiarizing the pathologist with what he is already supposed to know.

5. When any interesting, i.e., rare or well-marked, specimens are met with, I have generally sent them to the museum at St. Bartholomew's Hospital, as this asylum is closely identified with that school.

6. I wrote a paper on certain conditions of the ribs in the St. Bartholomew's reports, and we have used the laboratory for examination of blood and sputum, but I cannot point to any other recorded work in this branch unless I refer to a case of myxedema, where we prepared the thyroid juice and examined the blood in the small bacteriological laboratory here. A paper was written on this subject work at before the British Medical Association in August. The chiefly in the direction of clinical teaching. Personally I have written many papers in the St. Bartholomew's Reports and the medical journals. At present I have no time to sit down and write a book on the subject of insanity.

7. So much pathology of the nervous system has been written in Germany and other countries, as well as to some extent in this country, that I doubt if there is much scope for profitable research in this direction. Probably the association of physiological investigation

with the pathological might lead to results in time, and more especially if the paths of normal brain action were brought into direct relation with diseased processes as in the experiments of Hitzig and Ferriar, but this requires the special knowledge of a physiologist as well as a pathologist. The diseased and broken-down brains of those who die in asylums give little scope for any original work beyond what has been already done.

8. I cannot point to any distinct system of cure or treatment from what we know of the pathology of insanity, except I refer to the slight improvement in some of my own published operations to relieve brain pressure, and to some cases of surgical interference in melancholia published in Germany. Until we have a better knowledge of physiological brain action I expect little from pathology. The elaborate brain sections of Revan Lewis published in his book have led to nothing in the way of treatment.

9. If a specialist is appointed to do the pathology of the asylums, he would require a central laboratory and one, or perhaps two, assistants. Of course his work should not be allowed to interfere with any that the medical officers connected with the asylums might wish to take up. I mean that he should not necessarily have the right to appropriate any specimen that he liked, nor to clash with the superintendents in the disposal of the bodies of deceased patients.

10. I should say that a suitable man could be obtained for say, a salary of £600 to £700 a year. He would be able to give three or four days a week to the special study of pathology on the lines above indicated. I would deprecate the calling upon the special pathologist for "reports," and would leave him to announce results when he had matured them. In time something might result from this, but I am not very sanguine. I would still call the junior medical officer at the asylum the "pathologist," because it is I think of great advantage to have the post-mortems done by the same man, and the "junior" being the last appointed, comes with the most recent views from the hospitals, and not having so much to do in the wards is able to devote more time to the work. In this way it may occur that the Council may as it were develop a pathologist of its own. The existing opportunities for work are large, and there is little doubt that men will be found to take advantage of them, but I doubt if advances can be hurried, and I would prefer to let thorough provision for work at the asylums be made, and to wait a little time for development, rather than at once to establish a great departure, the success of which to say the least is far from certain.

The four sets of replies permitted the Committee to summarise conclusions as follows:

(1) That post-mortem examinations are made in a large proportion of the deaths in the asylums. In the year 1891 there were no fewer than 583 examinations made in the four asylums.

(2) The post-mortem examinations are conducted in the usual manner and the results recorded, though not on any uniform plan for all the asylums.

(3) The post-mortem examinations as conducted at present are to be regarded as adequate for purposes of ascertaining the causes of death and the presence or absence of injury but are not exhaustive in a pathological sense. The clinical and other work of the medical officers, the absence of suitable laboratory accommodation, and the amount of material being assigned as the causes which prevent more exhaustive research.

(4) For these and other reasons, microscopical, chemical and other elaborate methods of examination are not resorted to except in special cases.

(5) There is no attempt to preserve specimens in a museum, or to catalogue them, though in some cases specimens are forwarded to medical schools.

(6) Several valuable communications on the pathology of insanity have been made to medical periodicals and societies by officers of the asylums, but the pressure of administrative duties has been assigned as precluding such work in some cases.

(7) There is general agreement as to there being scope for wider and profitable research into the pathology of insanity beyond the routine post-mortem examination, and it is to be borne in mind that to be productive of fresh knowledge association of physiological and pathological research is essential.

(8) Research conducted on such lines is likely to lead to some improvement in the treatment of the insane, although it would be hazardous to prophesy that direct and definite advance could be speedily assured.

With a view to obtain further information, the Sub-committee obtained information from provincial asylums (notably those of York-shire and Lancashire where much good work has been done), and

also from abroad. By the kindness and courtesy of Lord Rosebery, who was then at the Foreign Office, representatives at European capitals and at Washington were asked to endeavour to obtain information, and the department was furnished with 100 copies of the questionnaires sent to the medical superintendents for this purpose.

The Sub-Committee felt that the information received enabled them to report that in their opinion there was room for more thorough pathological research in connection with the county asylums, and that such research might lead to information likely to be valuable in the treatment and prevention of insanity.

The Sub-Committee considered that the advantages in favour of appointing one pathologist available to all the county asylums far outweighed any that could be suggested in favour of one pathologist to each asylum. There is no necessity to supersede the present practice in accordance with which the routine post-mortem examinations are conducted by the assistant medical officers, but there should be superadded a pathologist of standing and position who should have access to pathological material in all the asylums, and who would, no doubt, direct and encourage research by the younger men who are resident at each asylum. There would, however, be the necessity of providing him with adequate laboratory accommodation adapted both for physiological and physical examination and also for elaborate microscopic and chemical investigations. That such laboratory should be closely connected with some one asylum we regarded as essential in order that clinical study may also be available to him. The fact that Claybury Asylum is still in course of equipment and affords ample room for such laboratory suggested to the minds of the Sub-Committee that there would be great advantages in attaching the pathological department to it; we thought, however, before finally recommending this course, it would be essential that the Claybury Sub-Committee be requested to consider the proposal and, if it were favourably entertained, to direct the architect to prepare the necessary plans and also submit an estimate to the Asylums Committee.

We further reported that, in our opinion, in order to secure a man of sufficiently wide knowledge and capacity for so important a post it would be necessary to offer a substantial salary. This, in our opinion, should be about £700 per annum. We mentioned this sum on the assumption that residence at the asylum would not be required; should this, however, be eventually considered desirable a proportionate revision of the amount would be necessitated.

The pathologist should be required to devote himself exclusively to the work, to report from time to time, to publish the various researches in which he has been engaged, and also those which other medical officers have carried on under his guidance. He should not have charge of, nor interfere with the clinical treatment of the patients, and his work must in no way conflict with that of the medical superintendents.

These recommendations have been finally approved by the L.C.C., the laboratory at Claybury is in course of erection at a cost of £4000, and the appointment of the pathologist will shortly be made.

It now remains for me to put together a few points which in my judgment must be borne in mind by those who shall in the future seek to explore and illumine this dark continent of mental disease. In the first place it is needful to remember that pathology is not post-mortem making, neither is it microscoping, nor even test-tubing; these are helpful and needful adjuncts, but they do but touch the fringe of the question. It is as idle to seek a true pathology of the mind by living in the post-mortem room as it was of the old Oriental physicians to endeavour to understand the constitution of man without dissection. A pathologist must take a broad and philosophic survey of his subject; racial, social, hereditary, historical, and geographical considerations must enter into his reckoning; he must be a psychologist, acquainted so far as is yet possible, with the working of the normal mind. In other medical matters we consider it expedient for the student to anticipate morbid anatomy by normal histology, and for physiology to precede pathology. While agreeing, and indeed emphasizing the fact that there is no hard-and-fast line between the two sets of phenomena, and insisting that disease has often physiological beginnings, and that healthy habits may have inherent pathological possibilities, yet I cannot understand the methods of those who think psychology has no part in medical education, and that its very elements and those of formal logic should be accounted unnecessary or superfluous even for an M.D. of London.

Then, again, a crude materialism must be avoided, such as that which led Carl Vogt to declare the brain secreted thought as the liver secreted bile, or like that absurd elaboration of phrenology which led Gall and Spurzheim in the beginning of this century, and George Combe and others in the 1840's, to find the whole duty of man in the investigation of the bumps of his cranium.

In a similar manner must those physico-psychic phenomena, such

as mesmerism and electro-biology, be duly and wisely observed but kept in their proper relationship and not permitted to enshrine and vulgarize the mind. The physico-chemical school of thought reached its zenith in the materialism of the end of the last century and the commencement of this. Mathematical explanations of disease were offered, mind was reduced to the dance of molecules, stories of stone-solvents filled the pages of the Royal Society's *philosophical transactions*, and engrossed the attention of bishops and of Parliament. Even John Hunter believed in the influence of the moon on the mind. Mesmer, who died in 1815, argued for the influence of the stars upon mankind, and wrought miracles with magnets. The fate of the learned and eloquent Elliotson should serve to point a moral and adorn the tale.

Dr. Clave Shaw seemed to think in the replies I read to you that the whole field of anatomy of the nervous system had been covered; but it is well to remember the work of Sir C. Bell, embodied in his idea of a new anatomy of the brain, and published in 1811; and the methods of Majendie and Marshall Hall, along with the intuitive speculation of Johannes Müller, which may well serve as guides to fresh acquisitions of knowledge. The study of the anatomy of the nervous system has been in the past conducted mainly from a static standpoint, and though a dynamical value has been added by the work of Du Bois Raymond, Flourens, Bernard, Helmholtz, Goltz, Weber, Fechner, and others, it seems to me that Charcot's anatomic pathological method, so called for want of a better name, opens up one of the most fruitful and promising avenues of research in this direction. No one can read the brilliant lectures of Charcot without the feeling that out of the mental and moral rubbish of Paris, such as Salpêtrière used to be, by the impact of his genius has, as it were, struck fire out of flint.

In the able treatise of Gowers on diseases of the nervous system, we see again how neuro-pathology has advanced by vigilantly tracking down clinical symptoms to their anatomical accompaniments. Gowers indeed states (p. 91): "with the much disputed question of the relation of the mind to the brain, the physician has nothing to do," and thus avoids the predicament of Lawrence, though somewhat violently shutting the door upon first principles which must ever recur to the philosophic mind, and which cannot be thus summarily dismissed.

In addition to a knowledge of the history of philosophy whereby modern psychology has reduced physical phenomena to "permanent possibilities of sensation," and mental phenomena to a "series of states of consciousness," the mental pathologist would do well to familiarize himself with the analysis of mind into intellect, sensations, emotions and will, and the further resolution of intellectual processes into consciousness of similarity, consciousness of difference, and retentiveness. Neither should he neglect the assistance of formal logic in arranging correct nomenclature, definitions and divisions, or classifications of his subject. Most of the extant classifications of insanity are hopelessly illogical—the various genera and species being not mutually exclusive. Take for instance that of Guy and Ferrier, which, it is true, the authors disclaim as a "condensed philosophy of the mind," but having divided up unconsciousness of mind into amnesia, dementia, and mania, they give idiocy, imbecility, and cretinism as three species of the first; and chronic, senile, and general paralysis as three species of the second. A better procedure would have been to classify mental disorders in accordance with the elements of mind, intellect, will and emotions, while illusions may be regarded as sensual aberrations.

Then, again, the effect of definite chemical agents upon the mind offers a likely source of fresh knowledge; the effects of lead, mercury, arsenic, silver, zinc, copper, of phosphorus, of coal gas, alcohol, chloroform, nitro-benzol, robituric. The literature of the subject is at present scattered, and the influence of selective poisons on the nervous system, or certain parts of it, requires to be further worked out. Similarly the temporary and abiding effects of heat and electricity require further elucidation. A notable recent triumph has been added to therapeutics by the association of myxædemia with thyroid change. As I was the first in this country to successfully transplant the thyroid of the sheep into the human subject, I am glad to record my belief that all the beneficial effects may be obtained, certainly in no less degree, by the ingestion of the dried gland. Those who have watched a case under treatment cannot but have felt that in the mental improvement effected by more bits of dried sheep's gland, there is the basis of hope for the future in reclaiming yet other cases of morbid prognosis within the compass of successful treatment. I said that geographical and historical considerations required to be looked into in following the ætiology of mental disorder. Hirsch speaks of the prevalence of hysteria in the Baltic provinces and among the interesting Samoyedes where, alone in Europe, paganism still reigns.

Not less remarkable are the "epidemic psychopathies" so called, associated with religious revivals in former as well as in recent times; witness the dancing frenzy of German mediocrity, the tarantism of the sixteenth century Italy, the preaching disease of Sweden in 1854, '58, and '67, the "jumpers" in Cornwall in 1760, and evidence is not wanting to show that yet more recent revivals have supplied their quota to the inmates of asylums. Mimicry and suggestion here doubtless play an important part in propagating these diseases which are mainly within the region of the emotions, and which a fanciful pathology ascribed to the vagabond propensities of the uterus. I feel that alike in psychological and psychiatric works too little attention has been in the past given to the emotions. As a rule their physical relationship to the senses is dwelt upon, and they are usually catalogued with these under the undignified and equivocal heading of "the feelings." Their educational and moral side is vaguely and meagrely treated, their affinity to the appetites is enlarged upon, but scant courtesy is usually paid to that side of the mind which is surely hardly if at all behind the lordly intellect in mental sovereignty. Comparative psychology may here give a valuable sidelight by the study of mind in lower animals, and especially their instincts or untaught abilities often more pronounced and more precocious than in the lord of creation. As pathologist will do well to study in its simplest expressions the influences of motives upon the will with their bearing upon spontaneity and necessity, that battle-ground of the schoolmen—Müller says: "The idea of self and of individual existence, is the fundamental theme of all the ideas combined with emotions; but the idea of self and of a change suffered by it, does not without the effort of striving in the mind, constitute passion." Perverted egotism is "insanity of persecutions," "anæxia nervosa," "neurasthenia," in some of its manifestations, falling off imperceptibly into what will pass as sanity or be set down charitably to boredom or idiosyncrasy. It is interesting to note in this domain wherein æsthetics and physiology meet to find the matter-of-fact Müller devoting four or five pages of his work to a citation of what he justly calls the "mastery of the emotions" by the transcendental Spinoza, and I would urge all students to read and ponder the aphorisms set out in the conclusion of that seventeenth century philosopher; and finally, for I must plead the lack of any consecutive leisure, the mental attitude of the mental pathologist should be that which Faraday depicted as essential for the true philosopher. "He should be a man willing to listen to every suggestion, but determined to judge for himself. He should not be biased by appearances, have no favourite hypothesis, be of no school, and in doctrine have no master. He should not be of those qualities be added nature." Sir William Hamilton exclaimed, "in nature there is nothing great but man, in man there is nothing great but mind." How great then should be the mental altitude of him who should seek successfully to unravel and minister unto "the mind diseased."

Choice of Microscope: Hints to Students.

STUDENTS make a few common mistakes in buying their first microscope. They either spend five to ten pounds on a handsome but useless piece of brass, nice to look at and worthy of an F.R.M.S., or they purchase an instrument which will answer their immediate wants and purpose, *i.e.* simple histology, but which is practically useless for their later and more advanced studies. While buying a microscope the student should see that he gets an apparatus which will last him throughout the period of his professional life; he may begin with a simple instrument, but it must be capable of improvement. Ordinarily he or his mentor buys an instrument which cannot be built up to suit the requirements of the moment;

and when the student reaches that stage of his curriculum when a sound microscope is necessary, he finds that he is the proud possessor of an instrument quite unfit for pathological or bacteriologic work. Being often asked what microscope to get, and how to buy it, I shall use this opportunity of giving one or two hints.

1. The microscope must have a coarse adjustment by rack and pinion, and a fine adjustment by micrometer screw.

2. It must be so arranged that an Abbé condenser can be fitted on at any time.

These are the most important conditions. The rest depends on the amount of money available. But it is simply folly to buy an instrument which does not possess the above qualities.

As to the makers, speaking from personal experience, there are only two whose microscopes I venture to recommend, viz. Leitz and Zeiss. Leitz is the cheaper of the two, and as I cannot detect any difference between his ordinary instruments and those by Zeiss, I give him the preference. If it is a question of Apochromatics, Zeiss holds the field. Personally, for all laboratory work, I prefer Leitz's microscopes, and invariably recommend them now.

(i) A complete Leitz (see *Catalogue*, 1894, p. 23, No. 5), with oil immersion, and all that is required for advanced work, can be obtained for £17 or for £15 (see p. 27, No. 9).

(ii) The first year's student has no use for oil immersions, and he can get the same microscopes without the additional parts for £8 5s. or £7 5s. He may add later on the Abbé condenser, &c., and purchase an oil immersion.

(iii) Leitz's oil immersions are excellent in quality and amazingly cheap (£5), Zeiss's ordinary oil immersion being £8.

Apochromatics being out of place in the hands of students, I need not say anything about them, but for them I should go to Zeiss. It is to be regretted that our English makers will not be taught. Leitz is the cheapest manufacturer at present, and his instruments are so good at the same time that we are perforce drawn to him. Frequently students have asked me to order microscopes for them from Leitz. Though I willingly assist them, I find that it involves a serious loss of time and a certain amount of vexation and annoyance. I have, therefore, made an arrangement with Leitz, according to which his microscopes and lenses may be obtained at catalogue prices from G. Goffi, Dr. Klein's laboratory assistant. I shall, of course, gladly give advice as I have done hitherto, and also will offer to examine the lenses afterwards. Good microscopes can be bought so easily if, at the outset, the student thinks of the future, that to me it is always painful to find men attending my laboratory compelled to use, if not to misuse, my own instruments and lenses. It is almost as if a clerk in the wards were to ask his physician for the loan of his stethoscope.—A. A. KANTHACK, M.D.

A Case of Scurvy Rickets.

By EDGAR WILLETT, F.R.C.S.,

Surgeon in charge of Out-patients to the Belgrave Hospital for Children, 77 and 79, Gloucester Street, S.W., Senior Assistant Surgeon to the Metropolitan Hospital, Kingsland Road. (From notes kept by ERIC FRANCE, M.B., House Surgeon.)



HE disease Scurvy Rickets is a particularly interesting one, and is of sufficient rarity to warrant the placing on record of any typical case.

D. S.—a male child *et. 11 months*, was brought to the Out-patient Department of the Belgrave Hospital for Children on December 28th, 1894. The mother was an intelligent woman, and was evidently in rather better circumstances than are the ordinary out-patient mothers. There was nothing important in the family history, it was an only child, and there was no syphilitic taint on either side. Till the commencement of the present illness the child seemed to have had good health, with the exception of slight attacks of diarrhoea and sickness when it was six months old. It appeared to have been fed on the breast until six weeks of age, but without any regularity as to time or amount; from six weeks till six months it was fed on boiled cow's milk and barley water in equal parts whenever it cried. As diarrhoea and sickness followed the mother was advised to try Nestlé's condensed milk, and this formed the chief food from six months to nine months, the condensed milk being used in the proportions of one part milk to eleven of water, the same irregularly as to time and amount continuing; from nine months to eleven months, *i.e.* the age on admission, an American artificial food known as "Rolled Avena" had been used in addition. It also transpired that during this time the child generally vomited after its food, but this was not regarded by the mother as anything abnormal. Anxiety was, however, caused by the child's increasing fretfulness, which was more marked at night, and which was no longer appeased by food. About a fortnight before being brought to the hospital the mother noticed that the screaming became louder when the child was moved, and that its legs appeared to be exquisitely tender. This condition became more marked up to the date of admission.

Condition on admission.—The child appeared to be fairly healthy; its muscles were rather flabby, the anterior fontanelles were still widely open, and there was some enlargement round the radial epiphyses, but there was no marked beading of the ribs, nor was there any sinking in of the sternum. There was no sponginess or tenderness of the gums, but this was not remarkable as no teeth had been cut. The internal organs appeared to be normal, the spleen was not enlarged, there was no marked anaemia, no hæmaturia, and no albumen in the urine.

The child lay with the legs hanging down, and both were exceedingly sensitive to the slightest touch; there was no paralysis. Just above the left knee there was a marked general swelling of the limb extending upwards over the lower third of the femur; there was also a similar but rather less definite swelling just above the right ankle. The skin in these situations was slightly glazed, but not discoloured; the swellings were firm, and affected the whole circumference of the limb, and there was no fluctuation or soft spot to be detected. There were no signs of fracture nor of separation of the epiphysis. There was a trace of œdema. No other swellings were found in any other part of the body.

The measurements taken round the limbs were as follows: December 28th.—1 inch above right ankle, 5½ inches; 1 inch above left ankle, 4½ inches; 1 inch above right patella, 6½ inches; 1 inch above left patella, 8 inches.

Treatment.—The most remarkable point in the case was the effect of the treatment, which was strictly in accordance with that recommended by Dr. Barlow in his recent Bradshaw Lecture.* No medicine was given, nor was anything done or applied to the limbs, but great attention was paid to the diet; this consisted of fresh unboiled undiluted milk, of which a pint and a half was taken in the twenty-four hours, together with two ounces of raw meat juice, about six ounces of sieved potatoes, and twelve grapes carefully stoned. Careful measurements were taken of the limbs each day, and in twenty-four hours the swelling above the left knee showed a distinct diminution in size, thus—

On December 29th the left knee measured 7½ inches, *i.e.* 4 inch less. The right ankle measured the same as on admission.

30th.—Left knee measured 7½ inches. Right ankle, the measure-

* *British Medical Journal* for November 9th, 1894, p. 1029.

ments were unaltered. The child was not so restless; it screamed less, took its food well, and had no sickness.

31st.—Left knee measured 7½ inches. Right ankle unaltered.

January 1st, 1895.—Measurements remained the same, and the child seemed better generally.

3rd.—Left knee measured 7½ inches. Right ankle measured 5 inches, the first noticeable diminution.

4th.—Left knee measured 6½ inches. Right ankle measured 4½ inches. There was very little tenderness of the legs now to be noticed.

7th.—Left knee measured 6½ inches. Right ankle measured 4½ inches, and the measurements were thus equal in both limbs. There was now no tenderness, and the child appeared quite well and contented, and was therefore discharged two days later. It will be noticed, therefore, that the measurements became normal on the eleventh day of treatment; also that the right ankle, which was only increased in size by five eighths of an inch, did not begin to decrease until the end of the sixth day, while the left knee, which was increased by one and a half inches, had actually decreased in size by a quarter of an inch at the end of the first twenty-four hours, and it continued to show almost a daily improvement. Throughout the stay in the hospital the child took all its food without any difficulty or evidence of gastro-intestinal disturbance.

He has been brought to the hospital occasionally since, and the improvement had been maintained, the altered manner of feeding being of course continued by the mother.

It should be noted that the temperature on admission was 100° F., and that, with the exception of the evening of January 2nd, when, without apparent cause, it rose to 105.2°, falling again as suddenly the next morning, it remained throughout at or about the normal.

Very little comment is required on the case. To those who watched it the change in the general condition of the child at the end of ten days was very striking. In the light of the recent most instructive lecture by Dr. Barlow, already alluded to, supplemented by Mr. Marsh's paper published in the *British Medical Journal* of December 1st, 1894, the diagnosis was not difficult. The alternative diagnosis would have been acute perostitis, but the fact that two limbs were affected simultaneously, and in the neighbourhood of the epiphyses rather than in the centre of the shaft, together with the age of the child (only eleven months), was against this theory.

Notes.

PROFESSOR BURDON SANDERSON, who for some years has been Professor of Physiology at Oxford, has been appointed to the Regius Professorship of Physic in the University of Oxford.

DR. CHURCH has been asked to act on a committee of the Clinical Society of London to investigate the clinical value of the antitoxin treatment of diphtheria.

IT IS ANNOUNCED that Mr. C. B. Lockwood will give a course of lectures on "Traumatic Infection" on Monday, Wednesday, and Friday, beginning February 25th, at the Royal College of Surgeons.

DR. THORNE-THORNE, C.B., F.R.S., has been appointed Examiner for the D.P.I.I. Cambridge for the ensuing year.

DR. L. E. SHORE has been appointed an additional member of the special Board for Medicine in the University of Cambridge.

WE HEAR that a new edition of Mr. Bowly's 'Surgical Pathology' will shortly appear.

DR. DONALD MACALISTER is now engaged with the third edition of the English translation of Ziegler's 'Text-book of Pathological Anatomy.'

MR. A. F. STEVENS, who passed third into the Indian Medical Service in August last, has improved his position at Netley. He is second in the combined marks of the Examinations in London and at Netley.

WE welcome a new addition to the ranks of Hospital Journals in the shape of the *St. Mary's Hospital Gazette*. We wish it every success.

MR. D'ARCY POWER has been nominated, by the Council of the University of Durham College of Medicine, Extern Examiner in Physiology for the Second M.B.

THE New Theatre has been the scene of an accident which, but for its timely detection, might have had serious consequences. On Thursday morning, the 31st ult., the nurse in charge noticed a slight smell of burnt wood on entering the theatre at 7 a.m., and the wardmaid, who habitually cleans the firegrate, complained of her inability to make it "chinc," as it was still so hot, although the fire in it had been extinguished about 5.30 the previous evening. On opening a cupboard door between the fireplace and outer door at 9 a.m., the nurse saw smoke rising through the floor, and promptly gave the alarm. Several boards were then taken up on the landing close by, when volumes of smoke issued, filling the landing. A hand hose was applied under the boards, and by degrees the smoke cleared off. Further uprooting of the floor inside the Theatre was then proceeded with, but the cause of the trouble was not arrived at till the prettily tiled hearth was reduced to a ruinous heap, when it was discovered that the fireplace had been built over a wooden beam which had ignited, and must have been smouldering some little time. To uproot a mosaic floor is not light work, and cannot be done in a few seconds, but the men worked hard, and aided by the hand hose, which could be inserted beneath the flooring, the danger was soon overcome. It is useless to dwell upon what "might have been," we can only congratulate our Hospital on the escape it has had from a terrible disaster. The ceiling over the staircase below the Theatre was very much damaged by the water. An iron girder has replaced the offending beam, and it is to be hoped no further alarming accidents will happen there.

Amalgamated Clubs.

NEW MEMBERS.

H. Boulton. R. A. Yeld.
H. W. B. Shewell. G. S. A. S. Wynne. J. J. Scrase.

FINANCE COMMITTEE.

At a meeting of the Finance Committee held on January 28th, 1895, it was reported that the School Committee have expressed approval of the date suggested for the formal opening of the new ground, viz. Saturday, June 8th. A suggestion was made that the proceedings on that date should close with a dinner of members of the Amalgamated

Clubs in the evening, and members of the committee were asked to ascertain the views of the members on this point.

The question of the Amalgamation Colours, which had been referred to a special sub-committee, was fully discussed upon a long and careful report from the sub-committee. It was resolved that G. Lewin be appointed outfitter to the Amalgamated Clubs, and that members be supplied with the Club blazer only on an order from the Secretary of the Amalgamated Clubs. It was decided that there should be two blazers—one of plain black, with the Hospital shield worked in black and white silk on the pocket, and with brass buttons—which may be worn by any member of the Amalgamated Clubs; and a second of broad black and narrow white vertical stripes, with the Hospital shield on the pocket, worked in black and white silk,—to be worn only by those members who have represented the Hospital in any of the following Inter-Hospital competitions, viz. Rugby Football, Association Football, Cricket, Tennis, Athletic, and Water Polo. Details as to a sash and a hat-band, &c., were referred back to the sub-committee to decide.

ASSOCIATION FOOTBALL CLUB

Owing to the severe weather which lasted throughout January, only two matches were played, these being against Ilford in the London Senior Cup Competition. The first of these two matches was played at Ilford on January 19th, and after a fast game the result was a draw—one goal each. Bart's scored in the first half, and held their own until five minutes before time, when Ilford just managed to equalise from a corner kick. The match was replayed on the following Saturday, on our own ground at Lower Edmonton, when the Foxes kindly consented to lend us their goal-posts for the occasion. The ground was very hard, but both teams considered that it was fit to play on. This time, again, it nearly ended in a draw, as until within five minutes of time the score was two goals all, but the Ilford forwards pulling together at the last managed to score another goal, and thus won by three goals to two.

FIXTURES FOR FEBRUARY.

Sat., Feb. 2.	—Polytechnic	at Merton Hall.
" "	2.—St. John's College (Battersea)	Edmonton.
Wed., "	6.—Vampires	Norbury.
" "	6.—Hermosa School	Ealing.
Sat., "	9.—Gravesend United	Gravesend.
" "	9.—Crouch End (Reserves)	Edmonton.
Wed., "	13.—London Hospital (2nd)	Edmonton.
Sat., "	10.—London Welsh	Edmonton.
Wed., "	20.—Aldenhams School	Aldenhams.
Thurs., "	21.—Casuals	Leyton.
Sat., "	23.—Kelgate Priory	Reigate.
" "	23.—Old Chulmelelans	Edmonton.

LONDON SENIOR CUP.

Jan. 19th.—ST. BARTHOLOMEW'S HOSPITAL v. ILFORD.

This tie was played on the Ilford ground before a good number of spectators. Both teams were very evenly matched, each goal-keeper in turn having to save. Not many minutes after the game had started Robinson scored a good goal for Bart's, and thus gave them the lead. A shot from one of the Ilford forwards went into the nets, but the referee, Mr. F. J. Wall, gave it offside. The spectators did not seem very pleased with some of the referee's decisions about this time, and consequently the game had to be stopped for a few minutes, and one or two onlookers were warned. Bart's continued to keep the Ilford forwards in check until just before time was called, when four corners in succession fell to the Ilford team; and from a struggle in front of goal they just equalised by a rather weak shot. As it was too dark to play extra time, the match was ordered to be played on the following Saturday.

Team.—E. H. B. Fox, goal; R. P. Brown, J. S. Mackintosh, backs; W. H. Pope, C. C. Costin, H. J. Pickering, half-backs; A. Hay, C.

A. Robinson, right wing; J. F. Fernie, centre; E. H. Fryer, F. W. Woodbridge, left wing; linesman Mr. C. H. Hopkins, referee Mr. F. J. Wall.

Jan. 26th.—S. BARTHOLOMEW'S HOSPITAL v. ILFORD.

Bart's having choice of ground this time, the replayed tie took place on our ground at Edmonton. The ground was very hard, and the weather being exceedingly cold only a few spectators appeared on the ground. At first Ilford pressed, but Bart's after a time settled down, and repeatedly attacked the Ilford goal, but could not manage to score. Ilford then obtained a free kick from hands, from which they scored their first goal. Another "hands" against Bart's looked dangerous, but Hay intercepted the pass, and with a splendid run right down the field centred to Fernie, who was well up, and the latter scored for Bart's, making the scores level. Each side then scored again within five minutes, Pickering getting the Bart's goal after some very neat play. At half-time the score thus stood two all. On resuming play, Bart's had the best of the game for some time, and Woodbridge sent in a very hot shot, which struck the cross-bar and went out. Just before time the Ilford forwards broke away, and from a good centre they just managed to win the game by three goals to two.

Team.—E. H. B. Fox, goal; R. P. Brown, J. S. Mackintosh, backs; W. H. Pope, C. C. Costin, H. J. Pickering, half-backs; A. Hay, C. A. Robinson, right wing; J. F. Fernie, centre; E. H. Fryer, E. W. Woodbridge, left wing.

Record up to date.

	Played.	Won.	Drawn.	Lost.	Goals For.	Goals Against.
First Eleven	10	10	5	4	54	51
Second Eleven	18	11	5	2	56	30

Ibernetian Society.

THE tenth ordinary meeting of the Society was held on Thursday, January 17th, Mr. Cross in the chair. Mr. MacAdam Eccles read a very interesting and instructive paper on "The Mechanical

Treatment of Hernia," he showed the various appliances used by the Truss Society, and illustrated his paper by showing a large number of cases.

The eleventh ordinary meeting of the Society was held on Thursday, January 24th, Mr. Meakin in the chair. Dr. Hamer read a paper on "The Mortality in Unhealthy Areas of Towns." He compared the present with the older sanitary arrangements, and mentioned the chief hygienic improvements.

The general meeting for the quarterly sale of papers was held on January 31st, Mr. Barron in the chair. The sale realised £1 15s. 8d.

The twelfth ordinary meeting was held on January 31st, Mr. Meakin in the chair. Mr. Bailey read a paper on "Enterectomy," in which he traced the history of intestinal surgery, and compared the latest methods for resection of the small intestine.

The thirteenth ordinary meeting of the Society was held on Thursday, February 7th, Mr. E. W. Cross in the chair. Mr. W. B. Paterson read a paper on "Medical and Surgical Aspects of Dental Caries." The immediate and predisposing causes and sequelae of this disease were dealt with. An animated discussion followed the paper.

It is to be regretted that at the last three meetings the attendance has been extremely small. Doubtless the inclement weather in some part accounts for this.

The New Operating Theatre.

THE long-talked-of New Theatre is an accomplished fact at last; Mr. Lockwood performed the first operation in it on December 11th, 1895.

It is built out from the top floor of the surgical or east block, between the lift and the old Coborn kitchen. Radcliffe B. is the new Coborn, the old ward is unused. The lift brings the patients to a large landing on the top floor, and they wait in the bright little room which used to be Sister Coborn's.

The New Theatre is an irregularly-shaped square room. The walls are completely tiled with square, glazed white tiles. The floor is level and covered with stone mosaic. The roof is high-pitched, sloping from a central ridge; the entire outer slope is constructed of glass, the inner slope is smooth plaster, painted white.

Accommodation for about sixty onlookers is provided by four rows of straight iron bars placed against each of the side walls. The view of the operation obtainable is hardly an ideal one. The light is magnificent, the surfaces of the walls, &c., are excellent, allowing the entire theatre to be daily hoisted if necessary.

The only structural alteration we could suggest would be that the corners might have been rounded.

The ventilation of the theatre is somewhat troublesome; when the windows are opened, soot quickly covers everything, the chimneys of the block being quite close to the upper window. Hot-water pipes heated from the Sitwell Ward kitchen, and an open fireplace keep the temperature of the room up to the requisite standard.

The sink and two washing basins are placed on the outer wall, the waste-pipes from them run along close to the wall. Ordinary hot and cold water taps are fitted; foot taps would be an improvement. The present supply of hot water is inadequate, and has to be supplemented by cans of hot water brought in from the wards. The water is heated by means of boilers in the adjacent wards; this means that large fires have to be kept up in the ward kitchens; in summer this will cause much discomfort. There is no arrangement for the supply of sterilised hot water.

We would suggest—(1) That the hot water and waste pipes should be placed further from the walls, so that they could easily be cleaned. (2) That an ample supply of ordinary hot water be provided by a separate boiler not heated by ward kitchen fires. (3) That some apparatus, like the excellent one made by the Berksfield Filter Company, for the continuous supply of sterilised hot water, should be fitted up. Artificial light is provided by a central gasolier with four powerful Argand burners. We understand that electric light is to be used as soon as the arrangements for the Hospital are completed. The present operating table is to be replaced at an early date by a Julliard-Socin table, imported from the makers in Switzerland.

There are three other tables, all metal and glass, and fitted with castors. One, 18 inches wide, made in the shape of a quarter of a circle, is placed behind the surgeon during an operation. It has on it his instruments, ligatures, and a bowl of antiseptic lotion; it also prevents any onlookers from getting too close to the field of operation. The other two tables are oblong in shape, and are for bowls, sponges, towels, dressings, splints, &c.

The irrigator is a glass one fitted with a cover, of Mr. Harrison Cripps's pattern; a rope and pulley from the roof allow it to be raised or lowered as required. Six large glass tubs, with glass taps, containing boracic acid, iodo, perchloride of mercury, and carbolic acid lotions, are placed on a wooden stand near the outer wall. A Reverdin's stool is provided for perineal and rectal operations.

There is no steriliser for towels or dressings; they are brought up from the old theatre in Schimmelbusch's kettles.

The instrument room is a small one, lighted from the roof, with an open fireplace. It opens into the back of the theatre. The instruments are kept in a glass and mahogany cupboard. The steriliser is of the fish-kettle pattern. When the water boils in it a lot of steam is given off, and as no provision for the exit of this has been made, the result is that the paint on the ceiling is already beginning to peel off in large flakes; this cannot fail to be detrimental to the instruments. We are glad to hear that means are to be taken to obviate the steam trouble.

The washing accommodation is not perfect. A small porcelain sink is placed on a table, the waste-pipe from it emptying into a tub underneath. Cans of hot and cold water are brought in when required. We regret to learn that a proper sink cannot be provided on account of the structural conditions of the room.

In considering the merits of the new theatre, one must bear in mind that it is intended partly for purposes of instruction and demon-

stration, and is not, like some of the modern Continental theatres, a mere room for operating in. It is a great improvement on the old theatre; and when the few defects in detail have been remedied, it will be a theatre of which we may all be proud, and which will be worthy of the best surgical traditions of our Hospital.

Appointments.

ATKINSON, H. CROWLEY, L.R.C.P., M.R.C.S., has been appointed House Surgeon to the Warford Hospital, Leamington.

SHEARS, W., M.D.LOND., L.R.C.P., M.R.C.S., has been appointed Junior House Surgeon to the Scarborough Hospital and Dispensary.

RAILEY, W. H., M.D.LOND., M.R.C.S., has been appointed Medical Officer for the East Dulwich District of the parish of St. Giles, Camberwell.

BROOKSBANK, H. L., B.A., M.B., B.C.CANTAB., has been appointed House Surgeon to the Victoria Hospital for Children, Chelsea.

WEFER, F. P., M.D., M.R.C.P., has been appointed Physician to the German Hospital, Dalston.

CURRIE, J., M.B.LOND., has been appointed House Surgeon to the Beckett Hospital and Dispensary, Barnsley.

LOYD-JONES, E., has been appointed Pathologist to the Addenbrooke's Hospital, Cambridge.

MARSH, N. P., M.B.LOND., M.R.C.S., has been appointed House Physician to the Liverpool Children's Hospital.

ELLIOTT, JOHN, M.D., B.Sc.LOND., M.R.C.P., F.R.C.S., has been appointed Honorary Consulting Physician to the Chester Infirmary.

Examinations.

M. MARTIN, A. M. DALZEL, G. W. STONE, H. E. D. LLOYD, P. L. VAWDREY, and L. E. WHITAKER have passed in Biology at the First Conjoint.

The following have passed the First Conjoint in Bones, viz.—W. G. HAMILTON, N. H. JOY, M. M. MARTIN, A. L. SCOTT, and G. W. STONE.

J. W. LILLIS, P. TATCHELL and A. L. VAUGHAN have passed the First Conjoint in Chemistry and Physics.

IN MATERIA MEDICA of the First Conjoint, F. H. BETTS and B. J. COLLYER have passed; and in Practical Pharmacy under New Regulations, H. R. HUMBY, S. MASON, R. STORRS, P. TATCHELL, and L. E. WHITAKER have passed.

At the Second Conjoint in Anatomy and Physiology, the following have passed.—J. Oldfield, G. A. W. Spear, H. J. Hutchens, F. Brickwell, W. Beckton, E. G. Klumpff, P. P. Lal-Atal, and A. W. Wilkinson.

IN PHYSIOLOGY of the Second Conjoint, A. J. Andrew, E. F. Crabtree, H. M. Waller, and W. Amsden have been successful.

W. AMSDEN and E. F. CRABTREE have passed the Primary L.S.A. in Anatomy and Physiology.

P. CATOR and A. H. FITZGIBBON have passed the First L.S.A. in Anatomy.

J. R. JEFFERSON and H. M. Waller have passed the Primary L.S.A. in Physiology.

P. S. KESTEVEN has passed the Final L.S.A. in Surgery and Midwifery.

THE following "Bart's men," having passed all the subjects of the Final Examination, have been admitted to the diplomas of M.R.C.S. and L.R.C.P., viz.—H. A. Andrews, P. C. Barford, F. H. de G. Best, H. W. G. Bloomfield, E. W. Brewerton, D. W. Collings, E. F. N. Currie, M. D. Eder, L. T. Glee, T. Hampton, C. F. Hedges, B. M. Hughes, J. H. Hugo, J. S. Mackintosh, C. W. H. Newington, F. B. Norris, R. T. Porter, and F. W. Robertson.

E. FERRAND, M.R.C.S.(Eng.), L.R.C.P.(Edin.), and R. H. F. Jones, M.R.C.S., L.R.C.P., have taken the Diploma of Public Health of the Conjoint Board.

LAURANCE HUMPHRY, M.D., has been admitted a member of the Royal College of Physicians of London.

IN the list of successful candidates for the second part of the third M.B. Cambridge, given in our last number, we unfortunately omitted the name of Mr. C. P. White.

Recent Martha Abdominal Cases.

Reported with the kind permission of Dr. CHAMPNEYS and Mr. CRIPPS.

Records.

- October 19th.—Three cases: 2—4.15 p.m.
 - Double hydrosalpinx, right twisted pedicle, 45 minutes.
 - Simple multilocular ovarian cyst, 45 minutes } 1 hr. 35 min., all recovered well.
 - Multilocular ovarian cyst with twisted pedicle, 25 minutes.
- August 17th.—Unilocular ovarian cyst removed, 13 minutes. Left hospital September 9th.
- May 21st.—Case in which girl at widest part 59 in., cyst 13 lbs., amount of fluid 50 pints = 75½ lbs. = 5 st. 5½ lbs.
- November 9th.—Fibroid removed weighing 25 lbs., 2 hrs. 20 min., operation. Death from shock.

Interesting Anomalous Cases.

- Case of encysted tubercular peritonitis simulating inflamed cyst.
- Case of inflamed fibroid of uterus simulating cyst with twisted pedicle.
- Case of epithelioma of cervix with malignant change in multilocular ovarian, and free fluid in peritoneum.
- Case of increasing dyspnoea after hysterectomy for fibroid. Post-mortem—Pulmonary thrombosis.
- Case of cyst due to distended hydatid of Morgagni simulating broad ligament cyst.

Statistics since October 1st, 1894.

Abdominal section 16—3 deaths (1. Shock; 2. Pulm. thrombosis; 3. Pleurisy). Ovarian cysts 6—all recovered. Ectopic gestations 3 (2 recent ruptures, 1 old)—all recovered. Hydrosalpinges 2—recovered. Fibroids 4 (2 died). Tubercle peritonitis 1—died = 16.

The Indian Medical Congress, 1894.

THE first Indian Medical Congress has been a great success. Held in Calcutta, from December 24th to 29th, under the Presidency of Surgeon-Colonel Robert Harvey, M.D., F.R.C.P., D.S.O., V.H.S., I.M.S., it brought together men of all services and non-official medical men from all parts of India, and for all too short a time removed the terrible drawback Indian service—civil particularly—has, viz. isolation of one medical man from another.

Some good work was got through, and the discussions on Indian fevers, cholera, and sanitary organisation were particularly interesting. Mr. Ernest Hart attended and criticised freely. If (in commenting on the paucity of original matter produced) he did not fully realise—what cold weather visitor ever does?—the enormous difficulties medical men in India have to contend with, due to an enervating climate, frequent transfers, overwork, especially excessive office and jail work, his criticisms were at any rate well meant, and may be productive of good. It was absurd, all the same, of him to speak of Indian medical men only just having begun to appreciate the importance of a pure water supply in the prevention of cholera, or of Laveran's malarial *amebæ*, known in Europe for fourteen years, as only just having been seen by them. Both the necessity for pure water and the *rationale* of malarial infection have been recognised for many years in India, and it is not for any want of urging on the part of Indian medical officers that sanitary arrangements are still so backward. The lethargy and indifference of the people, and, more important still, their religious customs, strongly retard sanitary progress, and these points were entirely overlooked by Mr. Hart. What is the use of advising 300 millions of people to boil their water (apart from the question of fuel) when none—no Hindus, at any rate—will drink it when so boiled, and most appear to prefer it with a rich flavour of added excreta?

One matter came up at the General Meeting at the close of the Congress, which is of general interest to the profession. The law in India—as in England—is that no woman can be examined against her will for venereal disease, and no instance is known of a medical man having attempted to defy the law. Now, however, the Secretary of State has sent out a bill, which is at present before the Legislative Council, in which it is proposed to punish medical officers so acting by imprisonment up to two years, or by fine up to R. 500. At the General Meeting the non-official members of the Congress, therefore, proposed and carried unanimously the following resolution:—"That the unofficial members of this Congress desire earnestly to represent to the proper authorities in India and at home the mischiefs likely to result from the proposed Cantonment Act Amendment Bill, especially in so far as the third clause is concerned, which proposes penal legislation aimed at public medical servants, and implies that they cannot be trusted to carry out loyally and promptly the orders of Government on this subject."

Among the old Bart's men attending the Congress were Surgeon-Major C. Owen, C.M.G., C.I.E., I.M.S., Surgeon-Major G. Rankin, I.M.S. (see the 'Transactions,' General Purposes, and Reception Committees), Surgeon-Major Harwood, A.M.S. (in the General Purposes Committee, and Secretary to Section of Military Medicine and Surgery), Surgeon-Captain F. P. Maynard, I.M.S. (Local Secretary Bengal, and Secretary to Section of Medicine and Patho-

logy), Surgeon-Captain F. O. Kincaid, I.M.S. (Reception Committee and Secretary to the Section of Surgery and Ophthalmology), Surgeon-Captains B. C. Oldham, I.M.S., and K. Bird, and Surgeon-Lieutenant C. R. Stevens, I.M.S.,—eight in all.

Teaching University for London.

SINCE the date of our last issue, very important events have happened in connection with the large and difficult question of reform of the University of London, so as to convert it into a "teaching" University by the incorporation of existing teaching institutions in London. It will be remembered by our readers that during last summer a meeting was held at the Royal College of Physicians, at which representatives of the various Institutions interested were present. On that occasion there was, with the exception of King's College, an absolute unanimity of opinion, and the following resolution was passed:

"That this meeting of delegates from Institutions mentioned in the Report of the Royal Commission on the Gresham University, desires to express generally its approval of the proposals contained in the Report of the Royal Commission, and would urge on the Government that a Statutory Commission be appointed at an early date, with power to frame Statutes and Ordinances in general conformity with the Report of the Royal Commission."

At the time when this resolution was passed it was too late in the Parliamentary Session to pass an Act for appointing a Statutory Commission; and it will be remembered one institution, viz., King's College, dissented. At that time, also, the University of London had not given a decisive answer, for although the election to the Annual Committee of Convocation admittedly turned on this question, and a large majority favourable to the scheme had been elected, Convocation had not formally accepted the scheme. Shortly afterwards the Senate passed a resolution expressing general approval.

Matters remained in this condition until January 22nd last, when three events of the greatest importance took place. First, King's College gave its assent to the scheme with certain provisos; secondly, Lord Rosebery received a large and influential deputation from all the public bodies favourable to the reconstitution; and, thirdly, Convocation, though somewhat tardily, gave its assent to the scheme by a majority of 31. This must be taken to be the official declaration of Convocation, notwithstanding the existence of a considerable minority. What effect this minority may have in delaying or obstructing the passage of a bill in Parliament remains to be seen.

We now have all the public institutions, including the

Senate and Convocation of the University, in line, and prepared to accept the principles of the scheme, and we hear that no opposition is expected from the provincial colleges. Under these circumstances—existing now for the first time in the history of the movement—we should imagine that the solution of the question of a Teaching University for London cannot be much longer delayed.

Obiter Dicta.

PNEUMONIA is a well-known complication of rheumatism. Rheumatic pneumonia has a lower temperature, less dyspnoea, and less cough than croupous. It is now a rare thing to see it, but when I was a student it was common. The signs of consolidation were often so extensive that it was a wonder how the patients could breathe. It was often accompanied by pericarditis. That it is now rare is not due to the treatment by salicylates, for pneumonia ceased to be common long before salicylates came into use. I have had a suspicion, but no more than a suspicion, that the then common use of mercury favoured it.—**DR. CHURCH.**

Do you Remember?

(A BALLAD.)

DO you remember, love,
That October long ago
When I pressed you for an answer,
And you said you thought 'twould snow?
How I hurried up to London,
To work and toil for thee;
I was going to be a doctor,
And still I'm going to be.
That's rather a long time ago, dear love,
Rather a long time ago;
Though sometimes in my dreams
It may be shorter than it seems,
It's a devil of a time ago, dear love,
Rather a long time ago.
Do you remember, love,
When you were not quite the dame,
How we journeyed down to Richmond
To watch the dear old game;
And I lost that golden guinea
In the usual "hundred up,"
And we both caught influenza,
Watching "George's" win the cup?
They say we're often near it, don't you know, dear love,
We've often in the final, don't you know;
They say the luck can't last;
We have won it in the past;
But it's rather a long time ago, dear love,
Rather a long time ago.
Do you remember, love,
When I passed that last exam.
By the maximum of fortune,
And the minimum of "exam" ?
How I bought that bag of instruments,
So glittering and so bright,
And I lied about my prowess
As I flashed them in the light.
That was rather a long time ago, dear love,
I haven't used them yet, don't you know;
The bag has long since "rust,"
And there's nothing left but rust.
But then it's such a time ago, dear love,
Rather a long time ago.—**F. W. G.**

Correspondence.

To the Editor of St. Bartholomew's Hospital Journal.

THE ABERNETHIAN SOCIETY CENTENARY—A SUGGESTION.
SIR,—As this is the centenary of the Abernethian Society I would like to suggest that a volume of essays, contributed to the Society by men who have subsequently become distinguished, might be published in commemoration of the event. A somewhat similar volume (an *édition de luxe*, limited in the number printed, and one copy supplied to each living member of the Society) was issued by the Royal Medical Society of Edinburgh in 1892 under the title 'Dissertations by Eminent Members of the Royal Medical Society,' and contains interesting papers written by Bright, Lieton, Syme, Christian, Matthews Duncan, and others, either as students or as recently qualified men. A similar volume containing the essays of men like Kirkes, Skey, Lawrence, Burrows, and others, would be most interesting, and, I think, welcome to all Bart's men. The cost need not be prohibitive.—Yours faithfully, F. P. MAYNARD, Surg. Capt. I.M.S.
CALCUTTA;

December 31st, 1894.

To the Editor of St. Bartholomew's Hospital Journal.

SIR,—*Appropos* of the Correspondence in your columns on the formation of a St. Bartholomew's Hospital Golf Club, the following lines, taken from this evening's *St. James's Gazette*, may not be uninteresting to your readers. I am, sir, yours, &c.—**NOT A GOLFER.**

"Semel emissum volat irrevocabile verbum"

Jones, well advanced in years, began

The game of golf, but found

That, though an even-tempered man,

He could not play a round

Without expressions finding vent

Of most unusual strength.

This grieved him much; so, penitent,

He cried himself at length

To one whose ghostly counsel he

Much lauded might give him aid,

And all his rage perplexity

In graphic terms displayed.

The Reverend Father shook his head,

As Reverend Fathers can,

"The case is difficult," he said;

"But try this simple plan—

Whene'er you use a hasty word

Because you miss a stroke—

That this should vex you seems absurd,

But golfers are queer folk—

Take up a pebble from the ground,

And in your pocket lay it.

If you use many through the round,

The weight will soon betray it."

A day has passed away. Jones stands

Before his friend again;

In both his pockets are his hands,

His face is drawn with pain.

"This heap of stones that here I've got,

It grieves me much to show it,

Is for 'Confound it,' and this lot—

A big one—is for 'Blow it!'

I would the tale were thus complete,

And here the balance struck;

But—kindly step into the street—

The 'D's' are in a truck!"

To the Editor of St. Bartholomew's Hospital Journal.

SIR,—The approaching anniversary of the Abernethian Society is at hand. Something might be done to commemorate the occasion to succeeding generations of students, and so I venture as a member to offer a suggestion. In the square there is room—or sufficient space could be found—for planting a tree. This might be planted, say, by some former physician or surgeon to the hospital. Further, a small board placed in the ground hard by, to indicate the date and the reason for the planting of the tree, would afford interest to future members of London's oldest medical society, as well as being a tribute to the memory of the planter.—Yours truly, **HINTER.**

To the Editor of St. Bartholomew's Hospital Journal.

SIR,—Do you not think that it would add to the popularity of the clinical lectures if the subjects, in as many cases as possible, were

posted along with the name of the lecturer and the date? One could then hunt up something of the subject before the specialist's lecture on his special subject is listened to. In medical clinical lectures, if one has the misfortune to be a little late, it is difficult to find out what the title of the subject in hand is.—Yours truly, MIDDLE BENCH.

Guild of St. Barnabas for Medical Students.

MEETINGS first Wednesday in each month, at 6.15, p.m., at St. John's Church, Red Lion Square, W.C.
For further particulars apply to the CHAPLAIN, 25, Brooke Street, Holborn, E.C.; or to the SECRETARY, 14, Woburn Square, W.C.

Reviews.

OUTLINES OF BIOLOGY by P. Chalmers Mitchell, M.A. Oxon. (Methuen & Co.)—We know of no elementary text-book on biology which deals so thoroughly and so clearly with the main principles of biology as the "Outlines of Biology," by Mr. Chalmers Mitchell. It is a first-rate book, and the information it contains is well up to date, but withal elementary. Mr. Mitchell knows his subject well, has a clear way of stating his facts, and knows how much (or rather how little) to write in an elementary text-book. The book follows the lines of the new schedule of the examination in biology of the Royal Colleges of Physicians and Surgeons, but although adapted to that schedule, it is not in any sense a cram-book, but gives sound and clear information on those broad general principles, as illustrated by selected types, which it is intended by the Royal Colleges should be expected of candidates for the diplomas of physician and surgeon. The student who, whilst attending a systematic course of lectures and practical work on biology, makes the book before us his text-book, and reads it intelligently, will, at the end of six months, have a sound elementary knowledge, which will stand him in well when he comes to the study of his more professional subjects. Not only is it a work which every student for the conjoint diploma ought to have, but there is much in it that those aiming at higher qualifications—such as those working for the London University Preliminary Scientific—may read with advantage.

There is only one serious fault we have to find—the illustrations. Though numerous and useful, they bear evidence of having been rather hurriedly done, and are in some cases too diagrammatic. Perhaps, too, in the chapter on "Animal Cells and Cell Division," something might have been said with advantage on the leading varieties of cell-structure, such as epithelia, muscle, nerve-cells, nerve-fibres &c. Of course there are a few small errors, which will be corrected no doubt in a second edition, but the advantages of the book so outweigh all its imperfections that we have no hesitation in strongly recommending it to our readers amongst the first year's men and Preliminary Scientific students.

THEORY AND PRACTICE OF MEDICINE, by Frederick T. Roberts, M.D., B.Sc. F.R.C.P., ninth edition, med. 8vo (H. K. Lewis), price 21s.—The ninth edition of this work is an improvement upon former editions, inasmuch as more attention is paid to the bacterial origin of disease, and the book is thus brought up to date with recent observations and discoveries.

Much care has been given to the arrangement and classification of diseases, which will, no doubt, simplify the task of the beginner in medicine, but to us the fault of the book lies in the absence of any stimulus to the imagination of the reader.

The book contains 1128 pages of closely printed matter, and therefore cannot in any sense be regarded as a "cram book;" but, on the other hand, it is really hardly more than a collection of vast numbers of facts. Dogmatic statements may be all that a student reading for an examination requires, but to the student who reads from interest in his work, the book leaves much to be desired.

For example, under the heading of "Chorea" (the author enumerates the principal theories with regard to its causation, but does not make any reference to the *pros* and *cons* of any one of them. Thus brevity, no doubt, is gained, but at the cost of interest, and we cannot but think that the book would have been much lighter reading had some attempt been made to feed the imagination as well as the memory.

Still, as it stands, the book has many good points, and this edition, in which several chapters have been almost entirely re-written, and much added, will doubtless prove no less popular than its predecessors have done.

Clinical Lectures.

Surgery.—2.45 p.m. on Wednesdays.
February 20th.—Mr. Willett.
" 27th.—Mr. Willett.
March 6th.—Mr. Langton.
" 13th.—Mr. Langton.
" 20th.—Mr. Langton.

Obituary.

It is with deep regret that we have to record the death of one of our nursing staff. The painful circumstances attending it make it more than usually sad.

We refer to the death of Nurse Scholfield, which took place in President Ward on Sunday evening, the 3rd inst.

On the previous Thursday morning she seemed in her usual health, and did her morning work in the operating theatre, where she had lately been working as probationer. Between 11 o'clock and 12 noon she was seized with violent pain, and was taken to Hope Ward. Dr. Gee diagnosed perforation of a gastric ulcer, and called in Mr. Willett, who operated upon her in the theatre—the recent scene of her labours—at 3 p.m. Until Sunday, hope of her recovery was entertained, when, in spite of every care, she gradually sank, and passed away about 9.15 p.m.

Nurse Scholfield joined the hospital nursing staff in the month of August last. She was the sister of Dr. Scholfield, formerly house physician to Dr. Andrew, and to him we wish to tender our deepest sympathy. Like her brother, she had the gift of "a voice," and was a member of the Hospital Choral Society.

Births.

GILBERTSON.—Jan. 15, at Hitchin, the wife of James Henry Gilbertson L.R.C.P. Lond., M.R.C.S., of a daughter.
REECE.—On Jan. 28, at 31, Holland Villas Road, Kensington, W., the wife of Richard J. Reece, M.D., of a son.
BROOK.—On Jan. 26, at James Street, Lincoln, the wife of W. H. B. Brook, M.D., of twin sons.

Marriages.

REVINE.—DARLEY. On Jan. 16, at St. Peter's, Delsize Park, C. E. Russel Rendle, B.A. (Oxon.), L.R.C.P., M.R.C.S., of 7, Duckland Terrace, Plymouth, to Edith Mary, second daughter of J. J. Darley, 3, Lancaster Road, Belsize Park.
ROBERTS.—PÉRIN.—Jan. 19, at St. James's, Spanish-place, W., by Rev. Sebastian Bowden (of the Oratory, S. Kensington), Charles Hubert Roberts, F.R.C.S., M.B. Lond., M.R.C.P., 21, Welbeck Street, Cavendish Square, to Clotilde, daughter of Alexandre Périn, Esq., and niece of Sir Joseph McKenna, Lancaster-gate, W.

Death.

SCHOLEFIELD.—On Feb. 3rd, at St. Bartholomew's Hospital, Nurse Scholfield, aged 33.

ACKNOWLEDGMENTS.—*Guy's Hospital Gazette*, *St. Thomas's Hospital Gazette*, *St. George's Hospital Gazette*, *St. Mary's Hospital Gazette*, *The Student* (Edinburgh). *Manual of Practical and Morbid Anatomy*, by H. D. Rolleston, M.A., M.D., F.R.C.P., and A. A. Kanthack, M.D., M.R.C.P. *Two Cases of Compound Depressed Fracture of the Skull, treated by trephining and replacement of bone*, by Anthony A. Bowly, F.R.C.S.

St. Bartholomew's Hospital



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NOTICE.

All Communications, Articles, Letters, Notices, or Books for review, should be forwarded, unaccompanied by the name of the sender, to the Editor, ST. BARTHOLOMEW'S HOSPITAL JOURNAL, St. Bartholomew's Hospital, Smithfield, E.C., BEFORE THE 1ST OF EVERY MONTH.

The Annual Subscription to the Journal is 5s., including postage. Subscriptions should be sent to the MANAGER, W. E. SARGANT, M.R.C.S., at the Hospital.

All financial communications, relative to Advertisements ONLY, should be addressed to J. H. BOOTY, 29, Wood Lane, Uxbridge Road, W.

St. Bartholomew's Hospital Journal,

MARCH 14th, 1895.

"Æquum memento rebus in arduis
Servare mentem."—Horace, *Book ii*, Ode liii.

Notes on Aseptic Surgery.

By C. B. LOCKWOOD, F.R.C.S.,
Assistant Surgeon to the Hospital.

(Continued from page 69.)

THE catgut* which is sometimes used for ligatures and sutures is, without strict and careful preparation, a dangerous source of infection. Nevertheless it has such incontestable advantages for many purposes that its use is not likely to die out. On the contrary, as our methods of preparing it improve it is likely to enjoy a wider popularity.

Catgut is made from the entrails of sheep. In the process of manufacture the mucous membrane and most of the circular muscle-fibres are scraped away. Nevertheless it is highly improbable that all the intestinal bacteria are removed. Indeed, there is much evidence to the contrary. Moreover the intestinal walls may themselves be infected. Volkmann has described two cases of anthrax after am-

* Those who are interested in this topic will find the fullest information in Brünnner's paper, "Ueber Catgut infektion," *Beiträge zur klinische Chirurgie*, Tübingen 1890, vol. vi.

putation of the breast. He attributed these to the catgut used for tying the vessels. Volkmann's evidence, however, leaves much to be desired. Kocher, however, and others have described cases which leave no doubt as to the dangers of catgut infection.

Zweifel saw septicaemia follow its use, and Mosetig von Moorhof lost patients from suppuration around omental and ovarian pedicles which had been tied with it.

Five or six years ago catgut soaked in carbolic oil was used for wounds. I found that most samples of this material infected nutrient gelatine. Reverdin and Massol* found that raw catgut always infected gelatine or agar-agar. Colonies also grew after it had been soaked in oil of juniper or alcohol. Zweifel found masses of bacteria between the lamellæ of catgut, some of which had been used for operations, but, as Brunner says, these may have been dead. In sections of catgut made with the microtome Brünnner saw quantities of bacilli and cocci.† This author obtained growths of bacteria from most specimens of catgut prepared with carbolic oil, juniper oil, or chromic acid. Macpherson‡ also found that many specimens of sulphuro chromic gut infected culture media.

White silk, such as is used for sutures and ligatures, passes through a process of manufacture which tends to ensure sterility. Macpherson§ says, "The silk threads are 'thrown' in China and Italy (chiefly in Milan), and come into this country coated with the dried viscid material of the cocoon, or, as it is technically called, in the gum. The processes to which these threads are subjected in English manufacturing factories have in view the removal of the gum, which is a valuable mordant, and the production of a thread as pure and white as possible. The gum is removed by boiling, and the threads are afterwards washed with the best curd soap. The soap is then removed by 'the process of stoving,' i.e. placing the threads for six to twelve hours in sulphur kilns. Finally, the threads are bleached by one or other

* *Antiseptische et Asepsie chirurgicales*, p. 131.

† *Loc. cit.*, p. 148.

‡ "Antiseptic Preparations of Catgut and Silk," *Medico-Chirurgical Transactions*, vol. lxxv, 1892, p. 227.

§ *Loc. cit.*, p. 234.

of the patent bleaching powders. 'Surgical' silk, which is the whitest silk obtainable, and more resistant than inferior qualities to the action of heat, is subjected twice to the process of 'stoving.'

As Macpherson says, boiling, stoving, and bleaching are powerful germicidal processes.

But although great care is taken to keep silk as clean as possible, it is usually infected before it reaches the surgeon. Macpherson grew bacteria which liquefied gelatine from silk in a surgeon's pocket case. Silk lying about a sitting-room also gave a growth. Carbolised silk from instrument makers usually infected culture media. Generally speaking, unprepared silk came exceedingly well out of its trial, and has not many of the dangers of catgut.

The human skin and its appendages teem with bacteria. Nearly every species is represented—cocci, sarcinae, saccharomyces, moulds, and bacilli abound in cultures inoculated with scrapings of the normal skin. Those who are interested in this subject will find an exhaustive list in Eisenberg's indispensable work,* in the writings of Unna and his fellow-workers,† and in Mr. Damman's essay.‡

The bacteria abound in normal skin, and their numbers and varieties are increased in disease. For some years I have tested the skin of persons operated upon by cutting off a piece of skin and placing it in nutrient broth. Although the most determined efforts had been made to disinfect this skin, I have grown from some specimens of it *Staphylococcus pyogenes albus*, *Streptococcus pyogenes*, *Staphylococcus pyogenes aureus*, *Sarcina lutea*, *Bacillus epidermidis*, *Staphylococcus epidermidis albus*, and *Diphlococcus epidermidis* (the microbe which produces the acrid and offensive odour). From scrapings of healthy skin, in addition to the long list which Eisenberg gives, I have separated *Micrococcus roseus*.

In some diseases of the skin—eczema, for instance—bacteria are more numerous, and in other diseases special kinds are found. The *Streptococcus* of erysipelas and the tubercle bacillus have a not infrequent influence upon the results of operations.

The presence of quantities of bacteria in healthy skin throws doubt upon observations which show their presence in certain diseases. Nevertheless it may be mentioned that in a case of pyæmia Von Eiselsberg§ found that *Staphylococcus pyogenes aureus* was present in the osteomyelitis of the femur, in the blood, in the metastatic abscesses, and, lastly, in the sweat of the forehead.

Mr. Tubby,|| in examining sections of skin from a case of acute suppurative periostitis, found the sweat glands more dilated than usual, and crowded with micrococci.

* *Bakteriologische Diagnostik.*

† *Monatsschrift für praktische Dermatologie*, vol. vii, p. 817, and vol. ix, 1880, p. 50, and elsewhere.

‡ "Preliminary Note on some Micro-organisms of Normal Skin," *British Medical Journal*, July 16th, 1892, p. 122.

§ "Nachweis von Eiterkugeln im Schweisse eines Pyämischen," *Rechtswissenschaftliche Zeitschrift*, 1891, No. 23.

|| "The Pathology of Acute Infective Periostitis," *Guy's Hospital Reports*, vol. xlvii, 1890, p. 77, &c.

In sections of healthy skin I had no difficulty in seeing cocci, diplococci, and bacilli in the epidermis and in the mouths of the hair-follicles. Sebaceous matter, squeezed from a sebaceous gland and made into a cover-glass preparation, is a mass of cocci, diplococci, and bacilli, with occasional epithelial-cells. After an area which had numerous sebaceous glands had been washed with soap and water, then with perchloride of mercury lotion, 1 in 1000, and lastly with absolute alcohol, its glands were squeezed and cultures inoculated from its surface. The result was a plentiful growth of long and short bacilli, leptothrix, monococci, diplococci, and staphylococci. A perspiring surface was cleansed in the same way, and as soon as the sweat reappeared nutrient material was inoculated with it, and grew quantities of staphylococci, and, in old cultures, some bacilli and leptothrix. It is interesting to note that the sweat gave a growth of cocci with few bacilli, whilst sebaceous matter gave bacilli with few cocci.*

The fissures beneath the nails are the special homes of bacteria. I have grown from a bit of nail what I believe to be *Streptococcus pyogenes*, and on another occasion *Staphylococcus albus*. In both cases a determined effort had been made to disinfect beneath the nails, and it would be interesting to learn what bacteria reside beneath the nails of uncleanly people. I do not believe it possible to disinfect the nails except by cutting them as short as possible.

The relation of the bacteria of the skin to suppuration still requires elucidation. Since I have learnt to look upon the skin as a source of infection, and since so much pains have been taken to disinfect it, suppuration has been exceedingly rare. In such complicated and difficult cases as those of radical cure of hernia our proportion of suppuration is 10 per cent., and a serious sepsis has never occurred. Perhaps the adjective *pyogenes* ought not to be added to some of these skin bacteria until they have been definitely proved to possess the power of causing suppuration. Nevertheless I have found cultures of bacteria from the skin decidedly pathogenic for white mice, and occasionally for rabbits.

In rabbits I found that a fatal result usually followed the injection of a fluid composed of skin scrapings suspended in normal saline solution into the auricular vein. Some rabbits died at once—killed, perhaps, by the coarse particles; others died some days or weeks afterwards. Gelatine cultures inoculated from the same kind of fluid, made of normal saline solution and skin scrapings, soon became liquid, and contained a great many kinds of microbes—cocci of various sizes, diplococci, staphylococci, chains of from four to twelve cocci, some chains consisting of large, others of small elements, numbers of very small short bacilli aggregated into small groups, a larger spore-containing bacillus with rounded ends, and leptothrix. The liquefied gelatine which contained these

* Most of these notes upon bacteria in the skin are from my "Report on Aseptic and Septic Surgical Cases, with special reference to Infection from the Skin," *British Medical Journal*, May 28th, 1892; and from my "Report on the Disinfection of Skin," &c., *British Medical Journal*, January 27th, 1894.

bacteria seemed more virulent than a mere solution of skin scrapings. An intra-venous inoculation of five to ten drops soon made rabbits ill; and when they died their lungs were usually inflamed and engorged, especially near the periphery.

When cultures which had been inoculated with the contents of sebaceous glands were introduced into the subcutaneous tissues of mice, they killed the animals in three or four days, causing œdema, suppuration, and ulceration, with loss of hair. These cultures had the peculiar disagreeable odour possessed by the contents of sebaceous retention cysts.

The cultures with which these experiments were done contained several kinds of bacteria. Much remains to be done before we shall know the effects of pure cultures. Then it will probably appear that some kinds are harmless and others harmful in different degrees.

I have made a few experiments in this direction, and found that pure cultures of *Bacillus epidermidis*, cultivated from skin scrapings and separated by the method of plate cultures, had the same effect upon mice as mixed cultures.

Small doses of pure cultures of *Diphlococcus epidermidis albus* may be injected into the veins of rabbits without apparent injury. There is usually redness and slight suppuration at the seat of inoculation. A larger dose injected into the cellular tissues causes inflammation and œdema with some purulent infiltration. The *Diphlococcus* (or *Staphylococcus epidermidis albus*) was common in those cases of slight subacute suppuration which used to occur more often than they do now. In some cases plate cultures showed that the micrococcus was mixed with *Bacillus epidermidis*. Now and then the discharges from wounds contain a micrococcus which has a disagreeable acrid odour, observed when uncleanly people remove their vestments. The bacteria of the skin are often found in the vicinity of wounds which have healed by primary union, and with none of the usual signs of inflammation. My belief is that in these cases the bacteria have emerged from the depths of the sweat and sebaceous glands after the wound in the skin has adhered.

It is a pure assumption that these skin bacteria are the cause of slight subacute suppuration, but, as I have said, as the bacteria have been eliminated by cleansing the skin, the suppuration has ceased to occur. Moreover, skin which contains one kind of microbe may contain another. Safety is attained by excluding all.

One of our cases of suppuration was very instructive. The patient was not very well before the operation, and a bit of her skin cut off at the operation and dropped into broth grew a pure culture of *Staphylococcus pyogenes aureus*. The wound suppurated, and the pus contained the same microbe.

This plan of cutting off a bit of skin and dropping it into broth is one of the best ways of testing the disinfect-

tion of skin. Sometimes it is tested by putting scrapings into nutrient material; at others by merely dabbing the fingers upon plate cultures of gelatine or agar-agar, or by dipping them into broth.

The inoculation of a wound through the patient's own blood-stream may occasionally occur. It is, of course, very difficult to obtain satisfactory evidence upon this point. Reasoning from analogy, its occurrence is quite possible. I have before me the notes of a case of suppuration which followed a simple fracture of the ulna in an apparently healthy schoolboy. It would be easy to collect similar examples. It is now one of the commonplaces of pathology that bacteria are carried by the blood-stream from septic wounds to the internal organs—as, for instance, in pyæmia, and, I might add, in septicæmia. Some years ago I cut down upon a median nerve which had been involved in a scar. The boy seemed perfectly well, and his wound painless and apparently healed. One day he was seized with a diphtheritic sore throat. He became ill, and the wound in his arm suppurated. The experiments of Rosenbach, Wyssokowitsch, Kocher, and others have shown that injured tissues arrest bacteria which are circulating in the blood.

Thus anti-inoculation of wounds may occasionally occur. It is, however, too rare to afford a plausible excuse for bad results. Before describing the methods by which instruments, sponges, towels, skin, and so forth are disinfected, I would like to refer again to a question which naturally arises, and is often asked, viz. why, if bacteria are so wide spread and so harmful, does any one survive an operation in which asepsis is not secured? To answer this would require a discussion of the great and growing question of immunity. This would be quite beyond the scope of these notes. The natural immunity which some species of animals enjoy, and the immunity which they acquire or have imparted to them, have all been briefly referred to. Vaccination against the smallpox is an example of acquired or artificial immunity, and to it may be added vaccination with the antitoxins of tetanus and diphtheria.

But the most important branch of this subject to surgeons is that which deals with local immunity. In describing *Staphylococcus pyogenes aureus* I said that the peritoneum was immune against small doses of that microbe, but that the immunity was lost if the integrity of the serous membrane had been destroyed by exposure to air, to the action of chemicals, tearing or laceration, or by bruising. Similar principles apply to the other tissues, and their bearing upon the practice of surgery is too obvious to call for comment.

But this resistance of the healthy living tissues to bacterial invasion cannot be relied upon. It is a thing beyond the control of the surgeon, whilst asepsis is not. No one would exchange a certainty for an uncertainty.

(To be continued.)

Notes on Paralysis of the Upper Extremity.

By H. LEWIS JONES, M.D.

Medical Officer in charge of the Electrical Department.

SO many important cases of paralysis affecting the muscles of the upper extremity have come under observation in the electrical department, that I propose to lay before the readers of the *Journal* some notes on a few of the most interesting.

Perhaps the most instructive are those in which either a single muscle or a small group of associated muscles are affected, because the recognition of the real state of things, and the localisation of the position of the lesion, afford so useful an object lesson in applied anatomy. I shall therefore begin by considering affections of single muscles, and shall return later to the more extensive paralysis of the upper limb.

A very considerable number of cases of paralysis of the muscles of the upper limb are due to injuries of the nerve trunks; progressive muscular atrophy, infantile paralysis, lead-poisoning, and disease of the cervical spine accounting for most of the others.

The Trapezius and Sternomastoid.—Paralysis of the trapezius is not a very common thing, it occurs most often, perhaps, in the course of progressive muscular atrophy. It is interesting because of the diagnostic signs which it affords, and which are represented in the photographs which accompany this paper. When the trapezius is paralysed there is a general feeling of weakness about the shoulder, and complaint of myalgic pains, because the muscle plays so large a part in supporting the shoulder during the movements of the upper limb. If the trapezii be watched and studied in persons who have the neck and shoulders bare—and for this many opportunities present themselves to those who frequent evening assemblies—it will be seen that these muscles are in almost continual action during movements of the arms, and, indeed, much of the beauty of the contours of the neck and shoulders depends upon the good development of the trapezii.

When one trapezius is paralysed the difference between the two shoulders can easily be recognised, particularly if the muscle be wasted as well, as generally happens. On the affected side the point of the shoulder is lowered, and the line from the neck to the shoulder-tip is hollowed. This difference is well seen with the arms hanging at the sides (Fig. 1). The position of the scapula is also changed, for the inner border of the bone does not lie parallel to the vertebral column, as in health, but at an angle with it, its upper corner being rather further from the middle line, and its lower angle rather nearer, at a higher level and more prominent. Duchenne has explained why this is the case. The shoulder, having lost the support of the upper part of the trapezius, hangs as it were suspended by its upper angle from the *levator anguli scapulae*, and turning,

as on a pivot, at the point of attachment of that muscle, its lower angle is tilted inwards and upwards, and the acromion sinks downwards by the weight of the arm.

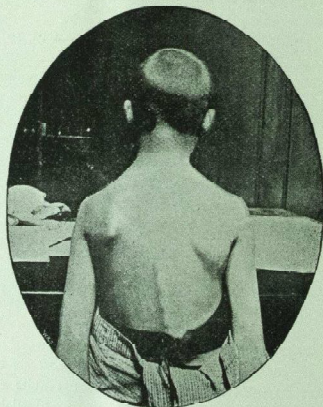


FIG. 1.—Paralysis of left Trapezius.

If the patient be told to raise the arms to the head another peculiar defect comes into notice: namely, that the clavicle in its outer half comes into view from behind. This is a valuable diagnostic sign of atrophy of the muscle—one which, so far as I can learn, has not previously been pointed out. In healthy persons no part of the clavicle can be seen from behind when the arms are raised to the head, unless the observer's eye be at a considerably higher level than the patient's shoulders, for the part of the trapezius rising from the clavicle lies between and intercepts the view.

I have only had six cases of paralysis of the trapezius under observation. The first was in a boy, who was brought to the hospital by his father because his coat did not fit him, and the tailor pleaded, as his excuse, that the shoulder was deformed. Nothing had been previously noticed by the parents. His other muscles were in good order, but the left trapezius was extremely wasted. His sternomastoid was unaffected. Under electrical treatment the nutrition of the muscle gradually improved to a considerable extent. He was under observation for several months, but now, through his having changed his address, I have unfortunately lost sight of him. The case may have been one of neuritis.

In two other cases the paralysis was due to injury of the spinal accessory nerve, during a surgical operation for the removal of stannous cervical glands. In the first of these the incision was a small one, high up at the posterior border of the upper part of the sternomastoid. The nerve was carefully considered during the operation, and, as was thought, had not been divided. The wound healed very well; never-

theless, the muscle became wasted throughout its extent. A small band of fibres remained in the position of the

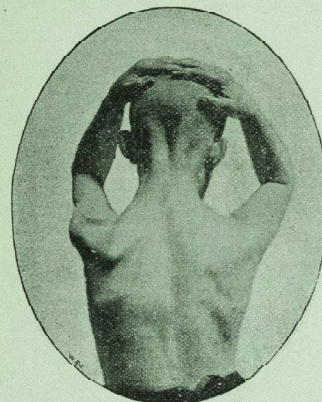


FIG. 2.—Paralysis of left Trapezius; clavicle seen from behind.

clavicular portion—the *ultimum moriens* of Duchenne—but in this, as in the rest of the muscle, there was a marked reaction of degeneration. The lower part of the muscle was probably not quite so much atrophied as the upper part, because the tilting upwards of the inferior angle of the scapula was not nearly so evident as in the illustration of the boy (Fig. 1). Still the case seems to show that the spinal accessory nerve plays a predominant part in supplying the trapezius, and that the other nerve supplies, *i. e.* the "nerve to the trapezius" of the cervical plexus, and the branches of the dorsal spinal nerves which pierce the muscle in its lower part, are unable by themselves to maintain the nutrition of the muscle. This patient was under treatment for six months, and gained greatly in power, though the muscle is still weaker than its fellow. There was also at first some impaired sensation over the upper part of the scapular area.

Duchenne appears to have noticed cases with wasting of portions only of the trapezius, and he distinguishes between the upper or respiratory portion, the middle or elevator portion, and the lower or adducting portion of the muscle. He also expresses the opinion that the upper part of the muscle will not be completely paralysed unless its nerve from the cervical plexus is damaged as well as the spinal accessory. Some, if not all, of his cases occurred in the course of progressive muscular atrophy—a disease which does not often find its way to our electrical department. In the cases which I have seen it has been the rule to find the nutrition of the whole muscle affected, without much difference between the various parts.

Another similar case is now under treatment, but the

injury in this one is more extensive. The whole of the side of the neck is scarred, as the result of numerous strumous abscesses and of the surgical treatment for their relief. In her, both the trapezius and sternomastoid on the right side are extremely wasted, and the rhomboids are also in the same condition. The whole shoulder-blade is inclined to fall forward by the action of the pectorals, and when it is allowed to move forward in that way the absence of trapezius and rhomboids becomes evident, for the contours of the ribs can be plainly seen behind between the scapula and the spine. In spite of the extreme atrophy there still remain a few living muscular fibres in the trapezius, and it is just possible that they may in time be cultivated, so as to be of some use to the patient.

In two other cases the atrophy of the trapezius was of central origin, being associated with affections of cranial nerves. In one facial palsy and deafness of one ear co-exists with paralysis of the trapezius and sternomastoid. The disease came on gradually, and is now, to all appearances, stationary, and in the other—which I had an opportunity of seeing in Dr. Church's wards—the third cranial nerve was involved.

Disease of the cord (poliomyelitis anterior) causes atrophy of the trapezius. In the acute form—infantile paralysis—the muscle is not commonly affected, but in the chronic form—progressive muscular atrophy—it is very commonly.

In pseudo-hypertrophic paralysis it is said to be affected less than many other of the shoulder muscles; in idiopathic atrophies of the Landouzy-Dejerine type, affecting the face and shoulder muscles, it may be much wasted.

The Serratus Magnus.—Paralysis of this muscle is interesting, because the deformity which results from it is peculiar. The serratus magnus is supplied by the posterior thoracic nerve, which rises from the fifth, sixth, and seventh cervical cords, and runs down the side of the chest behind the brachial plexus to reach the muscle. The position of the nerve makes it liable to injury, especially in the side of the neck, and its independent course explains the reason why paralysis of the serratus magnus is frequently seen without any other muscle being affected at the same time. Occasionally the nerve to the rhomboids comes off as a branch from the first part of the nerve to the serratus, and therefore the rhomboids may be paralysed with the serratus magnus. In the first part of its course the nerve runs in the substance of the scalenus medius muscle.

The peculiar deformity which characterises paralysis of the serratus is easily recognised if looked for. When the patient is examined with the arms hanging down, the shoulder may seem natural, but if the patient be told to extend the arms horizontally in front of him, the posterior border of the scapula on the affected side becomes prominent, projecting like a ridge from the level of the back. In a healthy person the scapula remains flat and closely applied to the thorax during this movement; the function of the serratus magnus

is to hold the scapula, and especially its posterior border, closely to the side of the thorax. When the arms are extended in front, the action of the deltoid tends at the same time to throw the scapula backwards, and this is resisted by the simultaneous contraction of the serratus magnus. If the deltoid be paralysed as well as the serratus, the patient cannot extend his arm horizontally, and the deformity due to the paralysis of the serratus, cannot be brought out in the way just mentioned. In this case, if the shoulder be pushed back while the patient is told to resist, it may be found that the posterior border of the scapula can be more easily displaced on the side of the paralysis.

Paralysis of the serratus magnus is not uncommon, and I have notes of several cases which came on from injury. The following example will serve as an illustration of the usual history of such cases:—A man was using an iron bar as a lever by putting the end of the bar on his shoulder, and pushing upwards forcibly against it, he felt a pain, and soon afterwards he found that his shoulder began to "grow out." When he came under observation there was marked paralysis of the right serratus magnus, and the rhomboids were also affected, which made the characteristic deformity of the shoulder even more pronounced.

In two other cases the patients had suffered severe injuries, one having been crushed in a lift accident, in which he broke his forearm, and the other having been hurt by a heavy packing case, which fell upon him. Both of these, in addition to other injuries, had paralysis of one serratus magnus—the right. Indeed, all the cases of paralysis of the serratus magnus which I have seen have been on the right side, and in male patients, though I have notes of two cases which seem to have come on spontaneously in girls of eleven and twelve years old, and Duchenne quotes three cases also in young girls. These are probably all cases of idiopathic muscular atrophy of the shoulder muscles.

The muscle is also paralysed, sometimes from neuritis coming on apart from injury. Thus a man (Fig. 3) became ill with fever after the passage of a catheter. He had severe pains in the right shoulder, which afterwards became weak. On presenting himself in the electrical department he showed paralysis of the right serratus magnus. No other muscles were affected. I have notes of four other cases where the muscle became paralysed after typhoid fever.

The notion is sometimes entertained that the peculiar position of the shoulder-blade described above is due to dislocation of the latissimus dorsi from its position at the angle of the scapula. This view is erroneous.

The Rhomboids.—These are supplied by a special nerve, which comes off from the fifth and sixth roots. In common with the other muscles, whose nerves run a somewhat exposed course in the neck and shoulder, the rhomboids are liable to paralysis from injury. It is not usual to find them paralysed alone. When they are paralysed the posterior border of the scapula is less firmly placed than in

health, and the fingers can be introduced under the edge of the bone more easily than usual. If the trapezius be well

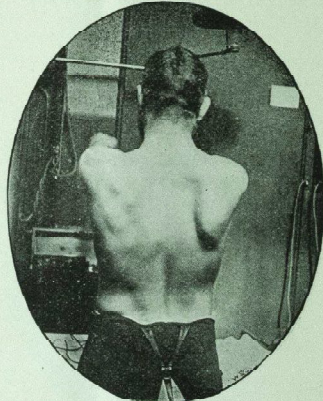


FIG. 3.—Paralysis of right Serratus Magnus.

developed, it is not very easy to make out the paralysis of the subjacent rhomboids by electrical testing.

The Scapular Muscles.—The supra- and infra-spinati are often paralysed, as the result of blows upon the shoulder, though less frequently than the deltoid.

When the spinati are wasted, the spine of the scapula becomes prominent, and the muscles themselves can be seen to be diminished in bulk. The patient is unable to perform external rotation of the humerus in a proper manner if the infra-spinatus is paralysed; and the other external rotator of the humerus, the *teres minor*, is often affected simultaneously though supplied by a different nerve. The movement of external rotation is necessary in writing for moving the hand across the page, and in sewing the same muscles also come into play.

The nerve (supra-scapular nerve) which supplies the spinati is exposed to the risk of injury, owing to its superficial position on the shoulder. The supra-spinatus is a much less important muscle than the infra-spinatus, and its condition is not so easy to determine, because it is thickly covered by the trapezius, which makes electrical testing of the muscle difficult, and its functions as an elevator and a weak internal rotator of the humerus can be completely performed by the other muscles. When the infra-spinatus is paralysed, it is usually extremely probable that the supra-spinatus is in the same condition.

The internal rotators of the humerus, namely, the subscapularis and *teres major*, have a nerve supply (the subscapular nerves), which escapes injury much more often than the spinati; and the same may be said of the *latissimus*

simus dorsi, also supplied by a similar nerve—the long subscapular.

These muscles frequently escape, even in very severe injuries of the shoulder; the *pectoralis major* and *minor* also escape as a rule. There is a patient at present under treatment who has complete paralysis of all the muscles supplied by the brachial plexus, except the internal rotators, the *latissimus dorsi*, and *pectorals*, and similar cases are not uncommon, especially after serious dislocations of the humerus. I shall return later to consider the mechanism of these extensive paralysees after dislocations at the shoulder-joint.

(To be continued.)

Pathology in its Relation to the Study of Clinical Medicine and Surgery.

By A. A. KANTHACK, M.D.,

Lecturer on Pathology to St. Bartholomew's Hospital.



MR. JONATHAN HUTCHINSON recently complained of a prejudice in favour of pathological methods in the diagnosis of disease, and bemoaned the neglect of clinical knowledge and experience.

This is an antithesis between clinical and pathological investigation which is to be greatly regretted. In our opinion the two methods should and do supplement one another, and where symptomatology leaves us in the lurch, the microscope, test-tube, platinum needle, and laboratory must come to our aid. The reason why the pathologist is now so frequently consulted is simply because the experienced physician and surgeon know that the most typical appearances and unequivocal signs are often deceptive. A diagnosis at times cannot be made without the more objective assistance of the laboratory. Innocent ulcerations turn out to be malignant and *vice versa*; tubercle bacilli are found where, from clinical evidence, they were not suspected. A limited experience at a large hospital like ours supplies us with numerous instances where diagnoses had to be corrected after complete histological or bacterioscopic investigation, or where a confirmation of a doubtful diagnosis seemed desirable. Pathology must proceed hand-in-hand with clinical knowledge and study. He who has learnt to apply laboratory methods to the requirements of ward work will fail less frequently than the man who considers himself to be a perfect clinician, either from faultless experience or from the conceit of mediocrity and ignorance. No doubt the importance of pathological or bacteriological methods may have been exaggerated, but that does not render them any the less justifiable. The physician or surgeon may diagnose an affection readily from physical signs or symptoms, but the inconceivable does happen at times, and he may have erred to his and the patient's disadvantage. Looking, therefore, at the question

from a sordid and mercenary point of view, the value of sound laboratory methods cannot be denied—they will often allow us to score over our hated rival.

Mr. Hutchinson objects particularly to the application of bacterioscopic examination to the diagnosis of diphtheria. No one doubts that diphtheria may be correctly diagnosed in most cases without it, but we also know that the clinical observation or guess often misleads. The bacterial examination is made essentially to confirm a probable or conjectured diagnosis, and the conditions and exigencies of sound criticism demand it. To us the somewhat hostile attitude assumed by the eminent surgeon seems strange and untenable.

The study of pathology in all its branches, including bacteriology, then, gives us additional means of recognising and checking our diagnosis. By study, however, we do not mean merely the handling of a platinum needle and a test-tube, section-cutting and staining, but a careful training in the methods of research and thorough instruction in science and theory.

Prognosis in clinical work is as important as diagnosis, and the merest tyro must see how many hints and facts the laboratory can reveal to us. In diseases of the blood the microscope gives us information which the most critical eye and the most highly-developed *tactus eruditus* are unable to disclose to our doubtful mind. In septicæmia and pyæmia the test-tube is of more value often than the thermometer. The surgeon makes frequent appeals to morbid histology.

There are those who object to morbid anatomy and histology as branches of pathology, and who would restrict the term "pathologist" to those only who practise physiological experiments. This is an entirely wrong view of the matter. Before we know what the diseased tissue-processes are in all their minuteness, we cannot hope to trace their causes. The physiologist must often investigate the normal function and properties of glands or organs by producing morbid conditions in the animal experimented upon. But because the result of an experiment is a morbid condition, the experimenter is not necessarily a pathologist. He simply applies a recognised form of inductive reasoning. The pathologist must acquaint himself with the anatomy and physiology of disease first, and, starting from a knowledge of physiological research, he must attempt to explain or reproduce the disease. Normal and morbid physiology, therefore, must often overlap, just as much as a normal and morbid anatomy. Morbid anatomy gives us the clue to the seat of lesion, and points out to us the direction our research should take, and without it the processes and progress of disease cannot be clearly understood. Moreover, it is a good and healthy check on our confident and cherished opinions—it confirms or flatly denies our observations made and recorded *intra vitam*, and calls forth a healthy scepticism without which there can be no inquiry.

Now, looking at pathology from the student's point of view—whose ambitions are rarely remote, and whose anxiety is chiefly his final examination—we do not hesitate to state that a thorough knowledge of pathology will assist him more than promiscuous reading. It enables him to guess and remember symptoms, and gives unexpected eloquence and learning to his answers. We do not say so because we wish to justify the existence of the Pathological Laboratory or wish to fill it—it is already inadequate to the needs of the numbers working there—but because we have benefited from this policy during our own examination years. This may not be a lofty ideal, but the average man does not dwell on giddy heights, and is satisfied with immediate success. He asks himself: "warum willst du weiter streben," and despises a study which is its own reward. He will find that the study of pathology brings him ample compensation for his past troubles without increasing his responsibility.

Clinical Lecture on a Case of Pernicious Anæmia.

February 8th, 1895.

By SIR DYCE DUCKWORTH, M.D., LL.D.



PROPOSE to-day to discuss the case of a woman who was admitted to Fitzbath Ward a few days ago, and who has, I regret to learn, died this morning. I believe that she suffered from that grave malady which is known as pernicious, or essential, anæmia—one that is, happily, not very common, but which, when we meet with it, always gives cause for great anxiety, for it too frequently has a fatal issue. Inasmuch, however, as some cases of this disease have yielded to treatment and recovered, it is important to recognise the symptoms of it, and to be ready to employ such remedial measures as have sometimes saved life. Our patient was a native of Rhenish Prussia, and had been a governess in France and in this country. She was highly accomplished, and of a very nervous and energetic nature, and she worked with intensity at everything she undertook.

Her age was 36. Having no friends in England, and being obviously very ill, she was sent up to this hospital—reluctantly on her part—on January 31st, 1895.

She was a well-built, big woman, with fair hair. Her aspect was that of one who had become quite blanched by a copious hæmorrhage, and, in addition, there was a well-marked lemon-tint of skin all over the body.

In March, 1894, she had entered fever in Paris, and was ill for four months, being left in very feeble health subsequently. She has suffered since from palpitation and dyspnoea. There is no history of any hæmorrhage. She stated that she had been subject to anæmia, as also had some of her sisters, and that she had taken iron in large quantities. The catamenia have been regular but with scanty flow. A sister told us that she had been quite as ill as at present last year, after the attack of enteric fever. The family history was unimportant, save in respect of the anæmic tendency in three of her sisters. There was no history of rheumatism or of ague.

On examination, there was present every sign and symptom of profound anæmia. The pupils were dilated but not very large; there was no appreciable œdema anywhere. The pulse was 128, regular, small, and of low tension. The heart's apex was in the fifth left space, a little outside the nipple-line. The first pulse was diffuse and tremulous. The sounds varied from day to day, but the first one was sudden and short, accompanied by a soft murmur at the apex. The second sound was reduplicated all over the cardiac area, producing a cattering action. In the fourth left space a double shuffling sound was heard, apparently exo-pericardial. There were no bacic mummies, and no bruits in the jugular veins. The tongue was pallid, coated all over the

dorsum with a thick white fur. The abdomen was natural, and there was no enlargement either of the liver or spleen. There was occasional vomiting, and no desire for food. Sleep was broken, and there was much restlessness and general irritability. The urine was of sp. gr. 1.014, and contained a trace of albumen. The temperature was raised for a few days to 101° and 102°, and fell subsequently. The cardiac mummus varied somewhat from day to day, the first one appearing to be reduplicated, and a diastolic murmur became audible over the left ventricle, but not in the aortic area. The double shuffling murmur may have been endocardial and due to spasmæmia. I have met with the like sometimes in profound anæmia. On the 3rd February the pupils were no longer large. On the 4th February I saw the patient first, and ordered arsenic, and opium was to be given to secure rest at night.

Examinations of the blood were made by Dr. Kaudack, Dr. Garrett, and the Research Clerk on this date, and the red globules were found not to form rouleaux, to be reduced to 171,000 per c.c.m., and to be irregular in shape. The hæmoglobin was reduced to 25 or 30 per cent. of the normal amount. The leucocytes were 21,000, or one to eight, being increased in proportion at this time. Most of these were polynuclear, and the nuclei stained with eosine. No increase was found in eosinophilous corpuscles, or in lymphocytes, and no nucleated red globules were seen.

The patient steadily became weaker. Arsenic was ordered in increasing doses, and marrow was prescribed, with beef-essence, eggs, brandy, and wine. Delirium set in with unconsciousness. The patient lay in a condition of coma vigil. The tongue became brown and dry, and the breath very fetid. The temperature gradually fell. Examination of the retina showed linear hæmorrhages and swelling of the optic disks. Death occurred rather suddenly from syncope on the 7th February.

Another examination of the blood made on 7th February showed an increase of red globules to 310,000, and a diminution of white cells to 10,285.

A review of the history and symptoms of this case led me to make a diagnosis of pernicious anæmia.

This disorder is no new one in nortology. Cases of it have been noted from time to time during the last half century, both in Europe and in the United States of America.

Dr. Addison, of Guy's Hospital, had the merit, I believe, of first realising the peculiar features of this variety of anæmia, and it was while he was investigating the causes and nature of it that he stumbled upon cases of disease of the adrenal bodies, now known as Addison's, or bronzed skin, disease. As a matter of fact, neither Addison, nor anyone else since his time, has as yet unravelled the intimate nature of this strange and dreadful malady.

Its features are now familiar to us. We know that it occurs in both sexes, in middle life, and in persons of large frame with some tendency to obesity. The disorder comes on insidiously, with progressive pallor, weakness of muscles, dyspnoea, languor, tendency to nausea and vomiting, and a gradual lemon tint of the skin.

Patients thus affected sigh much and yawn. The tongue becomes dry, the breath fetid, the pulse rapid and jerky, and a tendency to small hæmorrhages sets in. There may be epistaxis, purpuric spots on the limbs, and characteristic striated hæmorrhages into the retina. The optic discs may become swollen. In addition, there is commonly a peculiar irregular pyrexia, and the temperature may reach 104° or 105°.

The condition of the blood is very noteworthy. It was so in the case we are now discussing. Without any direct loss of blood, there is a gradual destruction, or failure of formation, of the red globules, which become singularly few, and may be reduced from the normal (4,000,000 to 5,000,000 corpuscles per cubic millimetre) to 216,000, as in this case. They cease to form rouleaux, and become altered in shape and appearance. Many strange forms may be witnessed, and some may be nucleated. There were none of the latter in this case, though the globules were irregular in shape. Poecilo-cytosis is the name given to such a condition. The hæmoglobin also becomes greatly diminished. In this woman there was only 25 to 30 per cent. of the normal amount present. The white cells may be more numerous than in health. They were so here at one time, but later the number became polynuclear, and that was the special feature in this case. They showed minute granulations, which were stained with eosine. There were no eosinophilous leucocytes, and no myelogenic forms.

Without doubt, in these cases we have to deal with some grave defect in hæmopoiesis, but where the specific alteration occurs we do not as yet know.

The dead-house has so far revealed nothing. The changes found post mortem are mainly those dependent on a greatly impoverished condition of blood. Thus we find fatty degeneration of the heart,

liver, kidneys, and muscles. The fat is of a deep yellow tint, and the muscles very dark. The blood is pale and fluid. Atrophy of the gastric glands has been frequently noted, but is not peculiar to this disease.

It is a noteworthy clinical feature in cases of pernicious anæmia that the disease is not steadily progressive, but is subject to temporary remissions. It may run its course in a few months, or may last for two years or even longer. There is not much difficulty in respect of diagnosis if attention be paid to the points I have already noted. Patients in the later stages of cancer of the stomach present much the same aspect as those suffering from pernicious anæmia, save the emaciation which is always marked in the former, while in the case of the latter the body may remain well-covered with fat. Free hæmorrhage is not an antecedent.

Cases of Addison's disease, before bronzing comes on, may much resemble essential anæmia. The liver and spleen are not manifestly affected or enlarged, nor are the lymphatics.

Some patients suffering from essential anæmia have been supposed to be suffering from jaundice, in consequence of the peculiar tint of the body.

The disease is to be distinguished from chlorosis—which, of course, only occurs in females—by its history and progress, and by the changes in the blood, and no less by its resistance to treatment by iron, which is a sovereign remedy for chlorosis.

Patients suffering from an early stage of tuberculosis may sometimes become exceedingly anæmic. They tend, however, to waste and develop pyrexia.

Cases of typhitis, whether in an inherited or in an acquired form, may sometimes present signs of grave anæmia, which yield to mercury and not to iron.

It is only necessary to be aware of these several conditions to enable the differential diagnosis to be made.

Lastly, as to treatment. I have already told you that iron is of no avail in pernicious anæmia; the only drug that has proved of real service is arsenic. It must be used early, and freely pushed. Fowler's solution is, I believe, the best preparation, and the dose should be from four to twelve or fifteen minims thrice a day. It is well to leave off the remedy for two days in each week, so as to avoid all untoward symptoms of over-dosing. Another plan is to give arsenious acid in doses of one-twentieth of a grain in pill, with the same amount of strychnia and of phosphorus, three times a day. The dietary should be as nourishing and digestible as possible, and should include some full-bodied red wine.

The next therapeutic article I shall mention comes under the head of diet. I allude to marrow. This is best given in the form of marrow bones daily at one meal, or the marrow may be taken from the bones and served on toast. In the last case of true pernicious anæmia I had in my ward, I employed marrow in this fashion, and I met with the most satisfactory result. It was clear that it acted more efficiently than arsenic, phosphorus, or strychnia, and the patient rapidly formed healthy blood under its use, and made a complete recovery. I wish I could have had this patient earlier under my care. Marrow is found very useful also in cases of Hodgkin's disease (lymphadenoma), and I can recommend a trial of it in that disease.

I should have mentioned that towards the end of an unchecked case of pernicious anæmia, the patient may become delirious and unconscious, developing a form of coma vigil. This condition occurred in this case.

(A post-mortem examination was refused by the family, and so we had no opportunity of increasing our knowledge in this direction, or of further certifying the diagnosis.)

Two Cases of Compound Depressed Fracture of the Skull treated by Trephining and Replacement of Bone.

By ANTHONY BOWLEY, F.R.C.S.



FOR the following notes, I am indebted to the doctors, Mr. Deck and Mr. Simmonds, and to the house-surgeons, Mr. Cross and Mr. Humphrey.

CASE 1.—Dennis D., æt. 30, was admitted to the hospital on December 14th, 1894. He walked to the surgery and said that he had cut his head by falling down stairs, and it was not till after trephining had been done that it was discovered that

this story was quite untrue, the fact being that he had been struck on the head with a hammer during a family quarrel. The wound was situated high up in the left frontal region, at the margin of the hairy scalp, and Mr. Humphrey, on examining it with his finger, found that the bone beneath was fractured and depressed. I happened to be passing through the surgery at the time, and concluded that, although there were no symptoms of compression, the case was one to examine more thoroughly under anæsthetic, so the head was shaved and washed, and the patient then removed to the theatre and anæsthetised. The wound was enlarged in an upward and backward direction and the fracture exposed, when it was seen that a circular piece of bone, the size of a shilling, was deeply depressed, the external table of the depressed piece being below the level of the surrounding inner table. The broken bone was fissured and bent downwards in its centre, but there were no loose fragments, and the depressed bone was so wedged and fixed in its abnormal position, that it could not be moved in the slightest degree. It was evident that this circle of bone corresponded to the size of the round end of the hammer which caused the injury, and that the fracture was of a punctured nature. As no elevator or forceps could be introduced, a portion of the sound bone was removed by trephining behind the area of depression, and some more bone had to be cut away with Hoffman's forceps before the depressed bone could be elevated or removed. After this had been done it was found that the inner table had become detached from the diploë by the dura mater and the surrounding meninges, which were driven between the dura mater and the surrounding uninjured bone, and after a good deal of trouble they were all removed.

It was now seen that the dura mater was unharmed except for scratches on its surface, and after a few bleeding vessels had been ligatured, and the parts doused with perchloride lotion, the bone was replaced. As each piece was removed during the operation it had been placed in warm boracic lotion, and now the fragments were cut into portions, rather larger than a split pea, with parrot-bill forceps, and replaced over the exposed dura mater till the latter was nearly all covered. Such perosteum as had been saved was then drawn over the seat of fracture, and the edges of the contused skin-wound were pared off with scissors. The whole wound was then sutured, and dressed with iodoform and alcohol gauze, and the head covered with aëmbroth wool and a capellino bandage.

The patient made an uninterrupted recovery, the wound healing under a single dressing and there being no pyrexia throughout. In three weeks' time the area of operation felt quite as firm as the rest of the skull, and the patient left the hospital four weeks after his admission.

CASE 2.—Harry F., æt. 5, was brought to the hospital with the following history.—He had been travelling with his parents, when the door of the railway-carriage opened and the child fell out. The train was travelling about thirty miles an hour, and as the "cord communication" with the guard did not work, it was almost twenty minutes before the carriage came to a stop at the next station. About an hour and a half had elapsed before the parents reached the seat of the accident, and they then found that a neighbouring signalman had taken care of the child, whom he found walking along the line, crying and covered with blood. A temporary dressing was applied by a surgeon, and the child was sent to the hospital about twelve hours after the accident. It was said that he had been several times sick, and had been drowsy, but on admission he was in no way unconscious. His limbs had escaped all injury, and were not even scratched. About two inches above the left eyebrow was a jagged wound an inch and a half long, leading down to fractured and depressed bone, but there was no other injury to the face, and no bleeding from the nose or ears.

The head was shaved and thoroughly cleansed, and the patient taken to the operating theatre and placed under the influence of chloroform. The wound was then enlarged upwards and backwards, and the cranium exposed. The fractured bone was very deeply depressed, but was rather bent than broken, maintaining its connection with the surrounding frontal bone. In order to elevate it, some of the surrounding bone was removed with Hey's saw and forceps, and then an elevating the depressed portions, the latter broke up and had to be in great part removed. The dura mater was uninjured; the fragments of bone were replaced as in the first case. The wound was closed after cutting away the contused skin, and dressed with iodoform and aëmbroth gauze.

This patient also made an uninterrupted recovery, the only bad symptom being a rise of temperature to 101° on the third and fourth days, but this was apparently due to some stomach disturbance, and the wound healed by first intention.

The area of operation felt quite firm and bony in less than three weeks, and before his discharge, four weeks after the operation, the skull seemed to be quite soundly repaired.

I have not published these cases because there is anything very unusual in either the injuries or their results, but rather because they illustrate certain details of practice, some of which at least are of recent growth.

First: I think that in every case of compound fracture of the skull where the wound is small, it should be enlarged, under an anæsthetic, to a sufficient extent to expose and examine thoroughly the whole of the broken bone. The advantages of this are that the full extent of the lesion is discovered, as it would not otherwise be, and that the free incision gives opportunity for thoroughly cleansing the injured tissues, and for dressing and closing the wound, so as to promote its healing without suppuration. The cutting away of the bruised and generally dirty edges of the skin-wound is not the least important step in the treatment.

Second: It is advisable in all depressed fractures, to elevate or remove the depressed bone, whether there are symptoms of compression of the brain or not. It is, of course, true that many patients recover where this practice is not carried into effect, and it is also true that many text-books on surgery still lay down the rule that, in the absence of symptoms, and where there is no comminution, the fracture should be left alone. My objections to this practice are, in the first place, that the appearance of the bone externally is no sure guide to the condition of the inner table, and that the latter may be comminuted (as in my cases) without there being any external evidence that it is so. In the next place, it is now well known that the pressure of displaced bone on the cerebral cortex may cause trouble in after years, although there are no compression symptoms immediately or soon after the accident, and the elevation or removal of the depressed bone may prevent the subsequent development of either chronic headache or epilepsy. Lastly, the operation, if performed with ordinary care, entails no serious risks, and enables the surgeon to insure in a much more satisfactory way the complete asepsis of the injured tissues.

Third: The replacement of the bone, removed during operation, obviates most of the objections to the use of the trephine or saw, and is a thoroughly satisfactory practice. As this replacement of bone is comparatively a recent innovation in surgery, it is perhaps worth while to make a very few comments on the methods employed. With regard to the size of the fragments to be used, I would say that although it is quite true that the whole button removed by a trephine may be successfully replaced in a few cases, yet it is much less likely to survive than are smaller pieces, and that it offers no advantage over these. It is evident that numerous small pieces present much larger surface for blood supply and for nutrition by granulation tissue than does a single large piece, and experience has shown that the latter is therefore more likely to necrose; further, the diploë exposed in the small pieces offers a much better matrix for the growth of new blood-vessels than do the uncut inner and outer tables. It is not, however, very easy to cut up the cranial bones into the size required, except with Hoffman's forceps, pair-of-bill forceps, nevertheless, do it very fairly well, if care be taken to keep them immersed in a bowl of lotion during use, so as to prevent the severed pieces of bone from flying off and being lost or soiled. Lastly, it is not necessary to cover in with the pieces of bone the whole of the exposed dura mater, and it is not necessary that the various apposed fragments should fit. All that is required is that the different pieces should be sufficiently in contact to support each other, and if any perforations have been made, it is as well to draw it over the replaced bone before closing the flap.

Notes.

DR. H. D. ROLLESTON will deliver the Goulstonian Lectures at the Royal College of Physicians on March 19th, 21st, and 26th. The subject is "The Suprarenal Capsules."

MR. A. E. SHIPLEY, M.A., has been appointed additional examiner in Zoology for Medical and Science degrees in the University of Edinburgh.

MR. B. G. SETON, I.M.S., has been promoted to be Surgeon Captain on January 30th last.

AT THE COMPETITION for commissions in the Indian Medical Service, held last month, three Bart's men competed and two were successful, viz. R. F. Standage, who passed tenth with 2,250 marks, and G. E. Bensley, who passed seventeenth with 1,062 marks.

WE HAVE been requested to state that it has been decided to hold a *Conversazione* in the Great Hall of the Hospital and Medical School Buildings, to celebrate the Centenary of the Abernethian Society on May 1st, 1895. Any past or present members of the Society who desire to be present on the occasion should communicate with "the Secretaries of the Abernethian Society" before April 15th. A card of admission will be sent to those who apply, together with a ticket for one friend if desired.

WE HEAR that Mr. D'Arcy Power's new book on the "Surgical Diseases of Children and their Treatment by Modern Methods" is on the eve of publication. The publisher is H. K. Lewis.

WE WISH to emphasise the letter from the Abernethian Society published in this issue asking for the loan of "relics" of Abernethy for the *Conversazione*. Such a collection would be of very great interest, and lenders may rest assured that every care will be taken to prevent damage.

IT SEEMS that several of our readers read our description of the new Operating Theatre, which appeared in the February number, as if it applied to a Theatre which was replacing the old one. This is not the case. The new Theatre at the top of the Coburn block is a supplementary Theatre, built solely for the purpose of relieving the pressure in the old one.

WE WISH to draw attention to the "Editor's Box," recently fixed in the Smoking Room. This has been placed there for the reception of any news which may be thought of sufficient interest for insertion in the Journal. It is not intended, as men seem to think, for the reception of all the rubbish from the floor of the Smoking Room.

WE HAVE been asked to notice the candidature of R. T. Norman Vogan, æt. 9, for the Royal Medical Benevolent College at Epsom. He is the son of the late James Norman Vogan, F.R.C.S. Eng., who was House Surgeon and Assistant Electrician at St. Bartholomew's in 1884. His mother, who had been a nurse at St. Bartholomew's, died in 1887, and his father two years later, he being thus left quite unprovided for.

WE UNDERSTAND that the Royal Free Hospital (London School of Medicine for Women) Cycling Club has been invited to join the United Hospitals Cycling Club. The "Lady Medicals" are coming on without doubt. We wonder how long it will be before the words "Royal Free" are engraved on the Athletic Challenge Shield!

Amalgamated Clubs.

ASSOCIATION FOOTBALL CLUB.

FROST again prevented us from carrying out our fixtures for February, the only match played by the First Eleven being against London Hospital, in the Inter-Hospital Cup Competition. This match was played at Lower Edmonton on February 28th, when we qualified for the semi final by beating London Hospital by eight goals to one. St. Thomas's Hospital having beaten King's College by six goals to one, we have now to play them in the semi-final.

RESULTS FOR FEBRUARY. GOALS.

Sat., Feb. 27.	Old Cholmeleians	at	Edmonton	11	1
Thurs., "	28.—Lond. Hosp. (Hosp. Cup)	"	"	8	1

FIXTURES FOR MARCH.

Sat., Mar. 2.—St. Albans	at	St. Albans.
Wed., " 6.—St. Thomas's Hospital (2nd)	"	Edmonton.
Thurs., " 7.—Casuals	"	Leyton.
Sat., " 9.—Old Wilsonians	"	Edmonton.
" " 9.—Enfield F. C.	"	Enfield.
Wed., " 13.—St. Mary's (Southampton)	"	Southampton.
Sat., " 16.—Ealing	"	Ealing.
" " 16.—St. John's College (Leatherhead)	"	Leatherhead.
Wed., " 20.—Wren's A. F. C.	"	Away.
Sat., " 23.—Harrow Athletic	"	Harrow.
" " 23.—Forest School	"	Walthamstow.
" " 30.—Minciva	"	Edmonton.

RECORD UP TO DATE.

	Played.	Won.	Drawn.	Lost.	For	Against.
First Eleven	21	12	5	4	65	33
Second Eleven	19	12	5	2	67	31

Saturday, Feb. 23.—ST. BARTHOLOMEWS HOSPITAL v. OLD CHOLMELEIANS.

Played on our ground at Edmonton. The ground was in a very bad state, owing to the thaw after the hard frost. Pickering kicked off for us, and within a very few minutes, from a pass by Wrangham, a goal was scored by Whitaker. The Old Cholmeleians then played up hard and secured a good goal, but not before Bart's had added another to their score. After this the Old Boys fell to pieces, and at half-time the score stood five goals to one in Bart's favour. After crossing over Bart's still had the best of it, the only feature of note being two good runs by Hay, who scored at the end of each by completely out-pacing his opponents. Pickering at forward also was seen to great advantage, four of our goals being due to him. Four more goals were scored before time was called, and the game ended in Bart's favour by eleven goals to one.

The goals were scored by Pickering 4, Hay 2, Waterhouse 2, Pope 2, Whitaker 1.

Team.—F. H. B. Fox, goal; C. H. Turner, C. G. Watson, backs; W. Wrangham, J. C. Marshall, L. E. Whitaker, half-backs; T. D. Dawson, R. Waterhouse, right wing; H. J. Pickering, centre; A. Hay, W. H. Pope, left wing.

INTER-HOSPITAL CUP TIE.

Thursday, Feb. 28.—ST. BARTHOLOMEWS HOSPITAL v. LONDON HOSPITAL.

Bart's had choice of ground, and not being able to get Leyton, the match was played on our own ground at Lower Edmonton. The ground was in very fair condition, but was rather greasy in some parts.

Shortly after 3 o'clock Green kicked off for London Hospital against the wind, and Bart's almost immediately assumed the aggressive. Very soon Fernie placed us ahead by a good shot, and shortly afterwards London attacked our goal, and Green equalised, amidst cheers from the London men present. Bart's again pressed, and Hay and Fryer both scoring, the game stood at half-time three goals to one in our favour.

On resuming, London, who had the advantage of the slight wind at their backs, could make no headway, and the game resolved itself into a bombardment of their goal, and but for the fine goal-keeping of H. G. Taylor-Jones the score would have been much heavier against them. As it was Woodbridge (1), Fernie (1), and Robinson (1), all added to the score, and the game ended in Bart's being victorious by eight goals to one.

TEAMS.

St. Bart's.—E. H. B. Fox, goal; R. P. Brown, L. E. Whitaker, backs; W. H. Pope, C. C. Costin, H. J. Pickering, half-backs; A. Hay, C. A. Robinson, right wing; J. F. Fernie, centre; E. H. Fryer, E. W. Woodbridge, left wing.

London Hospital.—H. G. Taylor-Jones, goal; G. Hutcheson, E. J. Andrews, backs; S. J. Welch, J. E. Palmer, E. C. Salts, half-backs; L. Sykes, W. Bannerman, right wing; P. A. Green, centre; H. F. B. Williams, F. T. Waldron, left wing.

Referee.—Mr. C. W. de Lyons Pike.

Linesmen.—Messrs. Williams (London) and Fisher (Bart's). The following Cup Ties have been played:

First Round.	University College	beat	St. Mary's	5 goals to 2
Rest Byes.				
Second Round.	St. Bartholomew's	beat	London	8 goals to 1
Middlesex			Charing Cross	2 " 0
St. Thomas's			King's	6 " 1
Guy's	versus	University		to be played.

The semi-finals are St. Bartholomew's v. St. Thomas's, Wed., March, 13th, at Leyton. Middlesex v. Guy's or University.

RUGBY FOOTBALL CLUB.

Owing to the frost, many of our fixtures have had to be scratched, viz.:

Portsmouth, at Portsmouth	Jan. 12.
R.M.A., at Woolwich	Jan. 26.
Northampton, at Northampton	Feb. 9.
Ealing, at Ealing	Feb. 16.
East Sheen, at Richmond	Feb. 20.

The result of our match with the Old Cheltonians, which was played at Richmond on January 19th, was a win for us by 3 tries (6 pts.) to nil.

Our match with the United Services, which was to have been played on February 27th at Portsmouth, was scratched on account of the Cup Tie.

FIRST ROUND v. ST. THOMAS'S HOSPITAL.

Although somewhat unfortunate in being drawn against Thomas's in the first round of the Cup Ties, we, on Thursday, February 28th, proved conclusively that Bart's were no ordinary nut to crack. By drawing with our formidable rivals, after an unusually exciting and even game, we seem to have regained some of those Rugby glories which we possessed "long since but lost awhile." Nearly 1,500 spectators, mostly students, amongst whom were several ladies, assembled on the Richmond Athletic Ground. The day was perfect, and the turf, which was well covered, in splendid condition. A slight breeze and rather an annoying sun must have caused some inconvenience to our opponents, who had lost the toss. Brown kicked off for them, but the game had scarcely begun before it was apparent that our forwards were rather more than a match for those of our rival. (And here I would digress for a moment to note what an improvement the new jerseys are. Besides looking much cleaner, they do not dwarf the men as did the old black or dirty-green.) The game at once settled down in the Thomas's half, and gradually became frantic after scrum forced the ball back to their goal line amid the frantic yells and cheering of Bart's, who had a great positional advantage. For some ten minutes Thomas's were fairly hemmed in, any attempts to break away being promptly frustrated by Wilson and Maturin. Then, however, a disaster occurred. From a loose scramble Greg picked the ball up and was off like a streak, making tracks for the Bart's goal. A heartrending "Oh!" went up from our men lining the touch-lines, quickly changed to loud cheers when from our men lining the touch-lines, our champion sprinter, had caught and downed Greg on our "25" line. Our joy was, however, short-lived, as almost immediately, and before many of the Bart's forwards had got up, Kotheran snapped the ball up, passed to Thorman, and he to Greg again, the last-named winding up a brilliant piece of play by a try nearly under the posts—a try which Kotheran neatly converted into a goal. From the kick-off Bart's, in no way disconcerted, at once rushed the leather down the field, and it looked any odds on our "25" line. Our forwards were playing a sterling game, and Maturin at half was here, there, and everywhere at the same time. Nothing further was scored up to half-time, although Thomas's had to touch down in self-defence.

On re-starting Bart's again pressed; but Thomas's were now playing a better game, and operations were soon transferred to our

part of the field, where Adair-Thompson nearly scored. Maturin relieved with one of his celebrated screw kicks. Rotherham soon afterwards dribbled over our line, and we had to touch down to save a try. Andrew kicked off, and Bart's following up strongly, the return by Moggridge was charged down, and a scrum took place on Thomas's twenty-fifth line. The ball being well heeled out was received by Maturin, who, with a judicious kick, sent it over the line, while he himself was quickly after it, scoring a try for Bart's about half-way between the goal and touch-line. Taking the kick at a difficult angle Maturin converted his try into a magnificent goal, amid the most intense excitement. The game now became more breathless than ever, especially as most of it took place perilously near our goal. The tackling, however, was most sure, Ridout, Cruddas, Nunn, and Body especially distinguishing themselves. For some infringing right in front of our goal Thomas's were given a free kick, which Adair-Thompson ought certainly to have landed, but, much to our joy, failed to do so. The game shortly afterwards came to an end, with the result of a goal each. For us Maturin was simply superb; time after time he saved breaks away, and brought relief by kicks, which invariably found touch, most ably backed up by all the team, especially Wilson, who continually kept the forwards well together, and occasionally acted as an extra half. The three-quarters collared well, which was all they were asked to do, and Body, who naturally suffered from comparison with Bond, was reliable at back, and when he knows where to stand will, no doubt, give an excellent account of himself. Bond, unfortunately, was suffering from a severe attack of influenza, and could not play.

TEAMS.

St. Thomas's.—C. F. B. Moggridge (back); E. W. Browne, A. H. Greg, W. H. Thorman, B. G. Patch (three-quarters); A. Rotherham, A. Montague (halves); A. E. Elliott, A. A. Rouillard, F. C. Adair-Thompson, G. H. Doherty, H. R. Sedgwick, F. M. Bingham, L. Gilbert, and A. N. Other (forwards).
St. Bart's.—T. H. Body (back); J. W. Nunn, C. S. Ridout, J. C. S. Dunn, S. Mason (three-quarters); F. H. Maturin, A. Hawkins (halves); P. O. Andrew (captain); R. P. Wilson, H. M. Coady, A. J. W. Wells, W. F. Bennett, A. L. Ormrod, J. K. S. Referees, F. G. Richards (forwards).
Referee.—Mr. G. H. Harnett (Hon. Sec., Kent County R. F. A.).
Touch judges.—H. Marshall (Bart's); W. Ashford (Thomas's).

Since the above report was written the following results have come to hand:

St. Bart's v. St. Thomas's (Rugby).—St. Thomas's 1 goal and 2 tries, *St. Bart's nil*.
St. Bart's v. St. Thomas's (Association).—*St. Bart's* 12 goals, *St. Thomas's nil*.

Abernethian Society.

FEBRUARY 14th, 1895.—The fourteenth Ordinary Meeting of the Society was held, the President, Mr. Maidlow, being in the chair. Mr. Maxwell showed a case of "molluscum fibrosum." Dr. Kauthack then read a paper on "Tetanus, and what it Teaches." He first dealt with the aetiology and progress of the disease, and then with the general and, more especially, the antitoxin treatment. Cultures and microscopic specimens of the bacillus were shown, also a mouse injected about twenty-four hours previously with the pure culture.

The attendance was very large, over sixty members being present.
February 21st, 1895.—The fifteenth Ordinary Meeting of the Society was held. The Vice-President, Mr. Sloane, being in the chair.

Mr. Keown first showed a case of "congenital flexion of both elbow-joints." The patient was a boy, *æt.* 12. At birth both elbows were fully flexed and fixed by adhesions; some of these had been broken down under an anæsthetic, and now the angle between the arms and forearms was rather greater than a right angle.

Dr. Morrison next showed a case of "chancere of the eyelid." The patient was a girl, *æt.* 37. On the 15th of December last patient was knocked down by a horse, and both lids of the right eye were lacerated. The father sucked the wound to clean it, and it healed up all but a small pimple, which appeared and gradually spread. On going into the history of the case it was found the father attended at the hospital in July, 1864, with a sore on the penis and an extensive secondary rash. He attended until October, 1864, when, considering himself cured, he ceased to attend.

* The Society will shortly publish this paper in pamphlet form.

Mr. Maxwell then showed a case of a man *æt.* 38, a hawker, who, in 1893, had a "suppurating corn" under the right great toe, which healed after twelve months. The sore formed was deep. Ten months ago he struck his right great toe, and since that time the toe has enlarged, taking two months to reach its present size. At the same time he received a severe shock. Twelve months ago he had another suppurating corn under the left great toe, which lasted eight months. He now has enlargement of the metatarsophalangeal joints on either side, together with osseous enlargement of the phalanx of the right great toe, Argyll-Robertson pupils, and loss of knee-jerks, but no ataxia, inco-ordination of movements, or history of true lightning pains. There is no loss of sensation, and micturition is normal. There is no evidence or history of syphilis.

Dr. Atlee then showed (i) a case of a woman, *æt.* 48, with xanthoma planum of both upper eyelids; typical case; duration ten years; associated with sick headaches all the time, never jaundiced. (ii) Daughter of above, *æt.* 10. The anterior pillars of the fauces are attached to the base of the tongue very far forwards indeed. Also there are two small crypts at the juncture of the hard and soft palate; ætiology, &c., unknown.

The Vice-President then called upon Mr. Maidlow to read a paper upon "Biblical Syphilis."

Mr. Maidlow, in opening his subject, advanced the following proposition:

1. Granting absolute inspiration of Bible, was there any reason why any passages obscure to modern thought might not be discussed or applied to modern meaning?

2. If allegory was to explain such, the burden of proof lay on those alleging allegory.

3. Granting it is wrong to even mention in ordinary language such inspired meanings, a tolerant would not attack the critic, only the criticism.

4. As a matter of fact the Bible must be looked upon as an ancient book with many obscure passages, and from a medical point of view should be searched for present diseases, as one would in Hippocrates, or Galen.

After mentioning antiquity of syphilis as being prehistoric, although not definitely mentioned in old writings, and could only be inferred, he went on to note that *circumcision* was more probably the remains of some sacrificial rite than primarily an institution for prophylaxis or cleanliness. He quoted cases to support this.

Then, in order—

Case of Sarah, who left in Egypt a disease inferred of genital nature, and again at Gerar when some plague fell because of her on the court of Abimelech. He mentioned also her long sterility and Abraham's fertility. The story was held to show an analogy with the more modern custom of imputing syphilis to a rival nation.

The plague or botch of Egypt, threatened by Moses on evil doers, was held to denote syphilis, emerald or lichenoid lesions signifying *chlamydia*.

The plague of emerald at Ekron, after capture of the ark was held to mean syphilis and leprosy; the virulence of the outbreak being attributed to the new soil.

Chap. xiii Leviticus, v. 18, denotes a scar of, or a present "hard sore."

The disease of Baalpeor, which smote those Israelites who mingled with the Midianites, was explained to be probably syphilis, Baalpeor being the equivalent of Priapus in Rome and Phallus of Asia, Phallic worship being existent to the present day.

Quotations to support this pathology were given from Hosea, Numbers, and Joshua. The plague slew the sinners; it was a plague from immorality. Moses made supreme efforts to stop it by slaying adult Midianite women. The disease nevertheless persisted into the next generation even, and Moses never made such efforts for leprosy.

Some verses of Isaiah in chap. iii were also held to denote syphilis, and indications also in Proverbs v.

The writer did not think any of the *plagues of Egypt*, except perhaps the sixth, were syphilis.

Job's disease was either scurvy or Aleppo boil. The potsherd was compared with Volkmann's spoon.

Herod died of intestinal obstruction rather than from phagedenic ulceration.

The paralytics of the New Testament, although told to sin no more, might have had paralysis from many causes, and sinners are numerous too.

The ulcers of Lazarus were most likely varicose.

The case of congenital blindness in John ix, 2, cured by clay and spittle and subsequent washing, was suggested to be of congenital origin and corneal, either ophthalmia neonatorum or interstitial keratitis.

David's case was then quoted. Evidence rested upon—

1. His sin and its merited deserts. His notorious uxoriousness.
2. The early death of Bathsheba's infant.
3. His allusions to his condition, many of which might be taken to mean syphilis, in the Psalms.

A brisk discussion ensued, which took a religious turn.

Mr. T. Preston Maxwell said that while believing in the Bible from beginning to end he did not think that there was any harm done by the discussion of a question of this kind. He would like, however, to make one or two remarks about some points raised in Mr. Maidlow's paper. (1) The passage in Genesis xx, about the plugging of Abimelech's court. Mr. Maidlow thought that Sarah might have infected the whole court. He thought that he had forgotten to read verse 4, and it was not scientific to comment on one part of this passage and leave out that which upsets the theory, for assuredly if "Abimelech had not come near her" she could not have infected the court.

Again, referring to John ix, v. 6, Mr. Maidlow made the clay put on the eyes of the blind man the means of his cure. Might he point out to him that in addition to this he had to exercise faith in going to the Pool of Siloam and washing. Again, he would like to ask Mr. Maidlow if he knew of a case in which a woman, having had syphilis in sufficient virulence to infect a whole court, as Mr. Maidlow inferred Sarah did,—had born a child, which lived to puberty, and was not weakly either in mind or body. He might remind him that Sarah's son, Isaac, died at the age of 180, while his mother died at the age of 127.

Mr. Josiah Oldfield then said that syphilis was a subject of which he knew nothing, and therefore could not criticise the pathology contained in the paper. He thought it, however, a pity such a paper had been read, as it must of necessity in the minds of those present link syphilis with some of the most beautiful passages of scripture whenever in future life they heard those passages read.

Dr. Atlee then rose and said, as a believer in God and the Bible, and a member of the Abernethian Society, he considered Mr. Maidlow's paper extremely childish and frivolous. He went on to speak of the improbability of a woman, supposed to have had syphilis so virulently as Sarah, bearing a child such as Isaac. He considered that it was taking an extremely narrow view to interpret the verse, "My tongue clave to the roof of my mouth," to mean specific glossitis. He also criticised Mr. Maidlow's views upon the "botch of Egypt."

Mr. Buttar said that he thoroughly approved of the greater part of Mr. Maidlow's paper. He thought that Sarah must be taken rather as a type of the Jewish woman of that day and not as a special individual.

Dr. Morrison said that he thought such a paper should not have been read, because it was eminently so unscientific. He thought it extremely improbable that Sarah, looking at her from Mr. Maidlow's point of view, should straightway have born a healthy child, without previously having had several abortions.

Mr. E. W. Cross thought the speakers had been unnecessarily hard upon Mr. Maidlow. He thought the paper had been extremely interesting, and the theories well worked out and supported.

Mr. T. A. Barron said he thought the attacks upon Mr. Maidlow had been very virulent. He said that the Abernethian Society was a medical and scientific society, and that syphilis was a medical subject, therefore he saw no reason why the paper should not have been read. He said it was a pity that the ultra-theologians always thought it necessary to harangue their audiences so violently.

Messrs. Giles, Thorne-Thorne, Brigstocke, Pearson, Dealdes, and Grace-Carter also spoke on the subject.

In conclusion and in reply Mr. Maidlow maintained that he should be pleased if he had led any to see things in a new light, and had provoked a spirit of inquiry. For himself he saw no reason why a paper on Biblical syphilis should be evidence that he denied the Bible or was irreligious; that he had by no means found syphilis in all Biblical diseases, as had been imputed to him; and that he had not written on leprosy or tubercle because he had written on syphilis, inferences were correct or not he could not maintain, as there must of course be as much difficulty in unravelling Bible language as that in Hippocrates or Galen. He deprecated abuse of the critic of religion rather than of the criticism. He concluded with the quotations—

"Fiat justitia, ruat cælum;" and
"Magna est veritas, et prevalebili."

The attendance was extremely large, nearly seventy members being present.

St. Bartholomew's Hospital Smoking Concert Club.

FEBRUARY fourth concert of the season was held on Saturday, February 2nd, in the French Room, St. James's Hall Restaurant. The programme, which was an excellent one, was arranged by Messrs. D. I. E. Bolton and C. E. Hogan, the Hon. Secs.

Mr. P. O. Andrew, the new chairman of the Club, ably fulfilled his onerous duties. The programme was opened with a pianoforte solo by Mr. J. Edgar, which was well rendered. Mr. W. W. Giblin then sang in fine style "Out on the Deep." Mr. G. Forman gave some excellent banjo solos and songs, and was encored. His place was taken by Mr. J. K. Birdseye, who sang the "Amateur Fireman." We have seldom seen him in better form, his acting being quite up to professional style. Mr. Rees then gave a clever ventriloquist entertainment, entitled, "The Talking Hand," and his clever knot-tying tricks were exceedingly smart. Mr. Frank Lane sang "The Judge," and in response to the unanimous encore, "That's his Girl." Mr. J. W. Nunn was heard to advantage in "Loch Lomond" and "Doughty Deeds."

Mr. T. Cowerporthwaite met with a flattering reception, receiving an encore for his song, "The Bay of Biscay." One of the features of the evening were the instrumental varieties given by Mr. S. Gibson, who is an expert with musical instruments innumerable. Mr. D. Welch, who is an old favourite with the Club, sang "Her Golden Hair was hanging down her Back," and, as an encore, "Then we had another one." Mr. D. L. E. Bolton sang "Nancy Lee" and "The Gallant Fusiliers" in fine style, the audience joining lustily in the choruses. Mr. P. Leslie next gave "I'm one of the J's," and "Twixt Love and Duty." A very pleasant evening was brought to a close by singing "Auld Lang Syne" and "God Save the Queen." We noted with pleasure that the attendance was a great deal better than last time. The presence of the Medical Staff Corps in uniform, just from the mobilisation of the forces in the great march-out in defence of London against an imaginary invading force, was a feature of the assemblage. Amongst those who were present we noticed Messrs. Marsh and Deily, and Dr. Calvert.—"ONLOOKER."

Argon.

PAST summer, at the meeting of the British Association at Oxford, the scientific and medical world received a rude shock by the preliminary communication from Lord Rayleigh and Professor Ramsey that they had isolated a hitherto unsuspected element from atmospheric air. Every schoolboy knows that the air is mainly composed of nitrogen and oxygen, in the proportions of 79 of the former to 21 of the latter facts for whose discovery science is indebted to Priestley and Scheele; but no one appears to have even suspected the existence of the new body—argon—which has been shown to be present to the extent of 1 per cent. When the announcement of "argon's" existence was first made, chemists were somewhat sceptical, and naturally reserved their judgment until more facts were before them. After six months' further investigation Lord Rayleigh and Professor Ramsey have made a further and fuller communication of their discovery, and have more than established the results of their preliminary note. And the scene at the meeting of the Royal Society on January 31st last, when the large theatre of the University of London was crowded with scientific savants, eager to hear the arguments and experiments as to "argon," was one which will not easily fade from the memory of those whose privilege it was to be present. It appears that if air having an

excess of oxygen be subjected to a series of electric sparks. The resulting nitrous fumes absorbed by potash and the excess of oxygen by alkaline pyrogallate, there remains a body which is neither oxygen nor nitrogen, which has a distinct spectrum, and is, in fact, the hitherto unsuspected argon. The discovery of the new gas is a triumph of physical science for it is to the physicist and not the chemist that we owe it. It was first observed that nitrogen obtained by chemical processes has an appreciably less density than that obtained from atmospheric air, and other explanations failing, the experimenters were driven to conclude that atmospheric nitrogen contains another substance—a conclusion in accord with Cavendish, who, in the early days of chemical discovery, was not satisfied that "phlogisticated air" (nitrogen) was pure. A long series of experiments at length enabled Lord Rayleigh and Professor Ramsay to isolate the new element, and the best way to prepare it on a large scale is to free air from oxygen by means of red-hot copper; then, after drying, the nitrogen is removed by passage through a combustion tube containing magnesium turnings. The residual gas is argon, having a density of 19.09 to 20. Viewed through the spectroscope, argon has a distinct and characteristic series of bands, not possessed by any known substance. As to its other properties, it is about as soluble in water as oxygen is, and can be solidified at a temperature of 189.6°. It is remarkably inert, refusing to combine with other elements or compounds, having, for example, no affinity for hydrogen, chlorine, phosphorus, sulphur, &c.—in fact, so remarkable is its inertness that the authors call it an "privative"; *apryon*, energy—contracted to "argon."

Of late, science has made rapid strides, but the discovery which has just added to our knowledge of so commonplace a substance as the air we breathe is one which must rank as a first-class advance in science, and equal to the classical work of Cavendish, Lavoisier and Priestley.

Meeting of the Anatomical Society at St. Bartholomew's.

A VERY successful meeting of the Anatomical Society of Great Britain and Ireland was held at "Bart's," on Wednesday, February 13th, at 4 p.m. After assembling in the library, where tea was provided, and where Professor Sherrington exhibited some microscopical specimens showing the sensory fibres in the sixth lumbar nerve of the *Macacus rhesus* (= fifth lumbar of man), the formal meeting took place in the Anatomical Theatre. Professor D. J. Cunningham presided, and amongst those present we noticed Sir George Humphrey, Professor Thane, Professor Weldon, Professor Sherrington, Professor Howes, Mr. F. G. Parsons, Mr. Walsham, Dr. Shore, Mr. Waring, Dr. Flemming, and many others. Several students were present as visitors. The following specimens were shown and papers read, the last two being illustrated by lantern slides:

- SPECIMENS:**
 DR. HUBERT HIGGINS: The Semilunar Fibro-cartilages and Transverse Ligament of the Knee-joint.
 MR. F. G. PARSONS: Possible Sternals in *Bathyergus*.
 PROFESSOR WARDROP GRIFFITH: A case of Congenital Malformation of the Heart (specimen shown).
 PROFESSOR D. J. CUNNINGHAM: Series of Crania (from the Haddon Collection), exhibiting wounds produced by stone implements.

Papers:

PROFESSOR D. J. CUNNINGHAM: *Pithecanthropus erectus*: The man-like transitional form of Dr. Eugene Dubois.
 PROFESSOR SHERRINGTON: Remarks on the Distribution of the Sixth Lumbar Nerve in *Macacus rhesus*.

Examinations.

N. C. BEAUMONT, C. R. BROWN, A. G. Ede, H. Goodman, S. B. Green, and A. J. W. Wells have passed the Preliminary Scientific (M.B.) in Chemistry and Physics. * * *

J. J. S. SCRABE and S. Stevens have passed the Preliminary Scientific (M.B.) in Biology. * * *

H. C. P. BENNETT and R. P. Brown have passed the Intermediate M.B. Lond. * * *

J. L. MAXWELL has passed in the same Examination exclusive of Physiology. * * *

S. F. SMITH, H. Mundy, C. Riviere and W. Wrantham have passed in Physiology only. * * *

W. J. GILLESPIE has passed in Surgery at the final L.S.A.; G. Lowsley has passed in Forensic Medicine, and A. H. Wade has passed in Midwifery. * * *

O. F. PAGET has been admitted to the degrees of M.B. and B.C. of the University of Cambridge.

Correspondence.

To the Editor of *St. Bartholomew's Hospital Journal*.

DEAR SIR,—Desiring to confute some statements in a recently-read interesting paper at the Abernethian Society, I came upon some important points, which, if the author of the paper in question is ignorant of—which I doubt he will thank me for. In the first place, there is, as is agreed in the Church, much doubt about the authorship of the Psalms. I must be brief: anyone can look up the question for verification. The only Psalms which nearly all agree to be Davidic are 1—51. (2) Psalm 38, the one most quoted from, is well within this range. (3) The date given is B.C. 1091, the date of possible disease is B.C. 1097, or *sixteen years previously*. (4) It is the 3rd Pentateuch Psalm. (5) The great Scott Bible has this commentary (abstracted): (a) It is either great trouble of mind, which he compares to disease. (b) It is actually disease. "It is probable." Why should it not be β ? Sin was great, punishment deserved—a likely kind. Disease is from heaven or from whence? My desire was to confute, but I cannot, and am UNBIASED.

To the Editor of *St. Bartholomew's Hospital Journal*.

DEAR SIR.—*Apròpos* of two recent cases of advertising, brought by the Council before the medical profession, I saw one case in which a medical man of some standing, at least according to his own idea, advertised in the following manner: Covering the whole front of his house, or rather shop, were some eight or nine texts, the most striking of which were the following: "And the man departed and told the Jews that it was Jesus which had made him whole," and "Without the shedding of blood there is no remission of sins." Does not this seem rather an arrogation of divine power, to say nothing of the contemptible way in which he evades the laws of our profession with regard to the advertisement.—Believe me, yours truly,

No DUALICAL SCHOLAR.
 [We feel disposed to regard this as symptomatic rather of insanity than of anything else.—Ed.]

To the Editor of *St. Bartholomew's Hospital Journal*.

The Abernethian Society, St. Bartholomew's Hospital, February 26th, 1895.
 DEAR SIR.—As most of your readers are aware, the Abernethian Society are celebrating their centenary on Wednesday, the 1st of May next. The committee are anxious to collect any relics of the great surgeon under whose name the Society exists, and exhibit them on the evening of the centenary. Will any of your readers possessing such, who are willing to lend them to the Society, kindly communicate with the Secretaries.—We remain, yours very truly,

ASHLEY BARREN, J. Hon. Secs.
 FRANK A. SMITH, J.

Obituary.

SIR WILLIAM SCOVELL SAVORY, BART., F.R.S.—It is with the deepest regret and grief, which we are sure all Bart's men will share, that we learn of the sudden and wholly unexpected death of one of St. Bartholomew's most worthy sons, Sir William Savory. He was attacked with influenza a day or two before his death, but previous to this he was subject recently to some nervous symptoms, and had been much distressed by the death of Mr. Hulke, the President of the College of Surgeons. On February 21st, he first consulted Dr. Habershon about these nervous symptoms, and subsequently saw Dr. Pavy. On February 28th, he last visited St. Bartholomew's Hospital, and looked unwell and anxious. There had been cases of influenza in his house, and on the morning of Friday, March 1st, his temperature, which previously had been normal or subnormal, was raised to 100.8°. He then took to bed, and Sister John, who had previously nursed Sir William's grandson through a serious illness, went as nurse. On the day following, symptoms of a slight bronchitis supervened, but these were at no time severe. Up to then his strength had been well maintained, and on Sunday morning, March 3rd, he was reported better. In the course of the day, however, signs of prostration and cardiac failure appeared, but yielded to stimulation, and by the evening the temperature was lower and the pulse stronger. Early on the morning of Monday, March 4th, the temperature rose to 103°, and sudden and alarming collapse set in, and in spite of the most active remedial measures Sir William gradually sank, and died at 10.20 a.m. During his illness he was attended by Dr. Pavy and Dr. Habershon, who state that never at any time was there any bronchopneumonia, and the bronchitic symptoms appear to have been "of the nature of a profound vaso-motor paralysis."

To us and to many of his colleagues at St. Bartholomew's the news of his death came as a painful surprise, as we had not even heard that he was ill.

Sir William Savory, who was the son of Mr. W. H. Savory, a merchant, was born in London, near Tower Hill, in 1826, and immediately after leaving school entered as a student of St. Bartholomew's in 1843, the year in which the residential College was founded, and Sir James (then Mr.) Paget was appointed the first Warden. He became a Member of the College of Surgeons in 1847, and in 1848 took the degree of M.D. of the University of London, and at the same time gained the "University Scholarship" in Medicine. Shortly afterwards he became House Surgeon to Sir William Lawrence, and in 1852 was admitted a Fellow of the Royal College of Surgeons. As a student Sir William was most diligent in his attendance on lectures and practical work. He was Dresser to Sir William Lawrence, and Clerk to Sir George Burrows. From his student days he was an orator and keen debater, and took a leading and active part in the discussions of the Abernethian Society, of which at one time

he was President. His abilities and industry were at once recognised by his teachers, and after being House Surgeon, he soon joined the teaching staff of St. Bartholomew's as Demonstrator of Anatomy. In 1859 he succeeded his former teacher, Sir James Paget, as Lecturer on Physiology, and on April 24th, 1861, he became Assistant Surgeon to the Hospital. After six years' service as Assistant Surgeon he became full Surgeon, which office he held until November, 1891, when he retired, and was elected Consulting Surgeon to, and a Life Governor of the Hospital. In 1869 he became Joint Lecturer on Surgery, with the late Mr. Coote as his colleague. Ten years later, in 1879, on the death of Mr. Callendar, he became sole Lecturer on Surgery, which post he resigned in 1889, being succeeded in the Lectureship by Mr. Willett and Mr. Marsh.

As a lecturer Savory particularly excelled. His lectures were always clear and lucid, and his language was elegant and polished, which, with a delivery, distinct and impressive, made them most pleasing to listen to; and no one of those who had the privilege of being present will easily forget the large and attentive audience of past and present students who flocked to listen to the charming oratory of his last lecture on surgery, which he gave in the Anatomical Theatre in March, 1889.

In the earlier part of his career on our Hospital Staff Savory spent much time in our splendid pathological museum, and we owe much of what is best in it to him. He wrote, in 1862, a volume of "Addenda" to Sir James Paget's Catalogue of 1846-51.

As a surgeon he was a skilful and careful operator, and could work equally well with left or right hand; in diagnosis he was rapid and good, and in his results he compared favorably with others. As a clinical teacher he was not so popular as many of his colleagues, for in his visits to the wards he said little, but taught rather by precept and example. Anyone who chose to watch carefully all Savory did, and to think about and reason for himself from what he saw, could learn many golden truths and form his own rules of practice. Thus his teaching was of little use to the ignorant, but was of especial value to his House Surgeons and to advanced and sharp students. The certain degree of firmness and severity which characterised him, his keen glance, and his impressive and dignified demeanour made all students respect him—many feared him. But he was kind, sensitive, and modest, and, though he had no sympathy for the unpunctual and the lazy student, was ever willing to help and encourage the industrious, hard-working, or nervous one.

Sir William Savory took a prominent part in the proceedings of the Royal College of Surgeons, for in 1877 he became a member of the Council, and continued in office until 1893. In 1885 he was elected President, and—unprecedented honour—was re-elected a second, a third, and a fourth year, so unique was the esteem with which he was

held and so highly valued and rare were those qualities which stamped him as a clear, logical, and dignified chairman.

At the meeting of the British Medical Association at Cork, in 1879, Sir William delivered the address on Surgery, on "The Prevention of Blood-poisoning in the Practice of Surgery," for, though the great opponent of Listerism, he was a thorough advocate of asepticism in surgery, and many of the opinions and predictions which he enunciated have since been proved true. Although a thorough enthusiast in science, Savory was not a large writer of books, but what he did write is characterised by such sound argument and clear and expressive language as to have become classical. Such are his lectures, delivered at the Royal Institution, on "Life and Death," and his "Essays on Pyæmia." In his early life he contributed papers on scientific subjects to the *Proceedings of the Royal Society* and the *Philosophical Transactions*, amongst which were, in 1851, "On the Valves of the Heart," and "The Development of the Striated Muscle in Mammalia" in 1855. In 1858 he published his well-known work on "An Experimental Enquiry into the Effect on the Mother of Poisoning the Fœtus."

He became a Fellow of the Royal Society in 1851, was for many years Professor of Comparative Anatomy at the College of Surgeons, and in 1887 delivered his famous "Hunterian Oration" to the College. Many of his best writings are to be found in the earlier volumes of *St. Bartholomew's Hospital Reports*, such as those on pyæmia, thrombosis, local effects of blood-poisoning in relation to embolism, phlebitis, and necrosis. He wrote also the chapters on "Hysteria" and "Scrofula" in *Holmes's System of Surgery*.

Since his retirement from active service on the Staff of our Hospital, Sir William had not been idle. He was a member of the Royal Commission on Vaccination, and of the Royal Commission on the proposed Gresham University for London, a subject in which he took the keenest interest. At his death he was a member of the Senate of the University of London, and Surgeon Extraordinary to Her Majesty the Queen; and as a fitting reward for his high sterling qualities and honest industry, he received the honour of a baronetcy, after having declined lesser honours.

In 1854, Sir William Savory married a daughter of Mr. William Borradaile, but his domestic life was not without sadness, for in 1867, having poisoned his finger, he transmitted the infection to Mrs. Savory, who dressed it. The disease proved fatal to her, and he himself nearly died from its effects. He leaves one son, Borradaile Savory, the Rector of St. Bartholomew's the Great, who is married to a daughter of Dr. Pavy, and succeeds him in the baronetcy. The funeral took place on Thursday, March 7th, at Highgate, preceded by a service at St. George's, Hanover Square, where a large congregation of his personal friends and colleagues attended.

DANIEL HACK TUKE, M.D., LL.D.—We regret we have to record the death of Dr. Hack Tuke, whose name is so well known in connection with mental disease. Dr. Tuke was born at York in 1827, and in 1852 became a Member of the College of Surgeons after studying at St. Bartholomew's. He was editor of the *Journal of Mental Science*, and Lecturer on Psychological Medicine at Charing Cross Hospital. He was formerly Physician to the Retreat, York, President of the Psychological Association, and Examiner in Mental Physiology at the University of London. He wrote largely on mental science, amongst his works being *Influence of Mind on the Body*, *Insanity in Ancient and Modern Life*, and *A Dictionary of Psychological Medicine*. He died on March 5th from influenza.

Appointments.

HUGO, J. H., M.R.C.S., L.R.C.P., has been appointed Extra Assistant Medical Officer to the East Dulwich Infirmary.

CALVERLEY, J. E. G., M.R.C.S., L.R.C.P., has been appointed Assistant House Physician to the Metropolitan Hospital.

We regret that an error occurred in the Appointment List published last month, by which it appeared that N. P. Marsh, M.B. Lond., M.R.C.S., had been appointed House Physician to the Children's Infirmary, Liverpool. Dr. Marsh was re-appointed Honorary Physician—a post which he has now held for some years.

Births.

HENDLEY.—On Feb. 23rd, at Dharmasala, India, the wife of Surgeon-Captain Hendley, I.M.S., D.P.H., of a daughter.

JESSOP.—On Feb. 24th, at Fitzjohn's Avenue, N.W., the wife of E. Jessop, L.R.C.P., M.R.C.S., of a daughter.

STEVENS.—On Feb. 27th, at Tulse Hill, S.W., the wife of A. B. Stevens, M.B., of a daughter.

Marriages.

BATEMAN—METCALFE.—On Feb. 6th, at York, Hinton E. Bateman, L.R.C.P., M.R.C.S., to Edith Beatrice, second daughter of the late Rev. J. Metcalfe, Rector of Holy Trinity, Micklelegate, York.

POWELL—DAVIES.—On Feb. 20th, at Swansea, T. M. Jones Powell, M.B. Lond., to M. Beatrice Davies, daughter of Joseph Davies, F.R.C.S., J.P., Hafod, Swansea.

Deaths.

SAVORY.—On March 4th, at Brook Street, W., Sir William Savory, Bart, F.R.S., in his 69th year.

TUKE.—On March 5th, at Welbeck Street, W., Daniel Hack Tuke, M.D., LL.D., F.R.C.P., aged 68 years.

ACKNOWLEDGMENTS.—*Guy's Hospital Gazette*. London Hospital Gazette. St. Mary's Hospital Gazette. Case of Angina Pectoris, by William Wylie, M.R.C.S., L.R.C.P. A Visit to a Norwegian Leprosy Hospital, by E. Mansel Simpson, M.D.

St. Bartholomew's Hospital



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NOTICE.

All Communications, Articles, Letters, Notices, or Books for review, should be forwarded, accompanied by the name of the sender, to the Editor, ST. BARTHOLOMEW'S HOSPITAL JOURNAL, St. Bartholomew's Hospital, Smithfield, E.C., BEFORE THE 1ST OF EVERY MONTH.

The Annual Subscription to the Journal is 5s., including postage. Subscriptions should be sent to the MANAGER, W. E. SARGANT, M.R.C.S., at the Hospital.

All financial communications, relative to Advertisements ONLY, should be addressed to J. H. BOOTH, 29, Wood Lane, Usbridge Road, W.

St. Bartholomew's Hospital Journal,

APRIL 14th, 1895.

"Æquum memento rebus in arduis
Servare mentem."—Horace, Book II, Ode III.

Notes on Aseptic Surgery.

By C. B. LOCKWOOD, F.R.C.S.,
Assistant Surgeon to the Hospital.

(Continued from page 83.)

THE commonest bacteria have now been described. I have also mentioned where they are found, and how they enter wounds. The next step is to tell how to keep them out of wounds.

This requires a knowledge of disinfection and of anti-sepsis. An antiseptic has already been defined as that which prevents or retards the growth of bacteria, and a disinfectant as that which kills them outright. These distinctions must now be kept clearly in mind.

Disinfection may be carried out by heat, chemicals, or by filtration. Sunlight, electricity, and some mechanical processes might also be enumerated, but have not the same value as the others. Nevertheless, in planning hospitals the value of sunlight ought not to be ignored. It has the most potent influence upon bacteria, in preventing or retarding their growth, and in purifying the atmosphere. Later it will

be seen that mechanical measures, such as scrubbing, are an important part of the disinfection of the skin.

Of all methods of disinfection heat is the simplest, cheapest, and best. Chemicals occupy the second rank, but are treacherous and difficult to use. Filtration by Chamberland's filter, or Berkefeld's modification of it, may be of occasional use for the sterilisation of water. This, however, is done more easily and certainly by heat.

The practice of aseptic surgery does not consist in the slavish use of chemicals. They are merely adjuncts, and not an essential part of the system. Some surgeons try to do without chemicals. They pin their faith upon heat in its various forms for the elimination of bacteria.

It is, perhaps, doubtful what the practice of the future will be. As our hospitals are at present constituted, chemicals can hardly be avoided. Some time since, Mr. Butlin* treated his cases with a minimum of chemicals, and with materials sterilised with heat. Out of sixty-one cases, twenty-nine suppurred. Bloch,† too, seems to have pursued the same system with moderate success. The results of the mixed method of asepsis, which, as I have already said, utilises both heat and chemicals, has given me in hospital practice about six per cent. of suppuration. But much of this was trivial and not progressive. Moreover, as house surgeons, dressers, sisters, and nurses acquire the principles of aseptic surgery, the proportion of suppuration tends to diminish.

Disinfection by heat is governed by certain laws. First, all cocci and non-spore-bearing bacilli are easily killed by moderate heat acting for a short time. Second, spores are only killed by considerable degrees of heat acting for a long time. Third, moist heat is much more efficacious than dry heat; and fourth, fluids of small nutritive value are easier to disinfect than those of high nutritive value. Thus water is easier to disinfect than urine, and urine is easier to disinfect than milk, or blood, or sputum.

Generally speaking, a high degree of dry heat kills bacteria quicker than a lower degree, and the same applies to moist heat.

* *St. Bartholomew's Hospital Reports*, vol. xxix, 1893, p. 89, et seq.
† *Revue de Chirurgie*, 1890.