
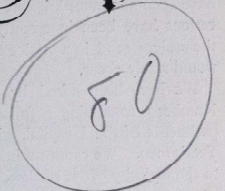


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St. Bartholomew's Hospital

JOURNAL.

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OCTOBER, 1895.

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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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All communications, financial or otherwise, relative to Advertisements ONLY, should be addressed to J. H. BOOTY, Advertisement Canvasser and Collector, 29, Wood Lane, Uxbridge Road, W.

St. Bartholomew's Hospital Journal,

OCTOBER 14th, 1895.

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

AT the commencement of a new year it is always fitting to stop and glance round,—to look at our past, and as a result of its consideration, to picture in our imagination a future which shall be better both negatively and positively than our immediate past has been.

This number begins the third year of the JOURNAL'S existence, and is the twenty-fifth number that has been issued. During the whole of the JOURNAL'S existence there has been an uninterrupted increase in the subscribers' list, and if the contributors' list has not increased proportionately it is perhaps because contributions have not been sought with sufficient pertinacity, and because the size of the JOURNAL is limited to thirty-two columns. The great interest that old Bart.'s men have taken in it has always been a source of joy to the Editorial Staff, and will, we trust, be even greater in the future than it has been in the past.

Without doubt the Amalgamated Clubs have no cause to regret their venture, when after long and weary consideration they decided that it was their place to produce a "St. Bartholomew's Hospital Journal."

Still, amid the many details in our retrospection which give us pleasure, there are on the other hand many which we look back upon with regret,—efforts that have not been followed by success. Of these, standing out most clearly, is our attempt to improve the clinical news in the JOURNAL. This attempt dates from the earliest days of the JOURNAL, and was accentuated by an editorial in July, 1894; but little if any success has attended it.

As we remarked in the editorial referred to, no one man can see more than a very small portion of the clinical work of the Hospital. We quote two paragraphs, since they express our exact meaning. "Frequently when going round the wards with a Surgeon or Physician, one hears the remark, 'This is a most interesting case,' or one's attention is drawn to some especially interesting feature of an otherwise common case, such, for example, as an unusual combination of symptoms, or some departure from the course generally followed by such cases. Those men who are fortunate enough to be present at the time will probably make such a case the subject of a conversation with their friends at lunch, or while sitting round the fountain, and thus a limited publicity is given to a small proportion of the cases. . . . If the dresser or clerk of each case belonging to the class we have mentioned were to write a short account, not necessarily of the whole case, but of the specially interesting feature of it, and send it to the Cloak Room, addressed to the Editor, we on our part would gladly print it, and as a result the usefulness of the JOURNAL would be materially enhanced."

We would add here that a little stimulation from the house surgeons and house physicians would do much to secure our object. Many of the dressers and clerks would, we are sure, willingly send a note to the JOURNAL if they were only reminded of its existence at the time they were writing the notes of the case.

Another source of regret is the paucity of news of old Bart.'s men. Again and again we have emphasised our request that old Bart.'s men would forward us any news as regards their own doings or those of other old Bart.'s men with whom they are in touch. Certainly there has lately

been great improvement in this respect; but, on the other hand, we frequently receive from men whose appointments have been announced, letters complaining that their qualifications have been incorrectly stated. If they would only themselves send in a notice for publication such mistakes would rarely occur.

We have been asked by some to print a "Student's Number" containing a full description of the various departments of the Hospital, with special reference to First Year's men. We cannot think that this would be acceptable to the majority of our readers, since it would involve a great amount of repetition each October. We doubt also the necessity of such a course when the First Year's man has such an army of advisers in the Warden and the Lecturers, as well as the staff of Demonstrators in the Dissecting Room and in the various laboratories.

Notes on Aseptic Surgery.

By C. B. LOCKWOOD, F.R.C.S.,
Assistant Surgeon to the Hospital.

(Continued from page 185.)

ASEPTIC surgery has made a vast addition to the number and range of surgical operations. At the same time it has altered our standard of perfection. But to attain this standard much is needed besides the exclusion of bacteria. Precision in diagnosis, knowledge of anatomy and pathology, and swiftness and dexterity in operating are as essential as ever. The details of the operation must be so familiar that attention can still be given to the supervision of those who are assisting. All this would be beyond our faculties when preoccupied with a difficult and anxious operation unless we used the simplest methods and appliances, and unless aseptic surgery had become a habit, done without reflection.

I do not propose to describe the actual performance of the operation; that will depend upon many circumstances. But all incisions should be clean and regular, and adapted for perfect apposition. Moreover the skin incision ought to be placed so that after the operation it can be covered with the dressing far beyond its limits, and air absolutely excluded. It has made a great difference in the radical cure of hernia to transfer the incision from the scrotum to the groin. Bleeding ought to be stopped at once to prevent infiltration of the tissues with blood; bruising and laceration ought to be avoided, and therefore everything must be done neatly and gently. Neither fingers nor instruments should be put into the wound except for a distinct purpose, and the tissues are not to be strangled with ligatures or sutures.

Swiftness in operating not only helps to diminish shock, but also lessens the dangers of infection from the air or

other sources. In many abdominal operations speed is essential to success. During the operation and before the wound is sewn up it is irrigated with biniodide of mercury lotion. This washes out any bacteria which may have entered from the air, and cleanses away blood or particles of fat. The biniodide seems to have no evil effect upon the tissues, and leaves them as fresh and clear as if they had been washed with water. The appearances are very different from those produced by irrigation with sublimate or carbolic lotion.

The wound is closed with scrupulous care. If the skin is brought into perfect apposition it speedily unites, and shuts off the depths of the wound from the atmosphere in case the dressings are imperfect or become disturbed. Moreover a much less unsightly scar is left. Before the last suture is tightened any remains of blood or lotion is squeezed from the wound, and pressure applied with sponges.

The dressing which I use nearly always consists of (a) dusting with finely powdered iodoform crystals; (b) a layer of 5 per cent. carbolic gauze which has been soaked in biniodide lotion; (c) a layer of alembroth wool; and (d) an outside dressing and bandages.

The object of these dressings is as follows:—The iodoform is dusted upon the skin, especially in its folds and creases, to act as an antiseptic in case of imperfect disinfection. Should bacteria emerge from the sebaceous glands, sweat-glands, or hair-follicles, they could not multiply or spread in this layer of iodoform. Moreover the iodoform lessens the danger of blistering, and diminishes any irritation caused by the other chemicals. The iodoform also protects the wound if the dressing is disturbed by the movements of the patient. I have seen the wound of a radical cure of hernia exposed to the air, but nevertheless heal perfectly because it was protected by its covering of iodoform.

The iodoform is handed to the surgeon in a small glass bottle with a perforated cover. This bottle ought to be disinfected after it has been used for a septic or tuberculous case. It is always handed to the surgeon immersed as far as its perforated cover in antiseptic lotion. Otherwise the surgeon's hands would be infected by it, and require disinfection before he touched the rest of the dressing.

The layer of 5 per cent. carbolic gauze is soaked before application in biniodide of mercury lotion to remove and disinfect any dust which may have fallen upon it. It is usually soaked for twelve hours. In various trials it has never infected broth. It is probable that a shorter time would suffice. The gauze is wrung out as dry as possible before being put upon the wound. This layer of aseptic gauze protects the skin from the strong alembroth contained in the next layer of dressing, and it also contains a store of carbolic acid for the disinfection of any fluids which now and then escape from the wound. But as this store of carbolic

acid is small and of feeble value, a thick layer of alembroth wool is placed over the layer of carbolic gauze. This wool, as I have already said, contains 2 per cent. of sal-alembroth. It soaks up any blood or fluid, and at the same time makes them antiseptic. Therefore if by chance the fluid spread beyond the edge of the dressing, bacteria would still have difficulty in finding their way into the wound. It also diminishes the risk of air infection and equalises the pressure which is applied to the wound. The alembroth wool must be separated from the skin by a wide-spread layer of soaked gauze, otherwise it is apt to cause dermatitis and blistering.

The layer of alembroth wool is covered with an outside dressing. This consists of eight layers of carbolic gauze covered with a layer of waterproof jaconet. The outside dressing is very important, and serves several purposes. Without preventing the diffusion of gas it ought to seal the wound against the entrance of free air, or, in other words, against bacterial invasion. It ought also to prevent fluids of any kind reaching the wound from the outside. This is apt to occur when the radical cure of hernia has been done upon children. Their dressings are very prone to be wetted with urine. Should any fluids escape through the other dressings from the wound the outside dressing makes them spread amongst the alembroth wool and prevents them reaching the air. To fulfil these duties an outside dressing must be of large size, must fit very accurately, and be carefully adjusted. Of what use can it be to take all kinds of precautions before the operation, and after all leave the wound exposed to the air? A proper fit being so important, I always have outside dressings cut to pattern. Also webbing straps and buckles are sewn to the corners to keep them in position. Lastly, the outside dressing is firmly fastened on with a layer of bandaging. This both keeps it in position and makes pressure upon the wound. Sometimes an elastic bandage is required, or layers of adhesive plaster. Some kinds of outside dressings are very hard to fit and adjust, but the trouble which is taken to obtain a good fit is amply repaid. Not only is the patient more comfortable, but his movements are less likely to let the air in beneath the dressing. A radical cure of hernia is very hard to dress. It is best to make a paper pattern of the outside dressing the day before the operation. The dressings for the radical cure of hydrocele and varicocele, and for amputation of the breast ought all to be cut to pattern.

I also find that it is most advantageous to fasten the outside covering in place with straps and buckles sewn to its corners. This not only adjusts the dressing, but I have known it keep its place when the bandages have slipped. The dressing which I use for radical cure of hernia is fastened with a strap and buckle round the thigh, and another round the pelvis.

For radical cure of hydrocele, varicocele, and in operations on the scrotum or testes I use a triangular outside dressing.

This is adjusted by a strap and buckle round the waist, and by two straps which spring from the apex of the triangle, and are brought from the perinæum upwards round the thighs at the gluteal fold. Pressure is obtained by stuffing wool beneath the dressing. No other bandaging is required, and the patient can move about with freedom, and is very comfortable.

A well-adjusted and secure dressing is thoroughly appreciated by the sisters and nurses. It enables them to move the patient without fear of spoiling the result.

The outside dressings for amputation of the breast, amputation of the limbs, and operations upon the head and neck, all require special precautions. However, they present few difficulties to those who understand what has to be accomplished. The dressing which I have described is almost a dry dressing.

By the time it is completed we have erected the following barriers against infection from without:—(1) An outside dressing adjusted with bandages and straps. (2) A layer of carbolic gauze and alembroth wool. (3) A layer of iodoform. (4) Accurate apposition of the skin by suturing. A the same time pressure is applied to arrest hæmorrhage and prevent inflammatory effusion. But after an aseptic operation in which the bleeding is thoroughly stanchied, there is no moisture about the wound, so that no call is made upon the blue alembroth wool. As a rule there is merely a slight dry blood-stain upon the gauze which touches the cut.

This kind of dressing gives me good results. At times the carbolic gauze is apt to become rather hard, but it hardly ever blisters the skin. It is quite unusual for a wound to be dressed before it has finished healing. But when the weather is hot and the skin is delicate I sometimes use iodoform gauze instead of carbolic gauze and alembroth.

So long as the dressing fulfils the principles of aseptic surgery its composition is of minor importance. But no kind of dressing can avail if the principles of aseptic surgery are violated at other stages of the operation.

The after treatment of aseptic wounds gives little trouble. The healing is unaccompanied by constitutional symptoms, but if the operation or injuring is extensive the usual complications are to be looked for. At first there is shock, during which the mind and vital functions are depressed and the temperature lowered. Then in a few hours shock is followed by reaction, during which the pulse is quickened and the temperature moderately raised. These symptoms speedily subside, and do not recur when the wound is aseptic, and with the exception of the wound or injury the patient's health is restored. It is unnecessary after reaction is over to put the patient upon low diet, or to interfere with the minor indulgences, such as wine and tobacco; these in moderation do no harm.

The significance of a rise of temperature depends upon the kind of operation as well as upon the way in which it was done.

The course of an aseptic wound is comparable to that of a simple fracture, and in this, as is well known, moderate rises of temperature are not infrequent during reaction.

Elevations of temperature after operations have been attributed to chloroform, chilling by exposure of the surface during the operation, the absorption of carbolic acid, the ferments of coagulating blood, the nervous system, to reaction, and, lastly, to the action of bacteria.* Obviously it is rash to choose any one of these and say that it alone is the cause of fevers after operations. But when the temperature of reaction does not subside, but becomes higher, constituting traumatic fever, wound infection is probable. This traumatic fever may be due to the absorption of bacterial poisons or ptomaines from the wound, or to their passage into the circulation by the veins or lymphatics. Von Eiselsberg† has obtained *Staphylococcus aureus*, *Staphylococcus albus*, and *Streptococcus pyogenes* from the blood of ordinary cases of traumatic fever following such things as the removal of parotid tumour, Syme's amputation, and resection of tarsus; also in cases of lymphangitis and panaritium ossale. My own work upon the tissues of those who have died after high temperature, but without the usual symptoms of septicaemia or pyaemia has often revealed the unsuspected occurrence of capillary bacterial emboli. In traumatic fever bacteria enter the circulation oftener than is thought.

Aseptic wounds heal without the usual signs of inflammation. There is neither heat, redness, nor swelling, and function is soon restored. Repair is rapid, and the edges of the incision and the stitch holes preserve the natural colour of the skin. There is a singular absence of moisture, and cicatricial tissue is not developed, so that no subsequent contraction or deformity need be apprehended. If by accident or design the dressings are in contact with a raw surface they are apt to adhere and become incorporated with the reparative material.

Aseptic wounds are also singularly painless. Pain is, however, caused by many things which have nothing to do with the presence or absence of bacteria. Nervous patients imagine pains; nerves may have been injured or included in ligatures; sutures may have been pulled too tight; or the skin may have been left unavoidably stretched. Thus an aseptic wound may be painful at first, although in the end its healing is perfection.

Those kinds of healing which are called healing by immediate adhesion, healing by primary union, or healing by first intention, may be taken as types of aseptic repair. The repair of subcutaneous wounds and injuries is also typically aseptic. Healing by second intention, healing by granulation, and healing by third intention are septic processes, as are also some kinds of healing by scabbing.

* Max Edelberg ("Klinische und experimentelle Untersuchungen über das Wundfieber bei antiseptischen Behandlung," *Deutsche Zeitschrift für Chirurgie*, 1880, p. 62) gives a synopsis of literature up to 1880, but the asepticity of Professor Wahl's wounds was not tested.

† "Beiträge zur Lehre von den Mikroorganismen in Blüte febern der Verletzten," &c., *Wiener med. Wochenschrift*, 1886, p. 133.

The urine has sometimes to be drawn off after operations. If this be not done aseptically a troublesome and dangerous cystitis may ensue. It is quite safe and easy to boil glass, metal, and soft rubber catheters. After disinfection these should be placed in lotion, like the instruments used for any other operation. Before the catheter is passed an attempt should be made to disinfect the meatus urinarius. Although far from perfect, glycerine of carbolic (1 in 40) or glycerine and biniodide (1 in 2000) is the safest lubricant.

An aseptic wound is not dressed until it has healed. The time for the removal of the dressing therefore depends upon the nature and extent of the operation. But if a drainage-tube has been inserted to let out blood it is removed in forty-eight hours.

Drainage-tubes are used for all scrotal wounds because in that region recurrent hæmorrhage seems common, because pressure cannot be applied and because an hæmatoma easily forms in the loose cellular tissue. I also drain wounds in which large areas of cancellous bone are cut, as in Syme's amputation, or in sections through the condyles of the femur. Cancellous bone seems very apt to ooze and disintegrate the wound with blood. Finally, I always drain when the wound passes through a septic sinus or sore, because disinfection is so uncertain.

It is a critical time to dress a recent wound. It has to be done with exactly the same precautions as the operation. Everything brought in contact with the wound is sterilised with heat and soaked in antiseptics. Those who perform or assist at the dressing prepare themselves as for an operation. As the wound ought not to be left exposed for a minute longer than is necessary everything is got ready in advance, and the tube removed, and the dressing replaced, in a smart workmanlike manner, without dawdling. When the outside dressing has been removed the field of operation is surrounded with sterilised towels, the gauze removed, the wound soaked with biniodide lotion (1 in 2000), and tube removed, and the wound dusted with iodoform and a new dressing put on.

When the wound is dressed at a later period of its repair the same precautions are taken, lest by chance a part of it should not be healed. Moreover the young reparative material does not seem very well able to resist infection, and sometimes breaks down again.

Most surgeons infer the asepticity of wounds from their clinical characters. Under some circumstances these may be relied upon, but in cases of doubt the tests which I have already described ought to be applied. The inoculation of culture media with fluid from the drainage-tube, with sutures, or with particles of epithelium, and so forth, is a delicate and reliable test.* I have learnt to look upon the slightest moisture, other than fresh blood or clear serum, as almost certain evidence of infection.

* *Leitfaden zur antiseptischen Wundbehandlung*, Von Nussbaum, Stuttgart, 1887, p. 15.

The examination of wounds by culture methods often affords unexpected results. A lumbar abscess connected with spinal caries was examined on several occasions. After a few dressings, by one who was careless, the pus contained *Staphylococcus albus*, later it contained *albus* and *citrius*, and still later it contained a putrefactive bacillus.

To avoid such dangers psos and lumbar abscesses are now emptied, irrigated, dusted with iodoform powder, or partially filled with iodoform emulsion, and then sewn up and dressed without any drainage. When this is done aseptically the worst that can happen is the re-accumulation of the pus.

As I have already pointed out, there are many kinds of pus. Tuberculous pus, such as is found in psos and lumbar abscesses, contains a microbe, the tubercle bacillus, which is very slow in its effects upon the tissues, and does not easily enter the circulation. But it would be most dangerous to proceed in the same way when the pus contained *Staphylococcus aureus* or *Streptococcus pyogenes*.

The tuberculous pus does not always re-accumulate. Some weeks ago I explored a boy's hip and found the head of the femur carious, the joint full of pus, and an abscess in the gluteal region. The head of the femur was removed, together with some of the acetabulum, and the joint and abscess easily cleaned out, irrigated, and rubbed with iodoform. The boy's temperature fell to normal, and nothing more was seen of the abscess.

A septic sinus, ulcer, or fistula is the most serious complication of an aseptic operation. Such wounds are infested by virulent bacteria, which are only kept out of the circulation by a layer of granulation tissue. If they get into a fresh wound they excite the most acute local inflammation, and may pass along the veins and lymphatics and cause pyaemia or septicaemia. When the skin is unbroken, an amputation of the breast for malignant growth is a safe and successful operation. But when the growth has ulcerated, the mortality from septicaemia is very high. The only case of septicaemia which I have had was in a case of ulcerated carcinoma of the breast. When it occurred I had not realised the impotence of our antiseptics. Evidence was afterwards obtained which seemed to prove that the wound had been infested with bacilli from the cancerous ulcer.* Two other cases of the same kind happened within a short period.

The chemicals at our disposal for the disinfection of septic wounds and ulcers are, as I have endeavoured to show, exceedingly untrustworthy. I myself have always failed to disinfect septic sinuses or wounds when the result has been tested with culture media.† But of late much better results have been obtained by more determined efforts. I now endeavour to disinfect a septic sinus or ulcer by scraping with a Volkmann's spoon, washing at the same time with

* Hunterian Lectures on "Traumatic Infection," Lect. II, *Lancet*, March 9th, 1895, vol. i, p. 296, *et seq.*

† "Report on Aseptic and Septic Surgical Cases," *British Medical Journal*, May 28th, 1892.

biniodide of mercury lotion—one part in one thousand—and thoroughly rubbing with pure carbolic acid, to which enough water or glycerine has been added to keep it liquid. This is finally washed away with more lotion. If possible, the operation is planned so as to avoid the sinus or ulcer, which is shut off with gauze soaked in iodoform colloidion. If the sinus cannot be excised, it is thoroughly rubbed with iodoform and drained.

I have already said that at first the aims of antiseptic surgery were not so high as they are now. But even in the beginning chemicals did away with the worst kinds of sepsis and wounds no longer stank. The most wonderful results were seen abroad. Pirogoff said these scourges of surgery, suppuration, purulent oedema, hospital gangrene, erysipelas, and tetanus, stalked "*Schritt und Tritt*" with surgery. Lindpainter wrote that hospital gangrene attacked eighty per cent of the wounds in von Nussbaum's wards. Erysipelas was the order of the day, and was looked upon as a normal sequence; a scalp wound was never sutured; in one year eleven amputation cases out of seventeen died of pyaemia; in compound fracture purulent infection, hospital gangrene, and septicaemia ushered in a swift mortality.*

Von Nussbaum's own statements bear out those of his assistant.† Young and hearty people often died after a trifling wound of pyaemia or hæmorrhage, following upon hospital gangrene. He says that in 1846 Sédillot performed his first gastrostomy. The patient died of septic peritonitis. After Sédillot the operation was done twenty-seven times with the same result, and surgeons gave up trying to solve the problem. How altered things are now! The peritoneum is now put to much severer trials than gastrostomy, and it is unnecessary to say how it emerges from the ordeal. I myself have not been called upon to treat secondary hæmorrhage after amputation since I was house surgeon in 1880.

The surroundings under which these things happened were such as we have never experienced. Reverdin ‡ says that in 1877 Volkmann had a kind of photographic studio for an operation theatre, and wretched barracks for wards. Proper sanitary appliances were wanting, and such as might be were actually within the wards. Volkmann himself compared them to public latrines. Yet he claimed that after he began to use antiseptics he obtained excellent results.

Von Nussbaum says that surgical therapeutics have improved so much that in the Italian war of 1859 he saw a great deal of hospital gangrene, little in the Bohemian war of 1866, and none in the German war of 1870. Antiseptics had quite mastered it.§

It is probable that in British hospitals the infective diseases were never so prevalent as they were abroad. Better sanitation, better nursing, and better food, and a

* Quoted from Schimmelbusch.

† *Leitfaden zur antiseptischen Wundbehandlung*, 1887, 5th ed.

‡ *Antisepsie et Asepsie chirurgicales*.

§ *Loc. cit.*, p. 30.

higher standard of personal cleanliness kept them more at arm's length. Suppuration, however, was looked upon as an ordinary occurrence, and was attended by its handmaids, erysipelas, pyæmia, and septicæmia.

Before Sir Joseph Lister used antiseptics (1864 and 1866) he lost sixteen major amputations out of thirty-five (45·7 per cent.). Afterwards (1867, 1868, 1869) he lost six out of forty (15 per cent.).*

At a later period Sir Joseph Lister performed eighty major amputations with nine deaths (11·25 per cent.). Mr. Spence did ninety-seven major amputations with a mortality of twenty-five (25·7 per cent.). These surgeons were working in the same hospital and under the same conditions, except that one used antiseptic methods and the other did not.

Last year (1894) 4219 surgical cases were treated in the wards of St. Bartholomew's Hospital,† and 1743 operations were performed, a vast number of minor operations being also done in the various out-patient departments. Six of those who were operated upon had erysipelas afterwards, but none of them died. Pyæmia occurred twice, and both patients died. Septicæmia also occurred twice after operations done for fungating cancer of the breast. Cases such as this are not, as I have pointed out, the same as those in which there is no sepsis before the operation. An ulcer, a sinus, a suppurating sore, are most dangerous complications.

Reverdin‡ says that abroad they formerly lost 90 per cent. of cases of amputation through the thigh. In ten years (1884 to 1893) 156 amputations of the thigh were done in St. Bartholomew's Hospital for disease. Twenty-one of these cases died, giving a mortality of 13·4 per cent. In the previous ten years (1874 to 1883) 192 amputations were performed through the thigh, with a mortality of twenty-nine, or 15·10 per cent. Amputations are becoming less frequent and less dangerous.

But statistics such as these give no idea of the saving of pain or of the lessened stay in the hospital. The patients, too, appreciate the new order, and seldom shrink when an operation is advised.

I have said that our hospital statistics do not record cases of suppuration; but, within my own recollection, the improvement in this respect has been very striking. Some time since I published a series of operations for the radical cure of hernia,§ but of forty-four recoveries after the radical cure of non-strangulated hernia done at the Great Northern, St. Bartholomew's, and elsewhere, thirty-six healed by first intention. Of this number thirty required a single dressing and five required two, and one, a troublesome schoolboy, required several. Of the remaining eight cases five had suppuration, which ended in the extrusion of some or all of the deep sutures; and three had very slight suppuration,

* *Antiseptic Surgery*, Cheyne, p. 368, *et seq.*

† See "Surgical Statistics," by Mr. Berry, *St. Bartholomew's Hospital Reports*.

‡ *Loc. cit.*, p. 243.

§ *Lancet*, Nov. 25th, 1893.

which made no appreciable difference in their healing. Since this the suppuration has been less, although the operations have been of a severer kind, so that of sixty-one cases which recovered after radical cure of non-strangulated hernia five had slight suppuration. Three of these cases occurred under house surgeons who had never prepared a case for me before. Fifty-three out of the fifty-five which healed by first intention had but a single dressing; that is to say, when the wound was dressed on the eighth day it was healed, and only needed to be protected with a little gauze or wool and a bandage. Radical cure was also done four times after the operation of kelotomy. All healed by first intention. Two were drained and required several dressings.

We consider the operation of radical cure to be one of the severest tests of aseptic surgery. In each wound a number of silk sutures are buried, and the operation is prolonged, and accompanied with a good deal of manipulation. Moreover the region is one which is hard to disinfect and keep aseptic.

The radical cure of hydrocele by excision of the parietal tunica vaginalis is a somewhat similar operation, but requires much less manipulation, and no sutures are left buried in the wound. One out of twenty-four cases of radical cure of hydrocele supplicated slightly, and in that the suppuration was due to several escapes of urine into the dressings.

In the operation for the cure of varicose veins the conditions are also favorable to suppuration. During the last two years I have notes of ten cases. In most of these both legs were operated upon, and one had thirty-one incisions. Some of the incisions supplicated slightly in one case. Those who have read Sir Benjamin Brodie's lectures will remember the horrible calamities which used to follow these operations, and which led him to give them up. Indeed, this and many other operations would not be justifiable unless we could promise security from infection. But we cannot yet promise, I regret to say, an absolute security.

When suppuration follows an operation done with aseptic precautions it is seldom or never of a severe type. Sloughing and phagedæna do not accompany it, and the patient seldom becomes ill.

In many of the cases which heal by first intention bacteria are present when the dressing is taken off on the eighth day. This is easily ascertained by inoculating culture media with sutures or anything from the wound. With the help of Mr. Maxwell and others I have repeatedly tested wounds with culture media. Our experiments are not numerous, but we estimate that half the cases are sterile. From the infected cases we have almost invariably grown skin bacteria, *Staphylococcus epidermidis albus* and *Bacillus epidermidis*. It is probable that these emerged from the sweat-glands, or sebaceous glands, or the hair-

follicles after the wound had healed too far for them to do any harm. Moreover these bacteria belong to kinds which are not particularly pathogenic. Their presence, however, is undesirable. Our aim is sterility. Methods which allow the presence of one kind cannot be relied upon with absolute certainty to exclude another. More information is needed as to the presence or absence of bacteria from wounds treated by aseptic methods. Many surgeons now-a-days claim to practise aseptic surgery, but hardly any have told us how far their attempts have been crowned with success. There is a profound gulf betwixt the statements "the wound healed well" and "the wound was sterile." It is strange that such simple and scientific tests as culture media are not oftener used.

THE END.

[WE understand that this series of articles on "Aseptic Surgery" will shortly be published in book form for the use of students.—Ed.]

The Artificial Rearing of Infants on Cow's Milk.

By EDMUND CAUTLEY, M.D.,

Physician to the Belgrave Hospital for Children.

IN spite of the thoroughness of medical teaching, and the extensive knowledge of all the various branches of medicine which the average student and practitioner possesses, it is a matter of everyday experience and observation that the details of management requisite for the successful bottle-feeding of infants are rarely understood and still more rarely put in practice. As a general rule, the medical practitioner satisfies his conscience by telling the mother or nurse to feed the child on boiled milk and barley water; while such minor directions as to the proportions of each of these, the total amount to be given at each feed, and the number of feeds *per diem*, are left to her own sweet will and pleasure. The usual result is that the unfortunate child is overfed, becomes dyspeptic, or gets attacks of gastro-intestinal disturbance, especially colic, becomes irritable and dissatisfied, cries with pain, and is given the bottle to stop its cries, with the natural consequence that the symptoms are intensified. The mother and "her neighbour" think the child is not getting sufficient food, and a proprietary food is added to the milk; or, on the supposition that it is the cow's milk that is at fault, recourse is had, often with the sanction or even on the advice of the doctor, to some one or other of the condensed milks so largely advertised. It is exceedingly rare to find a healthy infant who cannot digest and assimilate cow's milk, properly diluted, prepared, and administered. Given a healthy child which, for some reason or other, it is necessary to wean at even a very early period of its existence, failure to bring it up on cow's milk implies carelessness or lack of skill on the part of

the doctor, provided, of course, that his directions are properly carried out, and that a good milk supply is available.

A good milk supply consists in a supply of milk of average quality, not a milk of a specially rich kind. For this reason in towns it is advisable to obtain the milk from one of the large dairy companies, rather than from a small dealer. The mixed milk from a large number of cows varies in composition to a much smaller extent than the milk of one cow; so much so that it is an absolute fallacy to suppose that the milk of one cow should be ordered. Such milk varies largely with the nature of the food, the physical health of the cow, and many other conditions. In the country it is sometimes advisable, when possible, to set one cow aside for the use of the child, and to put this cow on special diet. Recent investigations, instituted for the *British Medical Journal*, have shown that the milk supply of London is by no means satisfactory. Many of the samples were found deficient in quality, and many contained boric acid. In other words, cream is abstracted, water and preservatives are added. I believe that the milk of the large dairy companies is much more reliable, and my own analyses have proved quite satisfactory.

A due understanding of the methods to be adopted, and the principles involved in artificial feeding on cow's milk, depends upon a careful consideration of several factors.

1. The characteristics and chemical composition of human milk.
2. The characteristics and chemical composition of cow's milk.
3. The differences between human and cow's milk.
4. The preparation from cow's milk of a fluid closely allied in composition to human milk.
5. The size of the child's stomach, and the amount of food to be given at each meal.
6. The number of meals *per diem*, and the length of the intervals between each meal.
7. The mode of administration.
8. The feeding-bottle.
9. The effect of boiling upon milk.

Human milk is a sterile, alkaline fluid, containing all the proximate principles of food in varying proportions. Like the milk of cows and all other animals, it varies largely in chemical composition with the nature of the food, the mode of life and physical condition of the mother, and many other factors which are outside the scope of this paper. For our present purpose we must take an average composition. Leeds obtained the following results from the analysis of the milk of about sixty women of different nationalities, and at different periods of lactation.

TABLE A.

	Human milk—Leeds' analysis.		
	Maximum.	Minimum.	Average.
Proteids	4·86	0·85	2·0
Fats	7·00	2·00	4·0
Lactose	7·90	5·40	7·0
Ash	0·37	0·13	0·2

Other observers give somewhat different results, tabulated below for the purposes of comparison.

TABLE B.

LEEDS.	LUFF.	MERTZ.	ROTH.
Results obtained from 60 women.	Analysis of the milk of 12 women; made for Cheadee.	Results obtained from 43 women.	Mean analysis from the results of many other observers.
Proteid . . . 2.0	2.35	1.046	1.0-2.0
Fat . . . 4.0	2.41	4.283	3.0-4.0
Carbo-hydrate 7.0	6.39	7.407	7.0
Ash . . . 0.2	0.34	0.101	0.2

Leeds' analysis, being based on a large number of observations and carried out with extreme care, and according to the most recent methods, is much the most trustworthy. Reference to the first table shows that the percentage of lactose varies within comparatively small limits, and it is noticeable that all four observers give the average percentage of about seven. On the other hand, there is a very great variation in the amount of proteid and of fat.

Cow's milk, like human milk, is sterile when contained in the udder, and faintly alkaline; by the time it reaches the consumer it is acid and crowded with micro-organisms. Its chemical composition is similar to that of human milk, but the percentages of the different constituents vary. Table C gives the mean of eight analyses of cow's milk obtained from a shop of one of the big dairy companies. The fat was estimated by Schmidt's process. The proteids were calculated by estimating the nitrogen in the precipitates produced (a) by tannic acid; (b) by acetic acid; (c) by the addition of tannic acid to the filtrate after precipitation and separation of the precipitate of caseinogen. The lactose was estimated by Fehling's method, and the ash according to the usual method. I used other methods also in the estimation of the lactose, but found that Fehling's was the simplest and most reliable. The results are reduced to percentages.

TABLE C.

Water	87
Solids	13
Proteids { Caseinogen 2.0 }	4.06
{ Lact-albumin 1.4 }	
Fats	3.70
Lactose	4.48
Ash	0.70

These results agree very closely with those obtained by other observers. Thus Leeds (Table D) gives as the result of numerous analyses—

TABLE D.

	Maximum.	Minimum.	Average.
Proteids	6.0	3.0	3.76
Fats	6.0	3.0	3.75
Lactose	5.5	3.5	4.42
Ash	0.9	0.6	0.68

It is evident that the mixed milk of a herd is not so variable in composition as human milk. As a general rule I found that the proportion of caseinogen to lact albumin in cow's milk is as two to one.

The differences between cow's milk and human milk.—Reference to the above analyses shows that cow's milk contains much more proteid, much less lactose, and about the same amount of fat. It is also acid and not sterile, and contains more salts.

Not only do the proteids differ in total amount, but there is considerable difference in the proportions of one to the other. The proportion of proteid coagulable by acid to the proteid not so coagulable is very much greater in cow's milk than in human milk. In other words, cow's milk contains much caseinogen and little albumen, while human milk contains little caseinogen and much albumen. Further analyses of human milk are required with reference to this point.

Taking my own analysis of cow's milk, I find that the average amount of caseinogen is 2.6 per cent. It requires the addition of at least three times the quantity of water to a sample of cow's milk in order that the curd, produced by the addition of acetic acid, should be as fine as that of human milk. Arguing from this, the percentage of caseinogen in human milk cannot be more than 0.65, and consequently there is at least twice as much albumen as caseinogen in human milk. It is possible, too, that the caseinogen of a cow's milk is different in kind from that of human milk.

The preparation from cow's milk of a substitute for human milk.—The method usually adopted is to obtain some cow's milk, add an equal or larger quantity of water, a little cream, sugar, and lime water. In adding cream to make up for the deficiency in fat it must be remembered that the amount of fat varies very largely in cream, according to the mode of separation. Good average cream contains about 20 per cent. of fat. Cream also contains a considerable quantity of proteid, practically the same amount as is present in the milk, or a little less.

A mixture composed as follows closely resembles human milk:

Cream	10 parts	... e.g. 1 ounce.
Milk	30 parts	... 3 ounces.
Water	40 parts	... 4 ounces.
Milk-sugar	4 parts	... 3 drachms.

Rotch recommends a somewhat similar but more complicated mixture:

Cream { Centrifugal cream, }	2 ounces.
{ 20 per cent. fat, }	
{ diluted $\frac{1}{2}$ or $\frac{3}{4}$ }	
Milk	1 ounce.
Lime water (diluted $\frac{1}{3}$)	2 ounces.
Milk-sugar solution { Lactose 3 $\frac{3}{4}$ ounces }	3 ounces.
{ Water 3 ounces }	

This is richer in fat and poorer in proteid than the mixture I recommend, but it has a distinct advantage in being alkaline. The former mixture can be made alkaline by adding a pinch of bicarbonate of soda, or by replacing half an ounce of the plain water by a like quantity of lime water. A great disadvantage of all these mixtures is the trouble involved in the preparation and the necessity

of buying cream as well as milk. Recently, at my suggestion, one of the dairy companies has prepared from cow's milk an artificial mixture, which, on analysis, gives the following results as compared with human milk:

TABLE E.

	Human milk (LEEDS).	Modified milk.
Proteids	2.0	1.82
Fats	4.0	4.02
Lactose	7.0	6.88
Ash	0.2	0.39
Total solids	13.2	13.11

Although identical as far as analysis indicates, the milk is not quite the same on account of the differences in the proteids referred to above. This modified milk is alkaline, and yields with acetic acid a fine flocculent curd, finer than that yielded by cow's milk diluted with an equal quantity of water. At present the milk is undergoing a preliminary trial with a view to finding out the amount required for each feed, and whether it requires dilution. The great advantages are that it contains the solid constituents in the proportions required by the young infant, and that even when diluted these constituents maintain a constant ratio relative to each other. Hence if it be found that a delicate or atrophic child cannot digest a milk containing so high a percentage of fat and proteid, a little dilution will remedy the defect, and, if necessary, the child may be fed rather more frequently.

The size of the child's stomach and the amount of food requisite for each meal.—In order to determine how much food a child's stomach holds we can use one of two methods, either weighing before and after nursing, or by *post-mortem* determination of the actual capacity of the child's stomach at different ages and of different weights. Needless to say the former method is the more reliable. The most important facts to remember are that the child's stomach is very small during the first week, holding about half an ounce to an ounce; that during the first two months it increases fairly rapidly to about three times this size, and then remains almost stationary for about three or four months. Of course the size depends to a certain extent upon the size of the child and the degree of nutrition. An average child at birth weighs 3000-4000 grammes, and it is customary to take a hundredth part of the weight, 30-40 grammes, as the amount of food the stomach will hold, and add 1 gramme for each day during the first month.

An infant of 3000 grammes (6 $\frac{1}{2}$ lbs.) would require, therefore, during the—

1st week	30 grms. = about 1 ounce.
2nd week	37 grms. = about 1 $\frac{1}{4}$ ounces.
3rd week	44 grms. = about 1 $\frac{1}{2}$ ounces.
4th week	51 grms. = about 1 $\frac{3}{4}$ ounces.

During the second month the amount may be increased gradually at the rate of a quarter of an ounce a week, the total

amounting to three ounces by the end of the ninth week. After this the feeds should be regulated as follows:

Age.	Number of feeds.	Amount.	Total in 24 hours.
9 weeks-6 months	6	3-4 ounces	18-24 ounces
6-9 months	6	5-6 ounces	30-36 ounces.
9-12 months	6	6-8 ounces	36-48 ounces.

The Intervals between each Feed.

Age.	Length of interval.	Number of feeds.
First week	2 hours	10
1-9 weeks	2 $\frac{1}{2}$ hours	8
9 weeks-9 months	3 hours	6

The first feed should be given at 5 a.m., and the time for the subsequent feeds calculated from that.

The mode of administration.—The food should be given warm, temp. 98°-100° F. It should be given slowly; a quarter of an hour is the average time for each feed. Care must be taken that the milk is fresh and pure, and that it is alkaline. Each feed should be prepared at the time required. The practice of preparing the food twice a day, and warming up the amount required for each meal, should be strongly discouraged. Milk, even after boiling, is liable to undergo lactic acid fermentation if kept in a warm nursery and exposed to the air.

The bottle.—Two kinds are in common use; one known as the boat-shaped bottle, with a simple india-rubber teat at the end, and the other a bottle with a long india-rubber tube between it and the teat. The latter is the more commonly employed, because it gives less trouble to the attendant; the teat is put in the infant's mouth, and no further attention is required. It is dangerous because of the constant liability of particles of milk sticking in the tube, and there decomposing. Anyone who has washed out a vessel which has contained milk will understand how likely this is to happen. Of course such bottles and tubes can be kept sweet and clean if a proper amount of care and attention be bestowed upon them. The boat-shaped bottle is much easier to keep clean, but requires more attention during the feeding; the bottle must be kept tilted at an angle which will allow the teat to be kept constantly full, so as to prevent the entrance of air into the child's stomach. After the meal the bottle and appendages must be thoroughly washed in hot water to which a little soda has been added, and kept until required in a weak solution (5j to Oj) of boracic acid, being finally rinsed out in cold water before use.

The effect of boiling upon milk.—On account of the large number of micro-organisms present in milk, and because some of these are liable to be the cause of disease, such as diarrhoea, tuberculosis, typhoid, scarlatina, &c., it is absolutely essential that in towns the milk should be boiled. Once boiling for a few minutes is sufficient to destroy pathogenic germs, though not sufficient to render the milk absolutely sterile. The spores of some organisms, e.g. *Bacillus subtilis*, require exposure to even a higher temperature than 100° C. for a considerable time. In the country,

if the milk can be obtained from a thoroughly healthy cow, with all precautions as to cleanliness, it is not absolutely essential that it should be boiled. The milker's hands must be clean, the cow's udders and teats previously washed, and the milking vessel thoroughly scalded out with boiling water. The cowshed must be built and kept according to all the most recent principles of sanitary science. Even then the milk will not be sterile, but it will be unlikely to contain any pathogenic germs. An exception to this statement must be made in favour of the tubercle bacillus, for even apparently healthy cows sometimes have tuberculosis, and it is still a moot point as to whether the tubercle bacillus is likely to be present in the milk of tuberculous cows, unless the udders are diseased.

Unfortunately milk loses certain valuable properties on boiling. In many respects the value of milk as food depends upon what may be called its biological characters. Thus its proteids are closely allied to what we regard as living proteid, and boiling reduces them to the condition of dead proteid. The albumen in unboiled milk is very different from the coagulated albumen to which it is reduced by boiling. The salts also are rendered less soluble, and other chemical changes are brought about, which are the more marked the higher the temperature and the longer the exposure.

For this reason the sterilisation of milk so widely lauded and so extensively used in Germany and America has fallen largely into disuse. It has been found that infants fed on sterile milk only do not thrive as well as on unsterile milk, and that in some cases scurvy has developed.

According to Vassilieff's experiments on healthy young men, the nitrogen ingredients of boiled milk are less readily assimilated than those of unboiled milk; the fat also is less readily assimilated when the milk is boiled.

Koplik estimated the nitrogen in the diet and feces of infants, and found that the percentage of nitrogen unabsorbed is practically the same whether the milk is Pasteurised, boiled, or sterilised, but much greater than when the milk is uncooked.

Weber experimented on calves, feeding them on skimmed milk, sterilised milk, and fresh milk. The conclusions from his experiments were that skimmed milk and sterilised milk possessed practically the same amount of nutritional value, but much less than that of fresh milk.

Hence we conclude that it is essential to boil milk for the use of infants in towns, and that such boiling deprives it of certain antiscorbutic properties and diminishes its nutritional value. To remedy these two defects it is a good plan to give the infant a little raw meat juice. In all cases when possible it is advisable not to wean the child entirely; even one meal from the breast may yield sufficient of the antiscorbutic element to make up for the deficiency in the artificial substitute. It is a popular superstition that the two milks do not agree, and that attacks of diarrhoea

occurring during weaning are due to this cause. Needless to say such attacks are due to defect in the food or mismanagement or carelessness in its preparation and administration.

Finally one consideration must be constantly borne in mind. Hand-fed infants of the middle classes are constantly overfed; hand-fed infants of the lower classes are also constantly overfed as regards quantity, and underfed as regards quality. A large amount of the success attending some practitioners in the feeding of young infants is due to the attention paid to this one point, namely, the size of the child's stomach.

Notes.

WE reprint a paragraph from the *Standard* of October 3rd which speaks of the heroism of Dr. Toller, an old Bart.'s house surgeon, at Ilfracombe:

"Later on a report was brought in that a man was on the Lee Bay Rocks, and measures were at once taken to rescue him. Several policemen and the coastguard, with Dr. Toller, went along the cliffs, and made repeated and desperate efforts to reach the man by means of ropes. The cliff is 150 feet high at the spot; but the doctor descended by a rope, at the imminent risk of his life, and, reaching the dangerous reef of rocks, administered restoratives to the unfortunate castaway, who under their influence recovered somewhat from the effects of his seven hours' exposure. When, however, efforts were made to haul him up over the cliff, it was found that he was too benumbed and exhausted to co-operate with his rescuers, and the attempt was abandoned after three hours' strenuous work. The lifeboat finally succeeded in reaching the rocks, and the man was placed on board and taken to Ilfracombe; but five minutes before the lifeboat entered the harbour, amid the cheers of a large crowd on shore, the poor castaway died. He had previously informed his rescuers that at one o'clock his vessel—a schooner, from Penzance—foundered off Bull Point, with five hands. He put on a lifebelt, and was washed on to the Lee Bay Rocks. He did not state the name of his vessel, but merely that he was captain."

THE first meeting of the Kahere Lodge was held at Frascati's Restaurant on October 8th. Five new members were initiated. We understand that a great number of names are down for initiation at the next meeting.

ADVANCED classes in anatomy and physiology for the first F.R.C.S. and various M.B. examinations are held by Mr. Waring and Dr. Edkins, and in organic chemistry by Dr. Chattaway.

WE notice that there is an exceptionally good supply of subjects in the "Rooms." Every man has already had a "part" allotted to him.

THE classes for the final F.R.C.S. are as follows:
Tuesday, 10.—Anatomy (Mr. Waring).
Wednesday, 10.—Surgery (Mr. D'Arcy Power).
Thursday, 10.30.—Clinical Surgery (Mr. Berry).

Those who wish to do Operative Surgery before Christmas are requested to enter their names in Morris's book at once.

THE arrangements for heating the Dissecting Room have been overhauled, and those who work there may look forward to a more comfortable winter than the last.

THE Farewell Dinner of the Junior Staff took place on Monday evening, September 30th, in the Resident Staff Quarters. On the occasion, owing to the prolonged hot weather, a suggestion was made that the entertainment should take the form of a cold supper rather than of a dinner. The suggestion was excellently carried out, and proved a great success. All the Resident Staff and the Juniors were present. After supper Mr. Paterson, who occupied the Chair, proposed the usual loyal toasts, and then called upon Mr. F. H. Lewis to propose the toast of the evening, "Confusion to our Successors," which he did in well-chosen, neat, and forcible language. The usual toasts were then proposed, "The House Physician," "The House Surgeon," "The Senior Staff." Mr. Belben proposed "The Engaged Men," remarking that inasmuch as our state in the medical profession depended largely on our literary ability, some of the engaged men would in the future rise to great eminence, judging from the present extent of their correspondence. Mr. Paterson then proposed "The Health of the Nursing Staff of St. Bartholomew's Hospital," which was, as usual, drunk with enthusiasm. One of the departing House Surgeons replied in a few well-chosen but pathetic sentences. After the usual votes of thanks an adjournment was made to No. 1, where the entertainment was prolonged to a late hour. There is of necessity always a tinge of sadness on coming to the end of such a happy time as falls to the lot of one of the Resident Staff, but for this one evening sorrows and regret are cast into oblivion. The present occasion was no exception to the rule.

WE notice in the *Medical Press* for October 9th a novel and startling suggestion for the solution of the "University-degree-for-London-students" problem:—"That every London diplomate of good standing should have conferred on him the M.D. Lambeth—a degree which, as is generally known, is conferred by the Archbishop of Canterbury." We agree with the author of the suggestion that "if a moderate fee were charged on 'graduation' the ecclesiastical coffers would benefit in a marked manner," and such a course would certainly do much towards shelving the monotonous and often-discussed question, "The Right to the Title of Doctor!"

WE are asked by the Electrical Department to state that much inconvenience would be avoided if cases of nævus sent up to the Electrical Department for treatment were to be sent on the proper day. This applies particularly to those cases which are sent up at haphazard from distant country places. Readers are, therefore, begged to take

notice that Thursday is the proper day, and half past one the proper time, and they are earnestly requested not to send their cases at any other time.

WE are informed that, consequent upon the death of Sir William Savory, the surviving trustees, Mr. Peter Reid and Mr. W. H. Cross, have appointed Sir Trevor Lawrence and Mr. Howard Marsh, F.R.C.S., together with the Rev. Sir Borradaile Savory, trustees of the "Hospital Convalescent Home," Parkwood, Swanley. Mr. H. W. Cross has been appointed Secretary.

This Home was founded and endowed by Mr. Peter Reid (a Governor of this Hospital), the beds, 120 in number, being allotted to six of the London hospitals. The matron, Miss Curtis, and the staff nurses at the Home were all trained at Bart.'s.

Dr. TOOTH has been appointed Assistant Physician to the Hospital.

THE post of Medical Registrar is vacant. The election was fixed for the 10th inst., but postponed.

Mr. R. C. T. EVANS has been appointed Assistant Demonstrator in Chemistry.

Mr. E. C. FINCHAM, who is well known in photographic circles as an enthusiast in "the black art," has presented to the Library an excellent autotype reproduction of the head of Prior Rahere. As most Bart.'s men know, the whilom King's Minstrel of Henry Beauclerc was the founder of St. Bartholomew's Hospital in 1123 A.D. A facsimile of this picture is now being exhibited with other of Mr. Fincham's works at the Royal Photographic Society's Exhibition, Pall Mall.

In response to many inquiries it has been decided to issue a limited number of copies of this portrait. Being autotypes they will not fade on exposure to light, and are absolutely permanent. They can be obtained from Mr. Madden, the Librarian.

Amalgamated Clubs.

NEW MEMBERS.

H. S. Maw.	H. D. O'Sullivan.
V. G. Heseltine.	R. C. Elmslie.
G. H. Forman.	W. E. Ll. Davies.
S. D. Rowland.	G. F. Furley.
H. J. Paterson.	C. Fisher.
A. H. Wade.	R. Thompson.
N. Bnendia.	A. G. Tolpitt.
H. F. Bassano.	E. G. Smith.
A. B. Edwards.	F. E. Taylor.
G. J. Humphreys.	E. E. Young.
A. R. Tweedie.	R. H. R. Whitaker.
F. H. Ellis.	E. M. Niall.
W. G. Paget.	L. Galsworthy.
F. M. P. Rice.	W. W. Wingate-Saul.
M. G. Winder.	R. C. Wilmot.

Table listing cricket matches with columns for Date, Opponents, Ground, Score of St. Bar., Score of Opp., and Result.

CRICKET CLUB.

The season that has just passed has been on the whole a satisfactory one. As far as the Inter-Hospital Cup competition is concerned, it has not been brilliant.

The batting averages show a decided improvement in that department, as, in addition to greatly improved form on one or two of last year's players, we have been lucky to get one or two good bats from those men who have just come up.

Apart from the form shown by Pank, the bowling has again been weak, although there were plenty of change bowlers in the team.

Coming to the general result of matches on paper it looks bad. Out of sixteen matches played only one has been won, six lost, and no less than nine left unfinished.

Out of the nine drawn matches six would, as far as it is possible to say in cricket, have ended in victory for us, whilst of the other three one was doubtful, and the other two would have probably ended in defeats.

The state of each drawn game at the finish was as follows: May 11th, v. St. John's School. St. Bartholomew's had one wicket to fall and 25 runs to win.

May 18th, v. Southgate. Southgate 62 runs to win and 3 wickets to fall.

May 25th, v. Hornsey. St. Bartholomew's 24 runs to win and 7 wickets to fall.

May 30th, v. Crystal Palace. Crystal Palace 61 runs to win and 3 wickets to fall.

June 8th, Past v. Present. Present 137 runs to win and 6 wickets to fall.

July 5th, v. Hornsey. Hornsey 76 runs to win and 8 wickets to fall.

July 13th, v. Southgate. St. Bartholomew's 18 runs to win and 9 wickets to fall.

July 20th, v. Nondescripts. St. Bartholomew's 3 runs to win and 4 wickets to fall.

The season was carried on to a much later date this year than formerly, so that it was very difficult in the later matches to get a representative team, three or four places in every match at the end having to be filled up by men from the second eleven.

RESULT OF MATCHES.

Table listing the results of matches with columns for Date, Opponents, Ground, Score of St. Bar., Score of Opp., and Result.

Table listing cricket matches with columns for Date, Opponents, Ground, Score of St. Bar., Score of Opp., and Result.

* Innings declared closed. Matches played 15. Won 1. Lost 5. Drawn 9.

BATTING AVERAGES (1st XI).

Table showing batting averages for various players with columns for No. of Times, Total, Highest, Runs, Score, and Average.

The following also played: J. M. Collins, A. H. Bostock, J. F. Fernie, 29 and 9; D. J. Drake, 36 and 12 not out; H. J. Godwin, 15, 2, 0; G. C. Marrack, 22, 0; T. M. Body, 2, 14, 0; C. G. Watson, 4, 27; G. Wedd, 0; C. H. Turner, 1 not out.

BOWLING AVERAGES.

Table showing bowling averages for various players with columns for Overs, Maidens, Runs, Wickets, and Average.

It will be seen from the above that Pank and Rose have practically borne the brunt of the bowling during the whole season, and the team has suffered all through this season as last from the want of a good change bowler.

The wickets at Winchmore have been, considering the circumstances, excellent, so that next year we ought to be able to get very good wickets indeed.

The photograph of the Past v. Present cricket match, together with two of the ground from different positions, are now ready.

All present and past Bart's men who are desirous of obtaining a copy, and who have not already ordered one, can get them by applying to Messrs. Bradshaw and Sons, Newgate Street, E.C.

The statistics of the second eleven, who have had a fairly satisfactory season, have not yet been made out.

ST. BARTHOLOMEW'S HOSPITAL v. THE NONDESCRIPTS.

Played at Winchmore Hill on Saturday, July 20th, and left drawn, the Hospital wanting 3 runs to win with four wickets to fall.

Owing to the heavy rain and the late arrival of our opponents play did not begin till four o'clock. The Nondescripts won the toss, and took first innings on a wet and soft wicket.

Their total reached 132, thanks to a very careful innings of Kelson and some hard hitting by Dunn.

With an hour and twenty minutes to play and 133 runs to win we started with Randolph and Nunn.

Play was steady at first, and with the total at 25 Nunn left, Randolph following 12 later for a very well played 27.

On Nimmo joining Greaves runs were put on quickly, and 25 were added before Nimmo was yorked.

Then Greaves, after having started rather shakily, began to make things lively. Hitting all sorts of bowling to the boundary, he piled up runs at a tremendous rate, making a victory look probable.

Once more we were deprived of a victory through the want of a few more minutes.

Greaves played a splendid innings without a chance under difficult conditions, and certainly finished up the season in brilliant form.

His 61 included 9 fours, 3 threes, 3 twos, and 10 singles.

Table showing scores for St. Bartholomew's Hospital and The Nondescripts.

ST. BARTHOLOMEW'S HOSPITAL v. CLAPTON.

Played at Clapton on Wednesday, July 17th, and left drawn. Nimmo won the toss and elected to bat, sending Jeaffreson and Simmonds to commence the innings on a good hard wicket.

Jeaffreson left at 23, and Simmonds at 42. Greaves and Rose quickly put on 20 runs, when the former, failing to get hold of a half volley, skied it to mid-on.

Willett playing steadily helped Rose to bring the score to 85, when he was bowled. On Nunn joining Rose a big stand was made, both men playing confidently and well.

The score rose rapidly, Rose's cuts and Nunn's off drives evoking constant applause. The bowling was changed frequently, but neither batsman seemed in difficulties, both keeping up their brilliant form of the last fortnight.

It was not until the score was raised to 247, or 102 runs for the partnership, that Nunn was caught at slip just when he seemed certain of his century.

Rose just after completed his century, and the innings was declared closed with the score at 251 for 5 wickets.

When Clapton commenced their innings rain was beginning to fall, and the rest of the match was carried on under very unpleasant conditions, stumps having to be finally drawn at 6 o'clock after frequent stoppages for rain.

Our bowling was terribly weak, so that Clapton managed to amass 96 without losing a wicket, of which Boynton by good clean hitting scored the very large proportion of 80.

Considering that we had a distinctly weak team, especially in bowling, this match was a very good performance indeed.

Table showing scores for St. Bartholomew's Hospital and Clapton.

Total (5 wickets)..... 251 Total (0 wicket)..... 96

ST. BART'S HOSPITAL v. CRYSTAL PALACE.

On Thursday, May 21st, we played the Palace in beautiful weather. Bond won the toss, and naturally elected to bat first, going in himself with Simmonds.

The start was unfortunate, as after making 5, Simmonds was beautifully caught and bowled by Bicknell, and Jeaffreson, who followed, was soon out. On Rose coming in the score quickly mounted, the ball going to the boundary frequently, but with 55 on the board Bond was out.

Greaves filled the vacancy, and a long stand was made, both batsmen playing beautiful cricket, Rose amongst other strokes making three off drives from Bicknell from consecutive balls.

With the total at 140 Greaves ran himself out in a most unlucky manner, and lunch was then taken, Rose having then made 78. Fernie partnered Rose after lunch, but neither stayed long, Rose being 1 b w with an addition of 6 to his score.

He had played splendid cricket for his runs, which included 12 "fours." Willett and Nunn next got together, and both scored fast, especially Willett, who scored more freely than he had yet done this season, and it was not till the score had been raised to 217 that Willett ran himself out after making 52, compiled by free and most attractive cricket.

After Willett's departure, Stone stayed for a bit with Nunn, but afterwards the innings soon came to a close, Nunn carrying out his bat for a correctly-played 24, the precursor of some much finer innings.

The Palace started batting with Fleming and Coleman, and a prolonged stand was made, the efforts of Rose, Fernie, and Willett to part them being futile, and it was not till the score had been carried to within "6" of the century that Fleming was dismissed by Willett for a very fine innings of 72, which included 10 boundary hits.

Hill then made a further stand with Coleman, but cricket became very tedious, Coleman being especially slow in scoring. All hope of winning the match seemed over, and indeed there appeared to be some chance of losing it, but at last Rose got one past Coleman, and he retired for 35.

None of the other batsmen offered much resistance to the bowling, and at drawing of stumps seven wickets had fallen for 203, leaving the game drawn much in our favour.

Willett got a very good length throughout, and his analysis of 3 for 32 must be considered a very good performance, seeing the state of the wicket. The fielding throughout was good, Simmonds' catch which dismissed Hill being especially smart.

Table showing scores for St. Bartholomew's Hospital and Crystal Palace.

Total 264 Total (7 wickets) 203

BOWLING ANALYSIS.

Table showing bowling analysis for various players with columns for Overs, Maidens, Runs, and Wickets.

ASSOCIATION FOOTBALL CLUB.

The prospects of the Association Club are, on the whole, very good this season. The loss of our last year's captain, J. F. Fernie, leaves a great gap in the forward ranks; but we hope to be able to get a good substitute in his place.

A good many new names have been added to the list of players since last season, and amongst them we should be able to find at least one or two who will be of service to the team.

The Association ground has been thoroughly fitted out with all requisites by the amalgamated clubs, and affords a very good opportunity for men to go down and practise. One trial game has already

been held, and another will take place on Wednesday, October 9th, when it is hoped that a good number of fresh men will go down to Winchmore Hill and play.

The number of First Eleven fixtures at Winchmore Hill is not so great as we might wish for; but it is extremely difficult for the secretary to find teams willing to come up to the ground without a guarantee. Teams like Hastings, Reigate, Marlow, St. Albans, &c., whose matches are always attended with a good gate, prefer to pay all our expenses to go down and play them on their own ground rather than to come up to London and pay their own expenses. Next year, however, we hope to be able to get fixtures with more of the "Old Boys" teams, and then we can play more matches at Winchmore Hill.

The following is a list of officers for the coming season:

President.—W. H. Jessop, Esq., F.R.C.S.
Captain 1st XI.—R. P. Brown.
Captain 2nd XI.—R. W. Waterhouse.
Vice-Captain.—E. W. Woodbridge.
Hon. Secretary 1st XI.—L. E. Whitaker.
Hon. Secretary 2nd XI.—C. G. Watson.
Committee.—J. F. Fernie, H. J. Pickering, C. H. Hopkins, E. H. B. Fox, A. Hay, C. A. Robinson, W. Wrangham, J. A. Willett, T. H. Talbot.

FIXTURES FOR OCTOBER AND NOVEMBER ARE—

Sat., Oct.	5.—Foxes	Winchmore Hill.
" "	5.—Foxes (2nd XI)	Edmonton.
" "	12.—Ealing	Ealing.
" "	12.—Ealing (2nd XI)	Ealing.
Wed., "	16.—Mr. B. A. Glanville's team (Old Wilsonians)	Winchmore Hill.
Sat., "	19.—Barnes	Barnes.
" "	19.—Ormonde F.C.	Winchmore Hill.
Wed., "	23.—Felstead School	Felstead.
Thurs., "	24.—Royal Ordnance	Greenwich.
Sat., "	26.—Windsor and Eton	Windsor.
" "	26.—Kenley F.C.	Kenley.
Wed., "	30.—R.M.A.	Woolwich.
Sat., Nov.	2.—Old Brightonians	Winchmore Hill.
" "	2.—Tonbridge	Tonbridge.
Wed., "	6.—Casuals	Winchmore Hill.
Sat., "	9.—Reigate	Reigate.
" "	9.—Ealing (2nd XI)	Winchmore Hill.
" "	16.—Beckenham	Winchmore Hill.
" "	16.—St. Mary's Hosp. (2nd XI)	Away.
Wed., "	20.—Hastings Athletic	Hastings.
" "	20.—City of London School	Beckenham Hill.
Sat., "	23.—Vol. Med. Staff Corps	Woolwich.
" "	23.—Vol. Med. Staff Corps 2nd XI	Woolwich.
Wed., "	27.—Proprietary School	Ealing.
Sat., "	30.—Crouch End	Hornsey.
" "	30.—Old Vermontians	Winchmore Hill.

That Old Bart's men still take an interest in the sports of the Hospital is shown by the fact that Dr. C. B. Gabb, of Hastings, visited the Hospital on Wednesday, October 2nd, and on behalf of the "Old Bart's men" now in practice in Hastings, again kindly invited the Association team to high tea after our match with the Hastings F.C. on November 20th. Knowing how well we were entertained on the same occasion by the Old Bart's men before, and by the fact that the Hastings team pay our expenses to go down there, we shall all look forward to the Hastings match for a good day out of London.

Old Students' Dinner.

THE "Old Students' Dinner" was held as usual on the 1st of October in the Great Hall of the Hospital. About 130 were present, including Mr. Howard Marsh, who ably officiated as Chairman, supported by Sir James Paget, Sir Trevor Lawrence, Sir George Humphry, Sir Horace Walpole, Dr. Rutherford, Head Master of Westminster School, Professor Burdon Sanderson, Professor Clifford Allbutt, Mr. Hope-Piniker, Mr. Hanbury, Mr. Trimmer, Captain Spencer Percival, Mr. Macdonald, Dr. Hill, Master of Downing College, Cambridge, the Dean of Christ Church, Oxford, Mr. Hallett, Father Fleming, Mr. Cross, and most of the Staff of the Hospital and Lecturers and Demonstrators in the School.

The dinner was an excellent one, and the toasts which followed were enthusiastically received. The Chairman first gave the loyal

toasts of "The Queen" and "Prince of Wales, Princess of Wales, and other members of the Royal Family." Mr. Marsh then proposed the toast of the evening, "Prosperity to the Hospital and Medical School." He referred in eloquent words to the great antiquity of the Hospital, and its continued and increasing good in the cause of charity. The historical associations of Smithfield and the old Priory of St. Bartholomew were spoken of. Mr. Marsh laid particular emphasis upon the unity of the Hospital and the School, and the work which all do for the common good. This, he said, was largely due to the influence of Sir Trevor Lawrence, the Treasurer to the Hospital. In well-chosen words he spoke of the great loss the Hospital and profession at large has sustained by the death of Sir William Savory. In the School everything is done to make the educational advantages afforded to students not only second to none, but well abreast of the requirements of the times. The students are now about 550 in number, and the teachers' staff over 60, or 1 teacher to about 9 students. Referring to the honours won by St. Bartholomew's men during the past year, he spoke of the Jacksonian Prize, which has so many times been secured by Bart's men, having been taken this year by Mr. H. J. Waring. At the M.S., Mr. Eccles has taken the Gold Medal, and in the M.B. the Scholarship and Gold Medal in Obstetrics has been awarded to Mr. W. E. Lee. Mr. Marsh paid a high tribute of praise to the social organisation of the Hospital and School, to the great good done by the Amalgamated Clubs, by the Hospital JOURNAL, and by the opening of the new ground at Winchmore Hill. During the past year, too, the Rahere Lodge of Freemasons has been initiated. The toast was received and drunk most heartily.

Sir James Paget then proposed the "Visitors," and his son, the Dean of Christ Church, Oxford, replied. He claimed to be not altogether a stranger, having been born at St. Bartholomew's whilst Sir James was Warden. In eloquent words he spoke of how much he owes of success in life to his father, and of the great devotion to duty of the members of the medical profession.

Sir George Humphry then proposed the "Chairman," speaking of Mr. Marsh's solid and sound work as a teacher and a surgeon.

Mr. Marsh replied in an admirable speech, and then proposed the "Secretary," Dr. Hensley.

In the course of his reply Dr. Hensley told the company that this would probably be his last year as Secretary. This is much to be regretted. Dr. Hensley referred to the recent election of Dr. Brunton as Physician and Drs. Herringham and Tooth as Assistant Physicians, and proposed the health of Captain Hinde—who in his reply spoke of the relation of the Army surgeon to other military officers, telling us that of 122 Victoria Crosses, 18 are held by medical officers: soldiering, he said, is easier than doctoring.

Afterwards the company adjourned to the Library for coffee, and altogether a most pleasant evening was spent.

Junior Staff Appointments.

The following appointments have been made for the six months, October to April:

HOUSE PHYSICIANS TO—		SENIOR.	JUNIOR.
<i>Dr. Church</i>	.....	W. E. Lee, M.D. (Lond.), L.R.C.P., M.R.C.S.	G. R. Fox, M.R.C.S., L.R.C.P.
<i>Dr. Gee</i>	.....	J. K. Murphy, L.R.C.P., M.R.C.S.	F. C. Poynder, M.B., M.R.C.S., L.R.C.P., B.Ch. (Oxon.)
<i>Sir D. Duckworth</i>	...J.	B. Christopherson, B.A., M.B., B.C. (Cantab.)	R. Michell, M.B., D.C., F.R.C.S.
<i>Dr. Hensley</i>	.....	K. Rogers, M.D. (Lond.), L.R.C.P., M.R.C.S.	F. M. Burnett, M.B. (Lond.), M.R.C.S., L.R.C.P.
<i>Dr. Brunton</i>	.....	F. Belben, M.A., M.B., B.C. (Cantab.), F.R.C.S.	D. W. Collins, M.B. (Lond.), M.R.C.S., L.R.C.P.
HOUSE SURGEONS TO—		SENIOR.	JUNIOR.
<i>Mr. Smith</i>	.....	C. H. Drake, L.R.C.P., M.R.C.S.	S. Cornish, M.R.C.S., L.R.C.P.
<i>Mr. Willett</i>	.....	L. C. P. Phillips, M.B., B.C. Cantab., L.R.C.P., M.R.C.S.	L. Giles, M.R.C.S., L.R.C.P.
<i>Mr. Langton</i>	.....	C. P. White, L.R.C.P., M.R.C.S.	C. M. Hewer, M.R.C.S., L.R.C.P.

Mr. Marsh F. Crossman, L.R.C.P., H. Marshall, M.D.,
M.R.C.S., B.C. Cantab.
Mr. Butlin E. G. B. Adams, W. G. Clark,
L.R.C.P., M.R.C.S. M.R.C.S., L.R.C.P.
 MIDWIFERY ASSISTANT.—E. W. Groves, L.R.C.P., M.R.C.S.
 EXTERN MIDWIFERY ASSISTANT.—F. H. Lewis, B.A., M.B., B.C.
(Cantab.).
 OPHTHALMIC HOUSE SURGEON.—E. J. Toye, M.R.C.S., L.R.C.P.
 CHLOROFORMISTS:
 SENIOR.—H. J. Paterson, M.B., B.C. Cantab., L.R.C.P.
 JUNIOR.—R. A. Walter, M.R.C.S., L.R.C.P.

Clinical Lectures

FOR THE SESSION.

Medical.—Fridays, at 1 p.m., in the Medical Theatre.

Oct. 11th	.....	Sir Dyce Duckworth.
" 18th	.....	Dr. Gee.
" 25th	.....	Dr. Church.
Nov. 1st	.....	Dr. Hensley.
" 8th	.....	Dr. Brunton.
" 15th	.....	Dr. Church.
" 22nd	.....	Dr. Gee.
" 29th	.....	Sir Dyce Duckworth.
Dec. 6th	.....	Dr. Hensley.
" 13th	.....	Dr. Brunton.

Surgical.—Wednesdays, at 2.45 p.m., in the Medical Theatre.

Oct. 9th	.....	Mr. Smith.
" 16th	.....	Mr. Langton.
" 23rd	.....	Mr. Langton.
" 30th	.....	Mr. Langton.
Nov. 6th	.....	Mr. Langton.
" 13th	.....	Mr. Marsh.
" 20th	.....	Mr. Marsh.
" 27th	.....	Mr. Marsh.
Dec. 4th	.....	Mr. Butlin.
" 11th	.....	Mr. Butlin.

Gynaecological.—Dr. Champneys, Thursdays, at 9, in Medical Theatre.

Pathological Laboratory.

BACTERIOLOGY.

The next course of Elementary Bacteriology and of Practical Bacteriology for the D.P.H. Examination will begin on Monday, October 14th, at 2 p.m. Further days and hours will be arranged then. Gentlemen intending to attend are requested to communicate with Dr. Kanthack.

TUTORIAL CLASSES.

M.D. (London).—Dr. Kanthack holds his Tutorial Classes in Medical Pathology on Tuesdays and Fridays from 9.30 to 10.30. Gentlemen preparing for the Cambridge Examination in December are invited to attend now.

F.R.C.S.—Candidates for the next final F.R.C.S., B.S. (London), and B.C. (Cambridge), are invited to attend Dr. Kanthack's Tutorial Classes in Surgical Pathology on Tuesdays and Thursdays at 4.30 p.m.

PATHOLOGICAL CLERKS.

There are several vacancies in the Pathological Department. Gentlemen willing to act as clerks are requested to communicate with Dr. Kanthack.

Appointments.

HOGARTH, R. G., F.R.C.S. Eng., has been appointed Senior Resident Medical Officer to the General Hospital, Nottingham.

CALVERLEY, J. E. G., M.R.C.S., L.R.C.P., has been appointed Senior House Physician to the Metropolitan Hospital.

DIINN, W. E. N., M.R.C.S., L.R.C.P., has been appointed Assistant House Physician to the Metropolitan Hospital.

HAMPTON, T., M.R.C.S., L.R.C.P., has been appointed Assistant House Surgeon to the Metropolitan Hospital.

BENNETT, W. E., F.R.C.S., has been appointed Senior House Surgeon to the Metropolitan Hospital.

At the moment of going to press we hear with regret that Mr. Mark Morris, the well-known steward of the Hospital, died at Plymouth on October 16th. A fuller notice will appear in our next issue.

Correspondence.

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

SIR,—On reading through my rather hurriedly put together paper in the JOURNAL for September I notice that I have omitted to mention one point which is an additional piece of evidence in favour of the differentiation between the cause of the symptoms of mal de montagne and of those of aeronauts.

I drew particular attention to the fact that mountaineers, as a rule, do not suffer from bleeding at the nose; but I forgot to add that it is very commonly met with in aeronauts, and has often been seen in those suffering from caisson disease.

I also made a slight error in stating that no one has yet tried to ascribe a different cause to the symptoms of aeronauts and those of mountaineers; for I find, on referring to my notes, that M. Lortet, in his 'Deux Ascensions aux Mont Blanc,' hints at such a view of the case.—I am, Sir, your obedient servant,

Lowestoft.

MALCOLM L. HEPBURN.

To the Editor of St. Bartholomew's Hospital Journal.
 "ESPRIT DE CORPS."

SIR,—My bewilderment on reading the letter of your correspondent "Neo-Pessimist" was very great. With his conclusion I suppose I nearly agree, but should hardly arrive at mine in such a curious way. After denying the right of "Esprit de corps" to be classified as an axiom, he himself calls it an intuition, but only applicable to himself. Now Mill gives also examples of *a priori* fallacies the so-called intuitions. If, then, "Neo-Pessimist" had said at first when quoting Mill that "esprit de corps" was a fallacy of wrong intuition, as he justifiably might have, where would have been the difference between his conclusion of the whole matter and his "Esprit de corps preachers"? They have it as an axiom, he an intuition. His only restriction, which is insignificant, is that the quality is one of "personal protoplasm," peculiar to himself, not a matter of praise or blame. But he himself is only an example of some millions of his fellows, so that these restrictions become unnecessary. Majorities are not always wrong. When they are, the fact is so dinned into our ears, we begin to think it is only right to be in the minority. Hence the fallacy of the "loyal minority." If my watch differs from some hundreds more there is small chance that mine is the only right one. As regards his final syllogism, which I think is neatly put, if (and this "if" is greatly open to doubt) his premises are correct we find no difficulty in agreeing with his conclusion, which is perfectly logical. We congratulate him on having the "well-developed mind" which it is necessary for him to have in order to have "esprit de corps."

"(1) Happiness," he says, "is the sole object of existence; (2) Happiness finds a place in 'esprit de corps' in well-developed minds; (3) Therefore 'esprit de corps' has a place in the object of existence." It is with the major premise that we are inclined to differ. The rest of what he says requires more criticism. He seems to write as if he thought "esprit de corps" takes time, surely we may inculcate it by example and precept all times of the day? Lastly, do we not often praise because a given act so often justifies blame, and blame because we have often rightly praised or at least said nothing? I entirely differ from his insinuations of the usual laziness of Cambridge men: search the teams, clubs, and subscription lists. But perhaps their names are there from folly or egoism! Preserve us from this analyser! Into the questions of responsibility, liberty, and necessity, &c., which arise from this pregnant topic it is impossible for me to follow. Our first question in life is why, later why and "gentleman," or try to be. I am like a woman—I have it because I have. This is the intuition of "Neo-Pessimist," the axiom of others. What's in a name?—Enclosing my card, I am, dear Sir, yours faithfully,

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

THE DRINK OF CHRIST ON THE CROSS.

SIR,—The points arising from Dr. Maidlow's paper and the letter of "One Interested" are also very interesting to me, and there is no need, I think, for apology in discussing these subjects. The Bible was made for man, intellect is given for use. In the first place, Sir, some of the remarks of "One Interested" require criticism. He says in effect gall and myrrh both mean something gummy, and suggests gum-optium, and the drink in which they existed was refused from its gummy nature, as is proved by the acceptance of the vinegar subsequently, as described "by St. Matthew and St. Mark." But St. Mark (xv. 36) does not record its acceptance, neither does St. Matthew (xxviii. 48). But St. John (xix. 29, 30) does say vinegar was accepted.

If "One Interested" had quoted this his case would have been strengthened. The conclusion, however, I arrive at really differs very little from that of "One Interested;" it may be the same, and I am misunderstanding him. If so, I apologise. Mine is that the gall and myrrh do mean gum, and that gum-opium, a narcotic drink. It was not refused, because nasty; it might even have been accepted for this reason. Christ had no wish to be relieved from His actual pain and die narcotised, but had no objection to having thirst relieved by vinegar, which is refreshing, as is shown by the fact that St. Luke (xxiii, 36) says it was offered, accompanied by mocking, as if they were tantalising. The "Lesson Finders" would find in the act a lesson that, however great our sufferings and diseases, the lethal chamber is not the proper treatment. We must die, when possible, with unclouded minds. There is evidence that in Jerusalem there was an association of ladies to mitigate the sufferings of the crucified. These were allowed to procure a narcotised drink of some kind. Would more likely than opium (laudanum is not derived from Laudanum, but from ladanum, a gum or balsam). Another less material explanation supposes that the Great Martyr refused relief from suffering. Thus Keble (*Christian Year*)—"The parching thirst of death was on Him." He would not drink "not overcloud His soul, so clear in agony." It was in keeping with the martyrdom. But He afterwards drank to give us a lesson that distress may be alleviated by us mortals, and so gives us medical *ou raison d'être*. Now in this there seems some inconsistency; hence I prefer my more "material" theory. But we must in any case remember (1) the English translation is often from Hebrew through Greek to English—hence the variation of real meaning; (2) the discordance of the synoptic accounts with St. John's; (3) that the death of a perfect man must be perfectly physiological.

Another question I wish to raise is, what is hyssop? Some references are—"Purge me with hyssop, and I shall be clean." (Psa. li); "Ye shall take a bunch of hyssop and dip it in blood, and strike the leprosy," &c. (Exod. xiv, 22; St. John xiv, 29). The vinegar accepted by Christ on the cross was handed on hyssop. The other Gospels (synoptic) have "on a reed" (St. Matthew xxviii, 48, and Mark xv, 36). Does it mean that hyssop is a plant valuable for its mechanical advantage of saturation? The word in Psa. li would still be justifiable from its association with the sacrifice and feast of Passover.—I am, dear Sir, yours faithfully,

ANOTHER INTERESTED.

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

THE ST. BARTHOLOMEW'S HOSPITAL AMATEUR DRAMATIC CLUB.

SIR,—It has been a great pleasure and interest to peruse the very able article in the September number of your Journal on the birth, growth, and work of our most popular A.D.C. Written, as no doubt it was, by one thoroughly cognizant of its intimate history, and fired by all its youthful and ambitious aspirations, it re-awakens in me many pleasant memories, strengthens the dear old ties, and revives all the sweet associations of our Alma Mater at yuletide.

It is striking how the old points of divergent policies seem to be ten times more accentuated by time, and present themselves clothed in all the startling freshness of a new decade.

The writer in his article insists on three factors, on which should depend the future success of the Club. Bear with me while I essay to discuss them *seriatim*.

In *primo*, on the subject of new members nothing is more desirable than that the energy of the older members should be displayed in seeking out all those who have shown elocutionary talent at school or college. At the same time it must be borne in mind that some of our best actors have been met with in those who have had the advantages of neither, so that an observant eye should be kept on the entire mass of students in their earlier years.

The second factor is the introduction of ladies to the Club, and this has been a crucial and important question for many years.

For my own part, I have always strenuously and emphatically opposed this innovation, as liable, may certain, to endanger the best interests, even sap the very vitality of the Club. One of the strongest arguments against this innovation was the very significant failure which attended the introduction of this new feature into the entertainment in 1880. This is freely admitted by your contributor.

Another equally cogent reason is the silent but steady disapproval of the hospital authorities and staff, and also of our worthy President himself, Mr. Cross, who has worked so loyally, and been of such inestimable value to the Club.

It is also needless to deny that the presence of ladies certainly curtails the freedom, times, and duration of rehearsals, and implies chaperone and escort difficulties.

The appointments of rehearsals are necessarily difficult to fix where

persons not in personal and professional contact with the hospital are included in the cast.

Again, the complaint of insufficiency of parts for the members of the Club would be doubly intensified by the chaperones being undertaken by ladies.

There is also this very serious conclusion to consider, that professional ladies add very materially to the expenses of the Club, and, if amateurs, are not necessarily as good actors as the students.

There is much to be said also on the restraint exercised behind the scenes during the play being very irksome, and the curtailments of the green-room and dressing-room accommodation.

On the other hand, the patients like particularly to see the ladies' parts taken by their own Clerks and Dressers.

The Nursing Staff prefer to see the caricatures of their own sex on the stage, and to the surgical and medical staff, the students, and their friends it is universally popular. It may be "buffoonery," but it is certainly more amusing than that the parts should be taken by unfamiliar and indifferent actresses. And the Dramatic Club must be entitled that the audience do not come to see a company rivalling in dramatic art some of our best London theatres (when the Lyceum and Garrick are not one hundred miles away). If that were so it would be infinitely better to take Drury Lane Theatre during the pantomime season for a succession of nights, and arrange for the patients, nurses, staff, &c., to be transferred there. Moreover the Christmas entertainment is intended essentially to be a rallying-point or reunion *en famille* for all those connected with the Hospital, and it is this homely influence which pervades all, and especially this entertainment, and that endears us so much to our Alma Mater. If this is "the greatest insult that can be offered," why suggest a further nocturnal shower of insults to the already offended and outraged audience?

Thirdly, by all means allow all students to attend if they wish; but, finally, keep closely to the old modest and unpretentious lines of the Christmas entertainment with students in the ladies' parts, and should a dramatic performance be given with ladies let it be entirely disconnected from the Hospital, and entirely outside its precincts, in the advice of a late assistant stage manager.

THE DOWAGER DUCHESS.

Reviews.

MEDICAL ELECTRICITY: A PRACTICAL HANDBOOK FOR STUDENTS AND PRACTITIONERS, by H. Lewis Jones, M.A., M.D. (London, H. K. Lewis), cr. 8vo, price 10s. 6d., second edition.—The first edition of this work was described as "*Medical Electricity*," by W. E. Steavenson and H. Lewis Jones, and was so well known that this, the second, edition requires little introduction to the public.

The first five chapters of the book contain a succinct account of the general principles of electricity, and will be found useful by those from whose minds time has wiped their earlier knowledge of the subject. The remaining eleven chapters deal with Medical Electricity proper, and explain thoroughly its method of employment, and the varieties of disease in which its use is found beneficial. The electrolysis of naevi is fully explained, as also that of urethral strictures. The Apostoli treatment of uterine fibroids occupies eight pages, but though the opinions of several authorities in regard to its results are given, we notice that the writer does not give us his own conclusions. In reading it we are reminded of a remark of one of our surgeons when speaking of this method of treatment. "Let them electrolyse a good fibroma on the buttock, and then we shall be able to judge of their success when dealing with tumours in the depth of the abdomen."

In the preface the present author states that want of general knowledge of the subject has caused some to regard electrical treatment with coldness, and that others have condemned it because it will not work miracles. The book before us should do much to improve this condition of affairs, and we commend it heartily. It is undoubtedly the best text-book dealing with this subject.

Birth.

BENJAMIN.—Sept. 17, at the Old Hall, Dorrington, near Shrewsbury, the wife of J. K. Kinsman Benjamin, M.R.C.S., L.R.C.P., of a daughter.

ACKNOWLEDGMENTS.—*Guy's Hospital Gazette*, *St. Thomas's Hospital Gazette*, *St. George's Hospital Gazette*, *Nursing Record*, *Dental Materia Medica and Therapeutics*, by JAMES STOCKEN, L.D.S. Eng., 4th edition, revised by Stocken and Butcher (H. K. Lewis), *Elements of Medicine*, by ALFRED H. CARTER, M.D. Lond., 7th edition.

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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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All communications, financial or otherwise, relative to Advertisements ONLY, should be addressed to J. H. ROOPE, Advertisement Cassawasser and Collector, 29, Wood Lane, Uxbridge Road, W.

St. Bartholomew's Hospital Journal.

NOVEMBER 14th, 1895.

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

Fracture of the Patella.

A Paper read before the Abernethian Society on Dec. 13th, 1894.

By JAMES BERRY, B.S., F.R.C.S.,
Surgical Registrar to the Hospital.

MR. PRESIDENT AND GENTLEMEN,—The subject which I have chosen for our discussion to-night is "Fracture of the Patella."

It seems to me that it is a subject which for several reasons is particularly well adapted for discussion here. In the first place it is a very common injury. I suppose there is no in this room who has not seen at least one case, and most of you have seen scores of cases. Everybody here has some practical experience of the subject. Everybody here may therefore fairly be expected to contribute something to the discussion which it is hoped that this paper may arouse.

Again, with regard to the causation of this particular fracture, we shall probably not all be agreed; some will hold one view, some another. If there is not unanimity with regard to the cause of the injury, how much less shall we all be in agreement with regard to the treatment!

I know of no common surgical subject about which such widely different views are held by surgeons at the present day as that of the treatment of fracture of the patella. I speak not merely of the rarer forms of the injury, nor of the complications that may arise, but of the common transverse fracture of the patella which we see every day in the wards of the hospital.

Nearly every one who has to treat these cases has some particular

pet method of his own. Some use mechanical apparatus of one kind, some of another kind, some use no apparatus at all; some perform open operations, some prefer subcutaneous operations; some think that operations of any kind should very rarely, if ever, be performed; some say that all cases, or nearly all, should be treated by operation. Here surely is a fruitful field for discussion.

We shall all of us, I suppose, excepting those, if there be any here to-night, who devote themselves entirely to pure medicine, have to treat these cases in practice.

It cannot, therefore, be a waste of time for us to spend an hour or two in discussing a subject of so much importance to our patients and to ourselves.

I will begin with pathology.

With regard to the age and sex in which this fracture occurs, the statistics of this hospital for ten years (1884 to 1893) inclusive show us that men are much more commonly affected than women, and that it occurs extremely rarely in children. Of 303 cases admitted during the above period 216 occurred in male patients, 87 in female, while only 6 out of the whole number occurred in children under the age of twenty.

Respecting the first point, fracture of the patella resembles the fractures of nearly all other bones; they are more common in the male sex. This, I presume, is due to the greater physical strains to which men are liable. The rarity in children can be best explained by the little ossification which is present in this bone in children. I need not remind anyone here that the patella does not begin to ossify until the age of three, and that ossification is not complete until puberty.

Everybody knows that the patella may be broken by direct violence, or by indirect violence or muscular action. Starred fractures and longitudinal fractures, both of which are rare, can only be produced by direct violence. I show you here some examples from the museum.

Transverse fracture is generally supposed to be produced by muscular action. The most common mode of production is by the patient slipping and then making a violent effort to maintain his balance. The quadriceps contracting violently snaps the bone. It must not be supposed, however, that the fracture is produced by a direct pull upon the patella in its longitudinal axis. The fracture may, perhaps, in some rare cases be produced in this manner. I feel sure, however, that far more often the quadriceps acts upon the bone nearly at a right angle, the knee being bent. Only a small portion of the bone rests upon the condyles at any one time. The bone is thus a lever, upon the end of which the quadriceps exerts its strain, thus acting at a mechanical advantage. The action is very much the same as that by which a stick is broken by bending it across the knee; the difference is that the stick is laid transversely across the knee, the patella is laid vertically.

We are commonly taught, I think, that nearly all transverse fractures of the patella are produced by indirect violence. Such, at least, is the teaching of the ordinary text-books. When I was house surgeon to Mr. Smith, in 1882, I remember hearing him make the remark that probably many more transverse fractures were produced by direct violence than was generally supposed. Since that time I have been in the habit of questioning patients more closely as to the exact manner in which the accident happened, and I have not infrequently been told that during the violent movement which led to the fracture the knee was driven forwards against some resisting object, such as a wall. Upon this point you will doubtless have your own opinions, based upon your own observations.

Another point to which attention may be directed is how far disease of the bone itself predisposes to fracture. I am inclined to think that in many cases the bone is unnaturally brittle.

The most common period at which fracture occurs is between thirty and forty; that is a period at which degenerative changes may be supposed to be beginning to occur.

Out of my 303 cases no less than 103 occurred in this period.

It is not much less common between forty and fifty, a period at which the total number of persons alive is considerably less; 76 cases occurred at this age. Among still older people, of whom the total number alive is naturally still smaller, no less than 32 cases occurred.

It is by no means uncommon to find distinct evidence of rheumatoid arthritis, a disease in which it is well known that the bones are more brittle than normal.

Mr. Rivington, in a recent paper, has brought forward some evidence showing that fracture of long bones is not uncommonly produced by certain nervous diseases, as locomotor ataxy, in which the trophic influence upon the nutrition of the bones is at fault.

A case of my own, that I treated for fracture of the patella at the Royal Free Hospital some two or three years ago, came into Harley Ward a few months ago with Charcot's disease of the ankle on the same side as the fracture. It can hardly be doubted that in this case the commencing disease of the spinal cord had a good deal to do with the fracture.

My colleague, Mr. Battle, has published a somewhat similar case of the co-existence of fractured patella and Charcot's disease. Some of you may have seen similar cases.

Another reason for thinking that uncommon for both patella to be broken; also the same patella is often broken more than once. There have been in these wards lately several cases illustrating both these points.

I well remember when I was a dresser seeing a man who had broken his patella five times, three times on one side and twice on the other. There was a woman recently in Lawrence Ward who was said to have broken her patella no less than ten times.

I may mention here incidentally that if the same patella is broken twice, the line of fracture is not usually in the same place each time. A fracture in another part of the bone is more common in such cases than a giving way of the old line of union.

The diagnosis of fracture of the patella is usually not difficult. The two fragments of bone are generally easily felt; they can be felt to move independently; they may often be pressed together in such a manner as to elicit crepitus.

Too much stress should not be laid upon crepitus, however. It is sometimes impossible to obtain crepitus, and this is more especially the case when there is much effusion into the knee-joint.

This leads me to remark that the effusion into the knee which almost always co-exists with fracture of the patella is of much importance. It is one of the most important factors in producing separation of the fragments. Some even think that it has much more to do with this than has contraction of the quadriceps, at first sight a more obvious cause of the separation.

The effusion into the joint may be much the most prominent feature of the case. In the case of an elderly gentleman whom I attended with Mr. Butcher, of Windsor, at the early part of last year for a very bad fracture of the patella, there was an enormous effusion of blood not only into the joint, but into the surrounding tissues, completely burying both fragments, so that I was obliged to make my diagnosis without having felt either fragment. In a few days this effusion subsided, and the fragments were easily felt. Such an extreme degree of effusion is, however, very unusual. It is rare for much blood to lie in front of the fragments.

In such a case as this there is not only fracture of the patella, but also extensive laceration of the soft tissues about the bone.

Conversely, the ligamentous tissues about the patella may in rare cases escape injury, so that the two fragments are held together, and there is little or no separation. Many years ago, when I was junior house surgeon, and on duty in the surgery one afternoon, an elderly woman hobbled in with the help of a stick, saying she had hurt her knee. I examined her, and found great effusion into the joint. The patella seemed all right, and was of the natural size. I diagnosed traumatic synovitis, and sent the dresser for the usual remedy—a back splint. I intended to send her home with it. While he was fetching it I thought, as I had nothing else to do, that I would examine the knee again. This time I thought the patella was in two fragments, and by pressing firmly I found I could move the two pieces slightly on one another and produce crepitus. When the dresser returned I told him I had changed my mind, and would send

the case into the ward; but I only just missed sending her out with a back splint! I need hardly say that in this case it was the unruptured fibrous aneurysm in front of the patella that kept the fragments together.

A condition which I have often seen simulate fracture is an effusion of blood into the tissues in front of the patella. This produces a soft transverse groove, which has often led the unwary into an erroneous diagnosis.

On one occasion a woman was admitted into Lawrence with such an injury, and I remember Mr. Smith asking all his dressers to examine the knee. One and all, without exception, putting their fingers into this groove, said there was fracture of the patella; but there was not, it was merely a case of blood extravasation in front of the bone. I ought to explain that I am not speaking of Mr. Smith's present excellent set of dressers, but of a bygone generation. I have forgotten, of course, whether I was one of them or not.

I come now to what is, I venture to think, a much more interesting branch of our subject, namely, the treatment.

Upon one point, and perhaps one only, I hope we shall all be agreed; that is, that the object of our treatment is to bring the two broken pieces as close together as possible, and to keep them there long enough to allow nature to mend the bone. That is our object, but how can we best carry it out?

Now the various plans of treatment may at once be divided into two main classes:

1. Mechanical treatment, usually by some form of apparatus.

2. Treatment by operation.

I do not propose to weary you with a detailed account of all the numerous mechanical appliances that have been invented for the treatment of this fracture. I will merely indicate briefly the chief ones.

Those of us who have had the privilege of watching Sir William Savory's practice in this hospital know that the ordinary method adopted by him was the simplest of all, and a very good method too. He used to put the limb at rest on a pillow in a slightly elevated position for a few weeks, and then let the man get up and walk about, the knee being fixed for some months longer in plaster or some other kind of splint. Admirable results were obtained in this way. Mr. Eccles, some months ago, came across a man at the Truss Society rooms who had been treated in this way by Sir William Savory twenty-three years ago, and knowing that I took a good deal of interest in the subject kindly sent him on to see me. That man is here to-night, and you shall have the opportunity of judging for yourselves whether the treatment in his case has been successful or no.

The objection that may be raised to this method is that, while successful in the great majority of cases, it is perhaps a little uncertain. The upper fragment, being quite unrestrained, is apt in such cases to be drawn up too much, and a weak union may result. It is only fair, however, to say that I do not remember to have actually seen any really bad result follow this treatment. The method certainly has the great charm of simplicity.

The next plan of mechanical treatment is just a little more complicated, and consists in applying to the limb a back splint with or without a foot-piece. By means of strapping or india-rubber bands, or strips of plaster of Paris, the two fragments are gently drawn together and held in place. One such form of apparatus is Stevenson's splint, invented by the late Dr. Stevenson, electrician to the hospital. I may add that when I was house surgeon this was the form of apparatus used exclusively by Mr. Smith's wards.

I referred just now to a man who had been treated by Sir Wm. Savory twenty-three years ago. This same man was in the hospital again eighteen years ago with fracture of the other (left) patella. This time he was under Mr. Holden, and was treated with Stevenson's splint.

[This patient, a man aged forty-two, was then shown. He walked and ran round the room without any lameness. He stood first on one leg and then on the other, with the knee bent. He jumped on to and then clean over a chair without taking any preliminary run. Both knees could be bent to a right angle or beyond. On the right side there was ligamentous union with separation of half an inch. On the left there appeared to be bony union. The man said that he could walk twenty miles without any difficulty.]

There are two other patients here who were treated some ten or twelve years ago by Stevenson's apparatus, and who have recently been in the hospital again for fracture of the other patella. You will see that in both cases the results obtained are excellent.

Manning's apparatus, invented by a former house surgeon at University College Hospital, is a somewhat more complicated form of apparatus, in which a casing of strapping is made to encircle the

thigh, and elastic extension is kept up on this by means of strong india-rubber rings. It was used a good deal by Mr. Willott some ten years ago, but not, so far as I am aware, lately. It is not a bad form, but has two objections: one that the sharp edge of the strapping is rather apt to chafe the skin just above the patella; the other objection is one that is common to nearly all splints in which elastic bands are used, they are apt to stretch and become loosened.

The form of apparatus that I myself prefer is this [shown]. It is a slight modification of a form invented by my colleague, Mr. Gant, of the Royal Free Hospital. It is essentially a back splint with a foot-piece. Above and below the patella are shields of poroplastic moulded to fit the limb, and with a notch in each to receive the patella. The shields and splint are firmly bandaged to the limb, and the shields are united to one another by pairs of Malgaigne's hooks, one on either side. By gradually screwing these up the fragments are brought close together.

Several of the cases I show to-night have been treated by this method. I have sometimes used long strips of plaster of a horseshoe shape without the hooks. One of the patients here to-night was treated in this way by my house surgeon in my absence from town, and with an excellent result. Some of you have seen this plan of treatment used recently at my suggestion in Colston and in other wards.

I must now say a few words about the use of plaster of Paris alone without any other apparatus. This is an excellent method, and has, so far as I know, only one serious drawback. If it is applied to a recent fracture where there is considerable effusion, the plaster of Paris splint, which fits closely at first, does not do so when the effusion has subsided. The hold on the patella may thus be lost, and the upper fragment may be drawn up far too much under cover of the splint, and without the knowledge of the surgeon. I have before now, when the splint was removed several weeks later, seen a considerable interval between the fragments, much to the horror of the gentleman who had applied the plaster, and who had been congratulating himself that the fragments were in close apposition all the time.

There are numerous other methods that I might describe, but it is unnecessary to do so.* I have mentioned the chief ones. I may say that I do not think that it really matters very much what form of apparatus you use, so long as you bear in mind these great principles.

Keep the patient absolutely at rest for several weeks.

Keep the fragments together as closely as possible.

Prevent the patient as far as possible from using the rectus muscle by not allowing him to sit up in bed, and also by bandaging or otherwise fixing the muscles of the thigh.

Lastly, and this is by far the most important point, insist upon the patient wearing some kind of apparatus (a leather or metal one is the best) for several months after he has been allowed to get up. Bad results after fracture of the patella show themselves almost always after the patient has got up and begun to walk about. It is then that the union, which previously may have been quite good, begins to give way, and unless care be taken the knee may become unduly weakened. The knee should certainly not be bent for from four to six months, and it is advisable that some kind of knee-cap should be worn more or less for at least a year. The use of the knee should be gradually resumed.

There are various forms of splints suitable for this after-treatment of fracture of the patella. Here is the simplest and cheapest form; it allows of no movement at the knee. These are more elaborate forms. In this case, by gradually filing away this piece of steel, some movement is, little by little, allowed to the knee.

[Various forms of splint were here shown.]

2. I come now to the operative treatment, and I must first mention the minor operation of tapping or aspirating the knee.

This is sometimes desirable and necessary, in order to get the fragments into apposition. As a rule, however, it is not necessary, since the effusion almost always subsides in the course of a few days. It should be remembered that the fluid effused into the joint is not usually mere synovia, but is wholly or partly blood.

If the joint be tapped a day or two after the fracture has occurred it is possible that nothing at all may be withdrawn. Twice have I known this happen within these wards; probably the reason was that the whole of the blood had just clotted. In any case a tapping will only remove fluid, and not blood-clot, if any has already formed. The presence of this blood-clot may be a source of trouble, becoming

* The ingenious apparatus invented by Mr. Stawell has been used, with excellent results, in this hospital several times since this paper was read.

organised, and forming, I believe, one of the chief causes of subsequent adhesions about the joint.

A method of treatment which may, I suppose, be dignified by the name of a *minor operation*, is the use of Malgaigne's hooks, used as Malgaigne himself recommended, namely, driven right into the skin and deeper structures, above and below the broken bone.

Before the days of antiseptics this method frequently led to suppuration in the joint, and was practically abandoned.

It has recently been revived at one of the London hospitals. Great care is taken, of course, to make both skin and hooks thoroughly aseptic. Good results have been obtained in this way, but I have no personal experience of the method, which strikes one as somewhat dangerous.

All other operative measures may be divided into two main classes:

(1) Operations performed wholly or partly *subcutaneously*.

(2) The *open operations*.

In all these the idea is to fix the fragments together by means of wires, pins, silk, or some other material.

Of the *subcutaneous operations* I may mention those in which the suture is passed *anteriorly*, posteriorly right round the fragments, and tied either subcutaneously or over a pad in front of the skin. In the one case the suture is buried permanently, in the other it is removed at the end of a few weeks.

Others prefer to pass the suture *transversely* (or *coronally*) around the fragments, and prefer this on the ground that the joint is not necessarily transfixed. You may have seen several cases treated in this way in Mr. Willott's wards within the last few months.

Subcutaneous pinning may be done by Robson's method, in which stout steel pins are driven through the skin and through the quadriceps tendon and the ligamentum patellae above and below the fragments. The projecting ends are then united, and the whole dressed antiseptically. At the end of a few weeks the pins are removed.

Mr. Anderson, of St. Thomas's, has modified this method slightly by passing the pins through the fibrous expansion that lies in close connection with the front surfaces of the fragments.

Of the *open method* of operating I need not say much.

An incision of considerable length, generally longitudinal, is made over the front of the knee, the joint is freely opened, all blood-clot, &c., removed, the aneurysm which has slipped down between the fragments is raised up, and the fragments united, usually either by silver wire or by silk. The suture is usually passed through holes bored in the fragments, but may be passed round the fragments instead of through them.

If the fracture is *not* a recent one (and hitherto I have been speaking only of recent fractures) the operation is one of great difficulty, as the broken surfaces have to be refreshed, and frequently very extensive division has to be made of the tendinous and ligamentous structures around the upper fragments. Look at this specimen of an old fracture of the patella, and imagine yourselves operating upon it. The upper fragment is far away from the lower, and it has formed new connections in its new situation; the muscles, ligaments, and fascia around have all become shortened, and adapted to the new relations of the bone. It is one thing to suture or wire a *freshly fractured* patella; it is quite another thing to do so to an old fracture.

Let us now discuss the question which is, on the whole, the best method of treating the ordinary fracture of the patella. Are we merely to use mechanical apparatus? Are we to do more or less subcutaneous operations? Are we to operate by the open method?

I may as well say at once that I am quite prepared to admit that in certain cases operative measures are demanded. For example, in compound fractures, when the knee-joint has already been opened, I suppose few would deny that a wiring operation might be the best thing for the patient. But this is not the question that I want to discuss. It is rather what should be our routine treatment of the ordinary transverse fracture of the patella.

Perhaps some of you may not be aware how commonly operations are performed upon fractured patella at other hospitals. A surgeon at one of our metropolitan hospitals stated recently that for a long time he had been in the habit of treating all recent fractures of the patella by operation. At many other hospitals a similar practice prevails. As you know, within these walls the operation has very rarely been performed.

In the ten years from 1884 to 1893 *primary operations*—that is, operations upon *recent* fractures—were performed only twice. Both these were open operations. Secondary wiring during the same period has been performed five times. All these were open operations. The subcutaneous operations have until this year never been attempted here. In the last few months several cases have, however, been done. I have been told by members of other hospitals that

operations upon the patella are not done here nearly as often as they ought to be. But I venture to think that it is, on the whole, a good thing for the patients that these operations are not done more often here, unless they can be done with results, immediate and remote, far better than those usually obtained elsewhere.

It is by no means easy to obtain accurate statistics as to the results of operations done elsewhere. Statistics from journals are practically valueless, as the unsuccessful cases are hardly ever published. Hospital statistics are the best source of information. At King's College Hospital, where primary wiring is done so often, no detailed statistics are published. The same may be said of the West London Hospital.

The best statistical information that I have been able to obtain is from the admirable St. Thomas's Hospital 'Reports.' At this hospital numerous operations for fractured patella have been performed.

I will give you the figures for the years 1891—1893. Of 65 cases of fractured patella, 16 were treated by pinning and 18 by wiring. Of the 16 treated by pinning 3 suppurated; of these, in one case the suppuration was only around the pins; in another case the suppuration involved the joint; arthrectomy of the joint was then performed, and this was followed by erysipelas and nephritis.

Wiring was done by the open method twelve times, superficial suppuration occurred in two cases (one of these was a secondary wiring); in another case the wire patella broke on the thirty-seventh day, when the first attempt at passive movement was made. Six cases were treated by Kocher's method of wiring; none of them appeared to have been followed by any disaster. With the exception of the case mentioned, all the above appear to have been cases of primary wiring. Information as to the ultimate condition of the knee is not given in full, but in nearly all cases the union appears to have been fibrous, not bony. In one case of wiring by Kocher's method the patella broke again four months later; the same method was attempted again, but failed owing to the union of the upper fragment with the femur, a note which does not say much for the advantages of this method.

Still, in these three years no death occurred, and no complication more serious than arthrectomy and erysipelas followed the operations.

In another case of secondary wiring which occurred some years ago at St. Thomas's, the wiring was followed by suppuration in the joint, amputation of the thigh, septicæmia, and death.

Other hospitals can tell us similar tales. At one of the smaller hospitals, where about thirty wiring operations have been done (I speak not from printed statistics, but from information supplied to me by a member of the staff), one case died within two days after the operation; in another case the joint suppurated, and amputation of the thigh had to be done. The man just escaped with his life. Both these were cases of primary wiring. A third similar case also occurred. At another small hospital a similar case occurred, amputation having to be performed. At another small hospital the results were even worse. These hospitals shall be nameless, but I may as well say that none of them was the Royal Free Hospital.*

You may say that these bad results are due to failures in antiseptic, and that they are preventable. Perhaps; but nevertheless, even in the hands of the very best and more careful antiseptic surgeons, these failures do occur, and it does not do to ignore them. The open operation has and must have a certain although very small mortality. So far as I know, no one has yet actually died from the smaller operations of subcutaneous wiring and pinning. Still in no small number has limited suppuration or even suppuration within the joint been known to occur.

Now it may be argued that even if the operation is not free from danger to life, or even danger of getting a stiff knee, still it should be undertaken because the results obtained are so much better.

But are they so much better?

It is true that bony union is more likely to be obtained. I show you here a patella obtained last year from an operative surgery body, and with no history; but it has clearly been wired, and wired very successfully. Bony union has occurred; the line of union is hardly visible; the stout silver wire used for the suture appears to have set up very little irritation in the patella. If we could be sure of nearly always obtaining such a good result as this, we should perhaps be warranted in undertaking the operation more often.† But I notice that in the reports of operation cases the union is usually not bony; it is fibrous in a very large proportion of cases. That is, after all the risks have been run, the union is not necessarily any better than it

* Some interesting statistics have been given by Turner, of St. George's, in vol. xviii of the *Clinical Society's Transactions*.

† It is significant, however, that even in this apparently very successful case the knee was ankylosed.

would have been after mechanical treatment. The St. Thomas's Hospital statistics show this clearly.

Then, again, is bony union so very desirable? My own impression is that good ligamentous union with separation of not more than half an inch is quite as good as bony union. I am not sure that it is not even better, since fractured patella united by bone often break again along the old line of fracture.

There is yet another point. Even in the most successful cases of wiring much trouble may ensue from the continued presence in the patella of a piece of stout wire. This often causes so much irritation that it has to be removed by a subsequent operation. In any case a hard angular knot of wire between the patella and the skin is not a source of much comfort to the patient. This knot should, of course, be hammered down as much as possible at the time of operation, but it is not always possible to get rid of it completely.

The dangers of the open operation led to the various subcutaneous operations. Although these are far less dangerous, yet they are very much less often followed by good union. They have also a danger of their own, in that a track is kept up along the wire or pin, by means of which suppuration may occur at any time until the pin or wire has been removed.

One common reason why fracture of the patella is not more often followed by bony union is that the fibrous expansion of quadriceps over the front of the patella usually slips down between the fragments. No subcutaneous operation can remedy this condition.

I hope I have brought forward some reasons to-night for believing that primary operations are not devoid of danger, and are not necessarily productive of a better or more useful joint than is careful mechanical treatment.

Secondary operations are attended by a very considerable mortality, and are extremely difficult to perform, often resulting in a stiff joint.

I would myself recommend that primary wiring or suture of any kind should never be performed except in very rare cases, such as compound fractures. Secondary wiring ought only to be undertaken after due consideration of the risks, and usually only in those cases in which a stiffened joint is preferable to the weakened one of which the patient complains.

A Commentary set to Candidates for the London M.D.

By SAMUEL WEST, M.D.



WOMAN thirty-six years of age came to the Hospital complaining of loss of power in her left side, and had appeared suddenly two days previously, *i. e.* on October 13th.

She did not lose consciousness or feel pain, and was put to bed. The symptoms rapidly improved the next day, and had disappeared on October 15th, two days later, when she presented herself as an out-patient at the Hospital.

She had had a similar attack in March of the present year, before which time she had been perfectly well. At that time she was on her way to market, when she suddenly lost speech and partial use of her left side. She was taken to the London Hospital, and remained an in-patient there for three weeks. For the first day or two she was unable to speak, but speech rapidly returned, as did also the power in her side, so that at the end of three weeks she was dismissed quite well, except that when excited her speech would become a little indistinct and her words somewhat confused. From that time to the present she remained well and active, except for the occasional dizziness in speech.

On October 15th, when seen by me, she walked into the room, gave a coherent account of herself, and described the attack with considerable detail, showing that she was completely conscious all the time. She was pale, and had a somewhat heavy, languid expression, and the left side of the face seemed to drop a little, but there was no difficulty of movement to be detected. She spoke a little thickly, but otherwise readily and correctly. She moved her arm freely, and there was no difference in the grasp or in the movements of the leg, and she walked apparently quite naturally. She complained of a little numbness in the left hand, but no difference in sensation could be detected. There was no defect of vision or of the movements of the eye, and no ophthalmoscopic changes. Her only symptom, except the slight thickness of speech, was a marked increase in the knee-jerk

of the left side. There were no physical signs of disease in any organ, and the urine was healthy.

She had never had fits at any time. She was not emotional or hysterical at the time of the attack, nor had she ever been.

She was a married woman and had had four children, of whom one only was living. One was still-born, and two had died of children's ailments. Besides this, she had had two miscarriages. The only other fact to be mentioned was that on the right tibia, in the middle part, there was a large periosteal thickening, diffuse, hard, and tender, and a similar condition just above the ankle at the end of the left tibia. These conditions were evidently of a syphilitic nature.

The first point to be determined in the case is whether the symptoms are genuine. Of this I think there can be no doubt. The account given by the sister tallies exactly with that given by the patient.

There was no evidence of hysteria, mental disturbances of other kinds, of fits, or anything at all in her medical history except the two attacks described. Besides, there remained still the slight impediment of speech, the slight drooping of the face, and the exaggerated knee-jerks.

The conclusion must be that the symptoms are genuine.

The next point to remark is that the patient has had loss of speech associated with loss of power in the left side, and that she is not a left-handed person. This points to a double lesion.

Of what nature could these lesions be? The suddenness of onset might suggest embolism, but there was no evident source for an embolus; such sudden recovery would be almost impossible, nor would the recovery be complete.

For the same reason it is unlikely to have been hæmorrhage.

Could it be tumour with vascular changes, or hæmorrhage round it or in it? This again is unlikely, for there are none of the ordinary signs of tumour, the patient was never unconscious, and the recovery was too rapid.

The symptoms are more like those of some transient interference with the circulation through the vessels supplying the respective parts of the cortex of the brain,—that is to say, the artery of Broca's convolution on the left side, and the Sylvian artery on the right side.

If this is so, the question arises as to how such transitory interference with the supply of blood could be produced.

The patient is obviously the victim of syphilis, as shown by the history and by present evidence of the disease.

Syphilitic lesions of arteries are often found in many parts, and it is not making any out-of-the-way assumption to suppose syphilitic mischief in the positions required.

It must be admitted at once that such transient affections are rare in syphilis, yet there is no inherent improbability that such symptoms might be produced, for they are not uncommon, though at a later period of life, in connection with the analogous change in the arteries of old people, viz. atheroma, transient aphasia, transient paresis of the hand or arm, or even sometimes transient hemiplegia are by no means rare, and are commonly referred to defective circulation through diseased vessels.

They are often of very short duration, end in rapid and complete recovery, and are easily produced by excitement, fatigue, or similar causes.

We might further fairly ask what changes could produce the symptoms in this case other than those suggested. In this connection the similar conditions which sometimes arise in the course of kidney disease, and which are referred often to uræmia, present themselves to the mind. They are most commonly met with in connection with granular kidney, but of this disease there is no evidence in the present patient, for the arteries are soft, the heart is natural, there is no albumen in the urine, and no eye changes; in fact, there is no evidence whatever of such an affection.

The case is one of great interest and difficulty, but I think the simplest solution of the problem is that which I have suggested, viz. that the patient has pretty advanced syphilitic disease of the arteries, and that it is to transient disturbances of the circulation through them that the symptoms are due.

Notes.

THE ENTRY this year is on the whole satisfactory. We again head the list of the Metropolitan Schools with 105 full students, as compared with Guy's 80, the London 75, St. Thomas's 73, and St. Mary's 71.

The FULL FIGURES are as follows:

Full Students	105
Special Students	62
Prelim. Sci. Class.	20
* * *	

A comparison with the preceding five years may not be devoid of interest, and we are indebted to the Warden for the following figures:

Year.	Full entries.	Special, including Pr. Sc. classes.	Total.
1890	120	45	165
1891	104	44	148
1892	112	38	150
1893	95	61	156
1894	119	74	193
* * *			

WE HEAR that the number of Medical Students registered at Cambridge this year exceeds very largely the largest previous entry. It is no less than 151.

* * *

WE HEAR that the Government do not intend to introduce a Bill to appoint a Statutory Commission to carry out the reform of the University of London recommended by the Gresham Commissioners' report, but that they will give every facility to Lord Playfair to re-introduce the Bill of the late Government.

* * *

WE HAVE been informed that our Medical School Committee has decided to invite a general meeting of the teachers in the Medical Schools of London to promote reform of the University of London.

* * *

RUMOURS have reached us that the Third Examination of the Conjoint Board under the five years' curriculum is likely to be considerably modified, if not abolished altogether. We hope it is true, for in this much examined age, to get rid of an examination must be welcome to all students.

* * *

BY THE NARROW majority of nine, the Royal College of Physicians decided against the proposal to throw open the examinations of the Conjoint Board to women.

* * *

PROFESSOR MARSHALL WARD has been elected to the Professorship of Botany at Cambridge, vacated by the death of Professor Babington.

* * *

INDEXES for Vols. I and II of the JOURNAL will accompany the December issue of the JOURNAL. The official cover will be ready at the same time. It is of black cloth, with the name of the JOURNAL and the King Henry VIII Gateway in gilt.

* * *

WE are glad to see that the Battalion Marksman of the "Artists" (20th Middx. R.V.) is a Bart.'s man. Mr. B. W. Holmes holds this proud position with a score of 164, viz.

3rd class 77, 2nd class 38, 1st class 49. The "possibles" are respectively, 84, 55, 56.

* * *

Lovers of Cromer—and they are many—will enjoy an article contributed to 'Photos and Sketches' by Mr. F. C. Fincham. The quaint old town, its inhabitants, and surrounding country are all very happily described, whilst some ten or twelve illustrations from photographs by the author recall in a most irritating manner (to hard-worked ones far away) the simplicity and peculiar sleepiness which are the charms of the place.

* * *

All our readers may not know that the most conservative of our Universities is prepared to give a D.P.H. to others than its alumni. The examination begins at Oxford on the 25th inst., the conditions for entrance being practically the same as for the corresponding Diplomas given by Cambridge and the Conjoint Board.

* * *

We understand that Mr. Sargent has the names of several excellent men wanting employment as *locums*, &c., many of them having qualified three or four years ago. Old Bart's men wishing for temporary or permanent help in their practices should apply to him at the Hospital.

* * *

MR. F. F. BLACKMAN, Demonstrator of Botany in the University of Cambridge, who was a student at Bart's some years ago, has been elected to a Fellowship at St. John's College, Cambridge.

* * *

WE HEAR that the authorities at Cambridge have decided to appoint an additional examiner for the D.P.H. Examination. He is to be specially conversant with Bacteriology, the growing importance of which in relation to State Medicine is thus recognised.

* * *

WE wish to draw special attention to the meeting of the Abernethian Society on December 5th. It will be held in the Medical Theatre, and bids fair to be something distinctly out of the common. The subject is "Photomicrography with Lantern Demonstration," but in addition to the question of Photo-micrography we understand that the microscopic preparations used to illustrate the processes are particularly fine.

* * *

A VERY great amount of care has been taken in the selection of the part of the preparations to be photographed and in the focussing and developing.

* * *

WHEN will men realise the fact that anonymous matter is never accepted? The name of the writer need not necessarily appear in the JOURNAL, but it *must* be known to the Editor. We mourn the misdirected energy which only serves to fill our waste-paper basket.

Amalgamated Clubs.

NEW MEMBERS.

H. Elliott. R. L. Armstrong.
H. P. Fleming. W. T. Rowe.

At a meeting of the Finance Committee held on October 7th several slight changes were made in the details of the colours.

The hat-band will in future be black wound diagonally with white, the diagonal running in the opposite direction to that in the old ribbon.

The honour blazers will have the letters ST.B.H. placed before the initials of the club; the shield will be smaller, and placed on a plain black pocket.

The honour caps will have the initials of the club for which they are obtained.

A General Meeting was held on October 23rd, at which Mr. E. W. Woodbridge was elected Hon. Sec., Mr. R. P. Brown Asst. Hon. Sec. for the ensuing year.

The Shooting Club was admitted to the Amalgamation.

RUGBY FOOTBALL CLUB.

We have every reason to be satisfied with the doings of the Rugby Club during the past month, as out of five matches played, four have been won and one drawn. The clubs we have defeated are Streatham, Ealing, Marlborough Nomads, and R.N.C., whilst we drew with Civil Service. The best performance so far has been our victory over the Marlborough Nomads by 1 goal and 2 tries to *nil*. At present we have scored 6 goals and 8 tries or 67 points to *nil*, the highest score in one match being 5 goals and 1 try against Ealing.

Our chief difficulty is the three-quarter line. We have been obliged to take Wells out of the scrum and play him on the wing. He has plenty of pace, and can kick and tackle well, so that when he has learnt to hold his passes and gets used to his new position, he ought to do well, but it seems rather a pity to lose so useful a forward from the pack. Body, who played back last season, is playing in the centre.

The forwards have plenty of weight and pace. The chief fault at present is that they do not watch the ball carefully enough, and are a bit slow in breaking up. They are also apt to run over the ball, and do not get away quickly enough from the scrum. The tackling is good and vigorous all round. Rigby has turned out again, and has given us his valuable assistance on several occasions. It is to be hoped that his shoulder will not give him any more trouble, and that he will be able to play in the Cup Ties, when with Maturin and Wilson we ought to give a good account of ourselves.

The 2nd XV has also done fairly well, as out of five matches two have been won, two lost, and one drawn; 12 points have been scored for and 9 against. Civil Service and Maidstone have been beaten, though in the latter-match several of 1st XV were playing. Defeats have been suffered at the hands of Mill Hill School and Univ. School Old Boys, while the drawn game was with Univ. College School.

BART'S 1ST XV v. CIVIL SERVICE.

Played at Richmond on Saturday, October 5th, in disagreeable weather, rain falling during the whole game. Bond lost the toss, and Bart's had the hill against them in the first half. The game was very scratchy and uninteresting throughout, the ball being too slippery for the backs to hold, and in consequence many passes were muffed. Bart's held the upper hand all through the game, but were unable to score, and the match resulted in a pointless draw. Of our forwards, Andrew, Bennett, and Ormerod were unable to play.

Team.—H. Bond (back); J. W. Nunn, C. A. S. Ridout, A. E. Hodgkins, S. Mason (three quarters); A. Hawkins, G. C. Marrack (half); H. M. Cruddas, A. J. W. Wells, F. G. Richards, W. M. James, C. H. D. Robbs, F. J. Wood, A. L. Vaughan, T. C. Lewis (forwards).

2ND XV v. CIVIL SERVICE 2ND.

Played at Winchmore Hill, and resulted in a win for the Hospital by 1 try to *nil*. Civil Service started three short, but these men soon turned up. Bart's were on their opponents' goal line for a great part of the game, but could only score one try through Pinker.

Team.—S. F. Smith (back); E. G. Simmonds, T. Martin, J. C. S. Dunn (capt.), F. E. Everington (three quarters); M. A. Cholmeley, A. N. Other (half); H. Weekes, H. B. Meakin, J. Perks, C. S. Hawes, J. E. Sandilands, T. M. Perkins, H. G. Pinker, W. Davies (forwards).

BART'S v. STREATHAM.

Played at Streatham on October 12th, and resulted in a win for Bart's by 1 goal and 2 tries (11 points) to *nil*. At first Streatham had rather more of the game than we. After getting together, we easily outplayed them forward. From a penalty kick on the twenty-five line, Andrew had a splendid shot at goal, the ball passing barely a foot outside the post. On resuming, one of the opposing backs muffed a kick and let in Wells. Body's attempt at goal failed. Several times our backs were pulled up on the line, and Bennett once dribbled over, but lost the ball. In the second half we had all the best of the game. Tries were scored by Andrew and Robbs, one of which Body converted.

Team.—H. Bond (back); S. Mason, C. A. S. Ridout, T. M. Body, S. F. Smith (three quarters); A. Hawkins, G. C. Marrack (half); P. O. Andrew, H. M. Cruddas, A. J. W. Wells, W. F. Bennett, W. M. James, C. H. D. Robbs, F. J. Wood, H. Weekes (forwards).

BART'S v. EALING.

This was the first of our fixtures played on the new ground at Winchmore Hill on October 19th, when we easily won by 5 goals and 1 try to *nil*. We were without the services of Mason at three quarters and Andrew forward, but, as the score shows, we had little difficulty in winning. Bond won the toss, and Ealing kicked off from the pavilion end of the ground. Play at first settled down in our twenty-five, and the Ealing three quarters once or twice began to look dangerous. However, on settling down, our forwards gradually worked the ball down into our opponents' territory, and we began to press them hard. Several times the forwards were nearly across the line, Robbs being especially prominent. At last Marrack snapped up the ball from the scrum and eluding the backs scored our first try, which Body converted from a difficult angle. On resuming, Bart's immediately began pressing once more, and from a scrum near the goal line Hawkins got over, Body again converting. Shortly after restarting one of the Ealing three quarters received a nasty kick in the back while trying to stop a rush, and had to retire for the rest of the game. Just before half-time Weekes scored, but this time Body failed at the kick.

After the interval play was much the same as in the first half, the Hospital forwards almost invariably carrying the scrums. Hawkins was the first to score, Body again doing the needful. Smith lost several opportunities of scoring by failing to hold the ball when passed to him. Ridout, after some passing among the backs, was the next to get over, scoring right behind the posts, and Body had little trouble in kicking a goal. The last try, scored by Wells, was got in rather a peculiar way. The Ealing back in trying to stop a rush allowed the ball to strike the goal-post. Wells, who was coming up behind, caught the ball on the rebound and got over. Towards the end of the second half another of our opponents' three quarters injured his ankle and had to retire. The final score was Bart's 5 goals and 1 try (28 points), Ealing, 0.

Team.—H. Bond (capt.) (back); A. J. W. Wells, C. A. S. Ridout, T. M. Body, S. F. Smith (three quarters); A. Hawkins, G. C. Marrack (half); H. M. Cruddas, W. F. Bennett, J. K. S. Fleming, W. M. James, C. H. D. Robbs, F. J. Wood, H. Weekes, H. C. Adams (forwards).

BART'S v. MARLBOROUGH NOMADS.

The result of this match was highly satisfactory to us, as our opponents were expected to do great things this season after the game they gave the Scottish a short while ago. The game was played at Surbiton on October 26th, and resulted in a win for us by one goal and two tries to *nil*. For the first ten minutes we were panned in our twenty-five, and were prevented from breaking away by the halves. Gradually, however, we worked the ball down to mid-field. From a scrum here Robbs broke away, and dribbling right down the field scored a smart try rather far out, which Body was unable to improve upon.

This reverse roused our opponents, who played up with renewed vigour, and all but crossed our line. One of the three quarters kicked the ball past Bond, and following up hard must certainly have scored, had he dribbled on instead of stopping to pick up. The ball was gradually worked back, the forwards making several good rushes. From a pretty piece of passing between Marrack, Hawkins, Ridout, and Body, the last named scored the second try, but was unable to convert it. Still keeping up the pressure, we were nearly over several times. Half-time arrived with the score standing at two tries to *nil* in our favour.

On resuming, the game was immediately carried into our opponents' quarters, where we kept them penned for practically the whole game. Hawkins made several good attempts to score, but was always pulled

up just outside the line. Body had rather hard luck in not dropping a goal, the ball going just outside the upright. The last try was scored about two minutes before time by Andrew, who dribbled up to the line, and then picked up. Body kicked the goal.

Team.—H. Bond (back); A. J. W. Wells, C. A. S. Ridout, T. M. Body, S. Mason (three quarters); A. Hawkins, G. C. Marrack (half); P. O. Andrew, J. C. A. Rigby, H. M. Cruddas, W. F. Bennett, J. K. S. Fleming, W. M. James, C. H. D. Robbs, F. J. Wood (forwards).

ST. BART'S v. R. N. C.

Played at Greenwich on Wednesday, October 30th, and resulted in a win for the Hospital by two goals (one penalty) and three tries or seventeen points to *nil*. Our opponents won the toss, and elected to play up the hill. Bennett kicked off, and following up hard, charged down the back's kick, and scored the first try. On restarting, play at once settled down in our opponents' twenty-five, and after a few minutes' play Marrack ran round the scrum and scored the second try, which was converted by Body. After this our forwards got rather slack, and the three quarters time after time dropped their passes, so that the game became very scratchy and scrambling. Play continued to be fairly even, though had we been playing up to form we must have scored frequently. Simmonds intercepted a pass and nearly got over, and on several occasions Hawkins was pulled up on the line. Just before half-time Marrack scored the third try, and we crossed over leading by one goal and two tries to *nil*.

On resuming, the game continued very scratchy. The forwards allowed our opponents to get the ball time after time in the scrum, and kept on kicking through instead of dribbling. From a free kick Bennett dropped a line goal from past the twenty-five line. Marrack shortly afterwards crossed the line, but was pushed into touch. The last try was also scored by Marrack, but Body failed at the kick.

Team.—H. Goodman (back); A. J. Wells, T. M. Body, S. F. Smith, E. G. Simmonds (three quarters); A. Hawkins, G. C. Marrack (half); J. C. A. Rigby, H. M. Cruddas, W. F. Bennett, J. K. S. Fleming, W. M. James, C. H. D. Robbs, F. J. Wood, H. C. Adams (forwards).

ASSOCIATION FOOTBALL CLUB.

Saturday, Oct. 5th.—ST. BARTHOLOMEW'S HOSPITAL v. FOXES.

This, the first match of the season, was played on the home ground at Winchmore Hill.

Kicking off late, Bart's pressed, and scored within the first few minutes. The Foxes team not being full, Brown lent them a man, thus making ten aside, France playing forward for them. After this Bart's again scored from a shot by Willett, half-time score being two goals to *nil*. After restarting, Bart's, keeping their opponents well within their own half of the ground, scored twice more before the whistle blew, goals being secured by Hay and Robinson, four goals to *nil*. Bart's team were not well together, but as it was raining hard the whole time it can be probably attributed to that.

Team.—E. P. Court, goal; R. P. Brown, L. E. Whitaker, backs; A. H. Bostock, H. J. Pickering, T. D. Dawson, half-backs; T. H. Talbot, E. W. Woodbridge, J. A. Willett, A. Hay, forwards.

Saturday, Oct. 12th.—ST. BARTHOLOMEW'S HOSPITAL v. EALING.

This match was played on the Ealing ground in the presence of a large number of spectators. Bart's were not quite in their full strength, and suffered a defeat by two goals to one.

The ball was kicked off by Woodbridge for Bart's, and taken down right to the opponents' goal, but after this the Ealing team pressed up well, and Bart's had great difficulty in getting the ball away. Following a rush in front of goal, Ealing scored their first point from a good shot by the inside right. A few minutes afterwards the ball was rushed through again, still at half-time the score stood at two goals to *nil*. After recommencing Bart's got well together, and more than held their own; getting up to the opponents' goal line they scored from a clever shot by Woodbridge. The game was very fast and exciting after this, but though pressing their opponents well Bart's failed to equalize. This probably can be accounted for by the excellency of the Ealing custodian, who saved shot after shot, and it is not too much to say that but for him Bart's would have scored at least one more.

For the hospital Talbot and Woodbridge were the best of the forwards, and Pickering of the backs.

Team.—E. P. Court, goal; R. P. Brown, L. E. Whitaker, backs; A. H. Bostock, F. Harvey, H. J. Pickering, half-backs; T. H. Talbot, C. A. Robinson, right wing; E. W. Woodbridge, centre; J. A. Willett, A. Hay, right wing forwards.

Saturday, Oct. 19th.—ST. BARTHOLOMEW'S HOSPITAL v. BARNES.

This match was played at Barnes, the ground being very slippery. Bart.'s had the best of the entire game. The score at half time was one goal to nil, the goal being secured by a good shot from Woodbridge.

Barnes then played up better, and from a fast run scored a goal. There might have been some doubt about this goal, as Bart.'s immediately claimed off side, but the point was given in favour of Barnes. After this Bart.'s played very determinedly, and Pickering, after an excellent piece of play, sent in an excellent shot which beat the Barnes custodian. Robison shortly after headed one through from a centre by Hay.

Team.—A. Pugh, goal; R. P. Brown and L. E. Whitaker, backs; A. H. Bostock, H. G. Pickering, and T. D. Dawson, half-backs; T. H. Talbot, C. A. Robinson, E. W. Woodbridge, J. A. Willett, and A. Hay, forwards.

Thursday, Oct. 24th.—ST. BARTHOLOMEW'S HOSPITAL v. ROYAL ORDNANCE.

This match took place at Maze Hill before a good number of spectators. Ordnance kicked off, but Bart.'s took possession, and ran the ball down to the opponents' goal, nothing, however, resulting. The game ruled very fast after this, though the ground was very slow. From a press in front of goal, Ordnance got the ball into the net. This was the only point up to half-time. After restarting Bart.'s seemed to slacken altogether, allowing the Ordnance to press repeatedly, goals being scored four times in quick succession. About five minutes before time from a smart run by the Bart.'s forwards, Talbot put the ball into the net, the score at the end being 5 to 1 against Bart.'s. Fox was very good in goal, and Joy at half, but the forwards were far too slow and deliberate during the second half to be of service.

Team.—E. H. B. Fox, goal; R. P. Brown (capt.) and L. E. Whitaker, backs; H. J. Pickering, N. H. Joy, and A. H. Bostock, half-backs; E. W. Woodbridge, R. Waterhouse, J. A. Willett, T. H. Talbot, and A. Hay, forwards.

Saturday, Oct. 26th.—ST. BARTHOLOMEW'S HOSPITAL v. WINDSOR AND ETON.

This match took place at Windsor before a large number of spectators, but the game was one of little interest. Bart.'s obtained one point during the first half from a smart shot by Woodbridge. Windsor then rallying ran the ball down, and notched a point, partly owing to the inefficiency of Bart.'s backs. After half-time another goal was scored for Bart.'s by Hay from a good long shot, Bart.'s thus winning by two goals to one.

Team.—E. H. B. Fox, goal; R. P. Brown and L. E. Whitaker, backs; A. H. Bostock, N. H. Joy, and H. J. Pickering, half-backs; T. H. Talbot, C. A. Robinson, J. A. Willett, E. W. Woodbridge, and A. Hay, forwards.

Wednesday, Oct. 30th.—ST. BARTHOLOMEW'S HOSPITAL v. R.M.A., WOOLWICH.

This match took place at Woolwich, and resulted in a bad defeat for St. Bartholomew's by four goals to two. Certainly we had not our full team, but the performance was anything but the true form of Bart.'s. Woodbridge scored two goals for Bart.'s, and at half-time the score stood 2 to 1. On restarting R.M.A. playing downhill seemed altogether too fast for us, and scored three times in succession. Their victory may be accounted for perhaps by the excellent combination of their right wing.

Team.—A. Pugh, goal; R. P. Brown and L. E. Whitaker, backs; A. H. Bostock, N. H. Joy, and H. J. Pickering, half-backs; T. H. Talbot, C. G. Watson, E. W. Woodbridge, G. A. Spear, and A. Hay, forwards.

The chief fixtures for this month are—

Wed., Nov. 6.—Casuals	at Winchmore Hill.
Sat., " 9.—Reigate	" Reigate.
" 16.—Beckenham	" Winchmore Hill.
Wed., " 20.—Hastings Athletic	" Hastings.
Sat., " 23.—V. M. S. C.	" Woolwich.
" 30.—Crouch End	" Hornsey.

MR. VERNON has informed the Abernethian Society that he will be unable to give the Midseasonal Address as previously arranged. He has, however, found a substitute in the shape of Mr. Henry Power.

St. Bart.'s Hospital Shooting Club.

THIS Club, which for many years had remained inactive, was revived last year at a meeting convened by some enthusiastic marksmen.

The first encouragement to the Club was given by Mr. Waring, who kindly accepted the presidency and worked most energetically, and gave an impulse, which we may hope will be lasting, by presenting a very handsome Challenge Cup to be shot for by members of the Club. The holder for this year is Mr. R. N. Geach, who won it under handicap conditions.

We sent in a team for the Inter-Hospital Cup, and considering the few opportunities the men had of practising, did not do badly. We were placed third on the list, St. Thomas's team winning by not too large a margin. The fact that only half the team had shot before at Bisley may account for the result, which we had fondly hoped might have been different. Six matches were shut off, the number being necessarily small, as the funds of the Club were limited, and the difficulty of arranging them for what was practically a new Club very great. The results are given below.

Two members of the Staff, Mr. Marsh and Mr. Read, very generously gave donations to the Club at a time when it was struggling for existence (*i. e.* funds). This year we have been amalgamated, and it is to be hoped that the Club will flourish, and more matches and opportunities for practice lead to a better result in the Inter-Hospital Cup. Freshmen and anyone who can or cares to shoot are requested to communicate with the Club officials, who will be delighted to give them all information in their power.

Matches.	Results.	
May 18th, v. St. Paul's School (8 aside) ...	347—307	Lost.
" 20th, v. Bedford Grammar School (8 aside) ...	410—346	Lost.
June 10th, v. Whitgift School (6 aside) ...	300—292	Lost.
" 18th, v. St. Mary's Hospital (6 aside) ...	362—244	Won.
" 19th, v. Dulwich College (8 aside) ...	389—385	Won.
" 22nd, v. R. T. E. C. Cooper's Hill (6 aside) ...	306—260	Lost.

Abernethian Society.

THE work of the 101st Session of the Society commenced on October 10th, the President, Mr. H. B. Meakin, being in the Chair.

Dr. Church gave the Introductory Address, choosing for his subject "The Rise of Physiology and its Influence on the Progress of Medicine." The attendance was good, and included the Nursing Staff who were not permitted, however, to grace the Library afterwards with their presence. It is to be sincerely hoped that their term of penance will soon have expired, and that the matron will in the near future discontinue her reluctance to accept invitations, and return again to the old order of things. Dr. Church's address was a most instructive one, and showed that the reader had spared himself no pains to gain a thorough acquaintance with the history of Medicine and Physiology. To make an abstract of what was obviously the condensed result of extensive reading is very difficult, and when accomplished is of such little value that we abstain from the task. After dealing with the history of Physiology, and paying a high tribute to the name of William Harvey, Dr. Church insisted upon the value of Physiology as a means of diagnosis in contradistinction to treatment, and as an instance the use of salicylic acid in rheumatic affections was quoted. Dr. Church said that no physiological experiment or reasoning could have suggested that drug, whereas clinical experience showed

it to be one of the most potent agents in the treatment of rheumatic affections.

In conclusion, the antitoxin treatment of disease was briefly reviewed, and the name of Pasteur mentioned in terms of praise and reverence. A very hearty vote of thanks was accorded Dr. Church, who in his reply said that he wished to associate himself with the younger members of the Hospital in their sports as well as in the wards.

Owing to the unavoidable absence of Mr. Maidlow, a Clinical evening was arranged for Thursday, October 17th. Mr. Phillips showed a case of Kaposi's disease in a girl of ten, pointing out that only thirty cases were on record.

Mr. Murphy showed (i) case of supposed thrombosis of superior vena cava; (ii) specimen of ruptured tubal gestation; (iii) four photographs of an early human ovum, probably not more than ten days old, and which he himself had discovered; (iv) two microscopical specimens showing the condition of the liver in congenital ascites.

Mr. Meakin showed two cases of chronic ulcers of the leg which he had successfully treated by a plastic operation. The results were commented on most favorably by all present.

Mr. Christopherson showed a case of mercurial tremors. Some microscopical specimens kindly lent by Dr. Kanthack, including a section of a psammoma, were exhibited by Mr. Bremridge.

On October 24th Mr. Rowland read his paper on "Foreign Methods of Serotherapy in Diphtheria." The paper was very exhaustive, and was received with much enthusiasm. As it is hoped to publish this either in the JOURNAL or separately, a further notice is unnecessary.

On October 31st Mr. Maidlow read his paper on "Biblical Medicine." Before calling on Mr. Maidlow the President referred to the death of Dr. Launcelot Andrews, a past president of the Society, and proposed a vote of condolence to his widow, which was unanimously accorded. This paper was undoubtedly amongst the most remarkable ever read before the Society, and gave rise to a personal controversy rather than a discussion. Leprosy, syphilis, surgical operations, gynaecology, and the longevity of the patriarchs were all included amongst the divisions of this paper. Even the person of Christ was not spared, and His death on the Cross formed a subject for clinical investigation. The paper was not lacking in definite conclusion, but the value of such conclusions and the evidence on which they were based can only be judged by those who had the opportunity of hearing the author. An impartial notice of the facts and consequent reasoning is well high impossible.

On November 7th another Clinical evening was arranged. Mr. Murphy found himself quite unable, amidst the constant worry of a house-physician's life, to find time for writing his paper. This is greatly to be regretted, because we rightly expected to learn something from a gentleman who has had such exceptional opportunities for obstetric work, and who has such a gift of putting his facts before an audience.

Mr. Murphy showed (i) case of primary spastic paraplegia in a man aged thirty-six; (ii) early multiple sclerosis in a man aged twenty-four, who had no history of syphilis or alcohol; (iii) a boy with an enormously hypertrophied heart, and loud systolic mitral murmur, who experienced no inconvenience therefrom; (iv) a case of syringomyelia. The case exhibited at the last Clinical evening as supposed thrombosis of the superior vena cava had since been proved on post-mortem examination to be a case of aneurysm.

Mr. Phillips showed (i) an epithelioma on the inside of the cheek involving Stenson's duct; (ii) specimen of hydatid with scolices; and (iii) photo of section of carcinoma of breast.

Mr. Collins showed a case of varicose veins on lower part of abdomen; the liver was not enlarged. The question of thrombosis of inferior vena cava was raised.

Mr. Crossman gave notice of his intention to propose that smoking be allowed at the ordinary meetings of the Society.

Although an effort has been made this season to supply a supposed want and one of which much was heard a few months back, the experiment has not so far been successful. We were told that a Debating Society was wanted, and that the Abernethian Society provided no such opportunity for practising embryonic debating powers. The papers last year were read by members of the Teaching Staff, and it was argued that students were unwilling to venture any remark in the presence of such authority. No such objection can now be raised, as the papers this year are by members of the Resident Staff, and by students not yet through their qualifying examinations.

It is hoped, therefore, that gentlemen will, for the remainder of the session, take more active parts in the discussion, and regard the Abernethian Thursday evenings as the meetings of the Debating Society for which so many showed themselves anxious.

Smoking Concert Club.

NEW lease of life seems to have been taken by the Club with its removal from the St. James's to Frascati's Restaurant. Whether the atmosphere of Oxford Street is more suitable to Bart.'s men than that of Piccadilly may be an open question, but certainly the change seems to have brought a great increase in the number of men, judging from the last concert, held on October 26th.

About 140 were present, but instead of the unpleasant crowding which that number would have produced in the old French room, every one had plenty of elbow room, and one could even "promenade" in the intervals without inconveniencing the other spectators. The programme was an excellent one, but we are sorry that so few Bart.'s men seem willing to air their talents before their fellow-students. Is it laziness or modesty? We do not know, but we might remind them that we have it on very good authority that it is not good to hide one's light under a bushel.

One usual performer was much missed, and that was "Freddy" Gale. We are so accustomed to his topical songs, that his absence is as noticeable as that of bread at meals. He is, however, going to appear once again, at a concert which is to be given especially in his

honour, on November 30th, at the Banqueting Hall, Frascati's. There is no necessity to counsel those who have once heard him to go, but we take this opportunity of telling those who have not that this is their last chance, because he is off to New Zealand at the end of the year. He goes to practise out there, and if Physis is covered by the definition of a foreign writer, who some little time ago stated that "Physis was the art of amusing the patient, whilst Nature cured the malady," he ought to be a most successful practitioner. By the way, at the next concert he is to sing his latest composition, "The Doctor." We have only one remark to make: it seems a long while to wait till November 30th to hear it.

Mr. J. K. Birdseye will on the same occasion appear, and sing "The Birdseye Pill," which Mr. Gale has written and set to music especially for him.

The secretary, Mr. Stowe, is to be congratulated on the programme, which showed skilful arrangement, entering for the musically inclined with Mr. John Macaulay's well-trained and melodious voice, and for the lovers of farce in Messrs. C. G. Meade and Dick Welch's funny songs.

We were delighted to see an old Bart.'s man, Dr. E. H. Lemon, appear on the stage, and quite an inter-hospital tone was given by a Mary's man, who gave a funny recitation late in the evening.

Among others who sang were Mr. S. F. Smith, who sings very pleasantly, and whose voice has much improved since last year, and Mr. Holland-Wade, who sang "The Yoman's Wedding," uncommonly well. It is rather a pity that he plays his own accompaniments, as it tends to muffle his voice and diminish the effect. Mr. C. G. Meade, who ineffectually tried to hide his well-known features under a carbon mask, convulsed the audience in "The Dandy Coloured Coon." The Junior Staff were present in force, and it was especially gratifying to see Mr. Walsham, whose kindness in publicly recognising the amusements as well as the work of the students was acknowledged by loud cheering.

Tickets for the season, or for individual concerts, can be obtained either from Messrs. Stowe and Powell, the secretaries, or from members of the committee.

Two Sides to the Question.



STUDENT by the fountain stood
In grim and melancholy mood;
Upon his face a sullen look,
Beneath his arm a ponderous book
With mien of weariness profound
He thus exclaimed to those around:
"Ye gods! good heavens! what a life!!!
A scene of worry, toil, and strife;
One cruel, crushing list of exams,
One endless vista of exams,
A prospect which I can't abide:
Oh! would that I were qualified!
Then would this life of toil cease,
And all in future would be peace."

Hard by there lounged another wight
In similarly woeful plight:
A fully licensed doctor he,
M.R.C.S., L.R.C.P.;
And yet, in spite of his success,
He was in trouble none the less.
"For five long years," aloud he said,
"I toiled till I was nearly dead;
I qualified a year ago,
But can't find anything to do;
A few odd locums—not too many,—
Bar those I haven't made a penny.
To qualify is most imprudent;
Ah! would that I were still a student!"

PERFECTUS.

A GENERAL Meeting of the Teachers in the London Schools of Medicine is to be held on November 20th at the Examination Hall on the Embankment, to urge upon the Government the necessity of reform of the University of London.

A Lament.



LAS, poor Fountain! Well beloved by all
Who have been wont to sit around thy rim,
Smoking contentedly the pipe of peace,
And gazing far into thy murky depths,
What time they wait the tardy surgeon's wheels;
Or when they wish to while away an hour,
Or have no better occupation
Than idle talk.

Thou wast not beautiful,
Yet was there something almost picturesque
About thy mottled surfaces—the limbs
Of the fair cherubs that support thy cup.—
Some black, some grey, some of a piebald hue,
Their faces dappled with the marks of time,
Betokening an honorable age;
While far above their heads the water-spout
Towered, with a certain sense of majesty,
Casting the water scornfully around,
As if in wild attempt to wash away
Th' accumulations of so many years.
But now, alas! thou'rt altered out of ken;
Thou hast been washed, revived, renewed,
And covered with a daub of gruesome paint
That renders thee no longer picturesque,
Deprives thee of the reverend respect
To which thy sceming age entitled thee,
And makes thee look abominably new
And most aggressively monotonous.
One consolation still remains: perchance
November fogs, and winter's chilly blasts,
With now and then a smattering of snow,
Assisted by the never-ceasing cloud
Of soot and smoke which hovers o'er thy head,
May, sooner than we think, undo the deeds
Accomplished by "Improvement's" ruthless hand,
And make thee look thy dear old self again.

PERFECTUS.

Award of Entrance Scholarships.

The examination for these scholarships, held on September 25th, 26th, 27th, and 28th, has resulted in the following awards.

Senior Entrance Scholarship of £75 in Biology and Physiology:
C. S. MYERS, B.A., Caius College, Cambridge.

Senior Entrance Scholarship of £75 in Chemistry and Physics:
J. S. WILLIAMSON, Prel. Sci., London.

Junior Entrance Scholarship of £150 in Biology, Chemistry, and Physics:

R. C. BOWDEN, } *Æquales.*
R. H. PARAMORE, }

Preliminary Scientific Exhibition of £50 in Biology, Chemistry, and Physics:

J. C. M. BAILEY, Prel. Sci., London.

Jefferson Exhibition of £20 in Classics and Mathematics:
H. A. KELLOND-KNIGHT.

We congratulate these "freshmen" on their success, and hope they may have prosperous careers both at Bart.'s and in after life. C. S. Myers took some science work at Bart.'s three years ago before going to Cambridge, where he has done well in the Natural Science Tripos.

J. S. Williamson, R. C. Bowden, and J. C. M. Bailey have been studying during the past year in the Preliminary Scientific Class, and their success now shows that they have employed their time well.

R. H. Paramore joins us now for the first time. He has passed the Int. B.Sc. and Prelim. Sci. at the University of London, and was educated at the Merchant Taylors' School.

H. A. Kellond-Knight also is a new-comer. He has passed the London Matriculation Examination, and was educated at King's College School.

Appointments.

BAILEY, R. C., M.S., F.R.C.S., has been elected Assistant Surgeon to the Metropolitan Hospital.

GARSTANG, T. W. H., M.R.C.S., M.O.H. to the Knutsford Urban District Council, has been appointed M.O.H. to the Bucklow Rural District Council.

LAMPLUGH, C., M.R.C.S., L.R.C.P., has been appointed Resident Clinical Assistant to the St. Marylebone Infirmary.

RICE, S. E., M.R.C.S., L.R.C.P., House Surgeon to the Royal United Hospital, Bath.

PECK, W. G., B.A., M.B., has been appointed Surgeon to H.M.S. "Raven."

SPICER, H., M.B., has been appointed Surgeon to H.M.S. "Benbow."

Pass Lists at Examinations.

First Conjoint.

Elementary Anatomy and Physiology—Nicholas Walmsley.

Materia Medica and Pharmacy—G. S. Haynes, F. E. Meade, T. W. Brown, D. Jefferson, C. S. Scott.

Elementary Anatomy—G. E. Cathcart, C. D. A. Dowman, F. E. Everington, and J. Perks.

Elementary Biology—S. K. Roberts and H. H. Sloane.

Chemistry and Physics—T. B. Haig, D. A. H. Moses, T. Young.

Second Conjoint.

Anatomy and Physiology—S. Hoy, B. E. G. Bailey, F. N. Berryman, A. H. Brewer, G. G. Campbell, W. H. Cazaly, E. P. Court, J. Dalebrook, J. K. S. Fleming, C. L. Francia, N. H. Joy, A. R. Kay, I. L. Morris, F. G. Richards.

Anatomy—W. Ansdan, A. W. Penrose.

Physiology—G. B. Nicholson.

D.P.H. Cambridge—J. Galletly, D. C. Muir.

M.D. Durham—R. L. Meade King, F. Syrett, L. C. Thorne-Thorne.

L.S.A. Primary.

Anatomy and Physiology—C. E. Hogan, B. S. O. Maunsell.

Anatomy—J. C. S. Dunn.

Physiology—A. H. Fitzgibbon.

Final L.R.C.P. and M.R.C.S.

The following, having completed the examination, have received their diplomas:—F. A. Smith, R. W. Gilmour, G. Miller, A. J. H. Boyton, A. N. Wilde, F. B. Madden, W. W. Giblin, A. F. A. Flower, W. H. Farmer, E. L. Evans, J. H. Dodman, T. A. Barron, A. A. Rogers, E. A. Lermite, A. H. Beadles, M. A. Cooke, P. W. G. Shelley.

Correspondence.

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

SIR,—May I, as a country practitioner, make a few remarks on Dr. Cautley's capital paper on the Artificial Rearing of Infants on Cow's Milk in your October issue.

With what he says about the over-feeding of infants, the non-necessity, and even non-advantage of one cow's milk (which is rarely obtained) and the advantages of the boat-shaped bottle I cordially agree, though as regards the washing of the bottles I usually advise cold water first, as the hot is apt to coagulate the milk, and make it difficult to remove from corners, &c.

Where I differ from him is in the distinction he draws between town and country milk, to the disparagement of the former. In the rural

districts the poor can hardly obtain milk at all, and even near small towns the best dairies send their regular supply to London and other large centres, or to the newly established creameries; the result is that small towns and villages are supplied by small dairies in which the supervision is practically *nil*, and I doubt there being any washing of hands or udders at 4 and 5 a.m. on a cold winter's morning. Testing milk, too, is but little done; only a short while ago I saw a lively stickleback that had been found in the morning supply.

On the whole, I think the small boy who preferred the town milk because it came out of a nice clean can, to the country milk which came from a dirty cow, was not far from right; and I think the London milk will, on the whole, compare favorably with that of any other place in England. CHARLES P. HOOKER.

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

THE ST. BARTHOLOMEW'S HOSPITAL AMATEUR DRAMATIC CLUB.

SIR,—The "Dowager Duchess" has spoken—thank Heaven she has spoken in time! The Dramatic Club may yet escape the calamities that threatened its existence. The "Dowager Duchess" warns us in quavering tones that the assumption of ladies' parts by ladies at the Christmas entertainment is "certain to sap the very vitality of the Club." The dear, garrulous, presbyopic old lady gazes through her spectacles, and sees in her imagination the members of the Club at rehearsal tottering under the paralyzing influence of female co-operation, with haggard faces and unsteady gait, with shattered constitutions and all the signs of premature decay.

With bated breath she whispers to us of the difficulties of the "chaperon" and the "escort," and she shudders (not unnaturally) when she conjures up a picture of the Great Hall filled with old ladies as garrulous as herself, and the Hospital square held by an escort of Household Cavalry to conduct the young ladies home.

"There is much to be said also," continues the old lady, "on the restraint exercised behind the scenes during the play being very irksome," and she seems to look back with fond regret to a time when, we are led to suppose, the dressing-rooms were scenes of wild orgies and of ribald horse-play, of which pleasures the Club would be deprived for ever by the misguided introduction of a chilling female element.

Really, sir, it is difficult to regard the "Dowager Duchess" seriously. As to whether she is fair in her criticism of your editorial I am not in a position to judge, having but cursorily glanced through the latter; but I contend that the arguments of her own irresponsible and somewhat incoherent letter are so absolutely specious as to justify the suspicion that her intelligence is falling through age, or that she is the most distinguished old gossip in existence. As a specimen of her plausibility and speciousness, we may take her argument that "the complaint of insufficiency of parts for the members of the Club" (a complaint, by the way, only born of her prolific imagination) "would be doubly intensified by the characters being undertaken by ladies." This seems to carry conviction, but as a matter of fact it is the opposite of the truth. By employing ladies, a vast number of plays with longer casts of male characters than we have ever had would be placed at the disposal of the Club.

"There is also this very serious conclusion to consider," continues the "Dowager Duchess," "that professional ladies add very materially to the expenses of the Club, and if amateurs are not necessarily as good actors as the students." To one unused to the Dowager's incoherent methods of expression this conclusion is at first sight eminently serious and a trifle puzzling. I take it the old lady means to say "that ladies, if professionals, add very materially to the expenses of the Club, and if amateurs, are not necessarily," &c. This, and all the above points, refer to the internal economy and opinion of the Club as at present constituted, and are questions on which the members of the Club are unanimously agreed.

As a matter of fact, the last thing in the world we desire is the support of professional actresses. All we ask for is the assistance of two or three ladies, intimately related (sisters, cousins, or aunts) to the members of the Club. We ask less in this respect than the liberty granted to the Musical Society in its share of the Christmas entertainment. All the arguments that apply to us in this matter apply equally to the Musical Society. We are entirely at one with the Duchess when she says the Christmas entertainment is a "réunion en famille," and the audience "do not come to see a company rivalling in dramatic art our best London theatres." Now, we take it, the members of the Club, who obtain entrance to St. James's Hall for the small outlay of one shilling. They come to laugh and talk, and to wish each other a Happy New Year; they come to derive such pleasure, as the occasionally successful efforts of their amateur friends may happen in rare instances to afford them, and they come especially to enjoy their own sparkling conversations of

satire, and the subtle pleasures of criticism always to be derived from discoursing on amateurs with a mild if not brilliant sarcasm. This is what every amateur must expect and good-humouredly accept. But our musical friends have at least a clear field in which to do their best seriously. They are not asked to play with only two strings to their violins, or with an arm tied behind their backs, or standing on their heads, because their efforts under such conditions would cause more amusement to the audience (as it undoubtedly would), or because "the patients like it." And yet, sir, this is precisely what we are asked to do. If we represent a play with any love interest in it, not only is the man playing the woman's part placed in a humiliating and unseemly position, but all those brought in contact with that part are rendered ridiculous in exact proportion with the earnestness and success of their efforts. Living as we do in a scientific atmosphere, we cannot regard acting very seriously. But we like at least to think of it as an art, although an inferior one. This is the *raison d'être* of our existence as a Club. If we move an audience to laughter or to tears, we wish to do it by legitimate means, by methods paralleled to those of the Musical Society, some natural capacity and love of the work, and such practice as is possible—not by rendering ourselves personally ridiculous in aping the anatomy and characteristics of the opposite sex.

Amongst the many "cogent" reasons against ladies the "Dowager Duchess" quotes the "silent but steady disapproval of the Hospital authorities and staff, and also of our worthy President himself, Mr. Cross." This is indeed a cogent reason, for, putting it plainly, it consists in the absolute prohibition of lady support by the treasurer and almoners. We have nothing to say to this. We understand and appreciate their point of view, although we do not agree with it. They come to their own conclusions on their own grounds, but they are not the grounds of the "Dowager Duchess." Mr. Cross and all the Hospital authorities have always treated us with the greatest kindness and consideration; in fact, if had not been for the fatherly advice and support of the former the Club would never have come into existence as far as the Christmas entertainment is concerned. We accept—we are obliged to accept their decision in the matter, but we object to the misrepresentation of our position and of our desires published in your columns by the "old member and assistant stage manager" who hides his identity under the pseudonym of "the Dowager Duchess." Faithfully yours,
STEPHEN TOWNSEND.

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

SIR,—In the September number of your valuable paper there appeared a very able article on the Hospital Amateur Dramatic Club, in which the question of the admission of ladies to take part in the Christmas entertainment was, perhaps somewhat forcibly, advocated.

In the next number, that of October, a letter was inserted over the signature of "Dowager Duchess" discussing this question chiefly, and opposing it on various grounds. The question itself has since been definitely settled by a meeting between the treasurer, Sir Trevor Lawrence, and a selected sub-committee of the A.D.C., and the decision arrived at on that occasion must of course be regarded as final. At the same time I cannot help thinking that a few final words may, with strict propriety, be allowed to those advocating the innovation.

Your correspondent "Dowager Duchess" begins by quoting the failure of the new feature in 1886, and adds that this failure was admitted by the writer of the first article. He, however, entirely omits to mention the difficulties to which the Club was put on that occasion, viz. the unfortunate indisposition of the selected ladies, and consequent appearance of comparatively inexperienced understudies, who, in addition to their disadvantages, had a too short series of rehearsals; not to mention the unsuitability of the play, also freely admitted, which of itself was, in many opinions, quite sufficient to account for the want of success. The second objection raised by "Dowager Duchess," viz. the disapproval of the Hospital authorities and staff and of Mr. Cross, is undoubtedly a good one, and a most powerful one; nay, more, this one thing alone is sufficient to close the question now that the reason for such disapproval has been given.

The third objection—curtailment of freedom, times, and duration of rehearsals, &c., and difficulty in arranging the same—appears, I think, tolerably easy to overcome, and not entirely devoid of selfishness; i.e. as far as the freedom is concerned. The so-called complaint of insufficiency of parts for members of the Club, which forms the next objection, no longer exists, I believe, the difficulty of the present committee being to find enough members to take parts at all, more especially female parts.

Professional ladies, "Dowager Duchess" tells us, add materially to the expenses of the Club, and amateurs are not necessarily as good actors as the students. True: but then no one ever proposed to get

professional aid in the first place; and, secondly, though not necessarily better, ladies are very much more likely to be successful in portraying female *roles* than men, and, at any rate, do not incur the charge of vulgarity and indelicacy, a subject which "Dowager Duchess" refrains from touching upon.

The next objection—the restraint behind the scenes and curtailment of green-room and dressing-room accommodation—may, I think, be placed in the same category as that with regard to curtailment of freedom and arrangement of rehearsals; the dressing-room difficulty is, of course, a great one, but surely not insuperable.

Lastly, "Dowager Duchess" winds up by saying that patients and nursing staff prefer to see the ladies' parts taken by men. This I am willing to admit; but when he goes on to say that the surgical and medical staff, students, and their friends prefer it, I think he goes too far. To those intimately connected with the Hospital, and personally acquainted with those acting, it may be comic to see their unfortunate friends struggling with insurmountable difficulties, but it is not kind, and I cannot but think, with the writer of the article in your September number, that to many there must be something repulsive about the whole proceeding. The Club is further reminded that it is not expected to rival the Lyceum or the Garrick. I never heard of any amateur dramatic club that was expected to do so, and yet nearly every club (I can only think of about three exceptions) is assisted by ladies; and why should the presence of ladies in ladies' places be considered a sign of superfluous ambition? Surely the opposite is more akin to an undue emulation of eccentricity.

However, the whole question is settled now. The Club have heard the cause of objection to the scheme, and have agreed to abide by it; and I have every reason to believe that they recognise the reasons of objection as amply adequate, so there is no more to be said. At the same time I think "Dowager Duchess's" letter, if left unanswered, might produce an erroneous impression. Hence this effusion.—Yours faithfully,
ANOTHER LATE ASSISTANT STAGE MANAGER.

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

SIR,—I have been much interested in the letter which appeared in your October issue signed by a late assistant stage manager, "Dowager Duchess," in which the writer so strenuously opposes the co-operation of ladies in the plays produced by the A.D.C. at the Christmas entertainments. I am anxious that some of his statements, based apparently on the position of the Club during its early years, should not pass without comment.

With regard to the failure of 1889, I think I may say that it is fully acknowledged by all that the one performance given inside the Hospital in which ladies took part did not turn out a success; but the reason of this was not because ladies were admitted, but because at the last moment the chief lady had to resign her part, and the committee had but a few days to fill the vacancy.

Such an accident as this might occur at any time to the Club, irrespective of the admission of ladies, and with the same unfortunate result.

Your correspondent, by the way, quite ignores the two very successful shows given by the Club at St. George's Hall in which ladies took part.

As regards the opposition of the Staff on this matter, I am told that they by no means unanimously condemn the proposed change; and the President of the Club has himself said that he keeps an entirely open mind on the subject, and would on no account seek to dissuade the authorities from giving their consent to the admission of ladies.

With regard to the freedom of rehearsals, I apprehend that it would not be hard for the members of the Club to put some restraint upon themselves in the presence of the fair sex; whilst as regards the time at which rehearsals could be held, the ladies are far easier to suit than the male portion of the company, who is so fully occupied with hospital work.

The arrangements as to chaperonage devolve upon the ladies, and need not arouse the anxiety of the Club. As regards the outcry as to the insufficiency of parts for the members, the "Dowager Duchess" loses sight of the fact that the increase in the choice of presentable plays would enable the executive to overcome this difficulty entirely.

Neither is it necessary that professional actresses be employed, but nor is it a foregone conclusion that all amateur ladies would be but indifferent players. Surely, even if this were so, a lady's part played indifferently by the same part played by a six-foot student.

I cannot bring myself to believe (as your correspondent intimates) that the nursing staff place the caricaturing of their sex by men

above the advantages of better chosen plays and a more refined and artistic entertainment.

Finally, I cannot agree with the "Dowager Duchess" that because we started in a modest and unpretentious style, we should so continue, and set our faces against any suggested improvements, simply because the Christmas entertainment is a homely one. Were the "buffoonery" good of its kind, and were its quasi-success not due more to its taunts than its merits, I should not take up the position I have; but since it is what it is, I can only quote the words of the "Dowager Duchess," "that it would be infinitely better to take Drury Lane Theatre for a succession of nights during pantomime season, and arrange for the patients, nurses, and staff to be transferred there."—I am, dear sir, yours faithfully,
LATE STAGE MANAGER.

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

THE DRINK OF CHRIST ON THE CROSS.

SIR,—Another interested? and I evidently mean the same thing, and I should not trouble you with any further remarks were it not that he says that some of my previous ones require criticism. I regret that in my endeavours to condense them I have become obscure, and left not only "Another interested," but possibly others of your readers to misunderstand the meaning of my remarks on myrrh. Dr. Moidlow had said in his paper that the word "gall" is generally used to mean aught that is bitter." Writing with his paper before me, it did not occur to me that in saying "the word myrrh is considered to be used in a general sense like the word gall, as meaning some resinous or gummy substance," I should lead the reader to imagine that I meant to imply that gall was of a gummy or resinous nature. I see now that, in order to make my meaning clear to those who had not Dr. Moidlow's paper before me, I ought to have said "the word myrrh is considered to be used in a general sense as meaning some resinous or gummy substance, just as the word gall is used in a general sense to mean anything that is bitter." Although neither St. Matthew nor St. Mark actually says that Christ drank of the unmedicated vinegar offered to Him to slake His thirst, yet the expression they use, "gave him," when used in reference to meat or drink, almost invariably implies reception, as well as offer, unless the contrary is expressly stated. Even the Psalmist's complaint (Psa. lxxix, 21), "They gave me also gall for my meat, and in my thirst they gave me vinegar to drink," seems to imply that he was forced by necessity to receive what was given him, however disagreeable it might be.

I am, dear sir, yours faithfully,

ONE INTERESTED IN THE SUBJECT.

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

CONCERNING LAUDANUM.

SIR,—Thinking some of your readers might be etymologically inclined, I venture to draw attention to some points concerning laudanum.

However much to be praised is Tinct. Opii, there is much reason to think that laudanum and the Latin *laudo*, with its gerundive *laudandus*, are not primarily connected. Browning ("Paracelsus") seems to think that laudanum, meaning thereby opium, was first used by that rathoverrated Theophrastus, var. Hohenheim, syn. Paracelsus, who lived A.D. 1493–1541. But the poppy (*papaver*) is frequently mentioned in Homer, as well as a drug nepenthe (Od. iv, 220), which is usually considered the fair Helen's soothing potion. As Pope says,—

"I assuage
The boiling bosom of tumultuous rage,
To clear the cloudy front of wrinkled care,
And dry the tearful sluces of despair."

Hippocrates ("De Morb. Mul.", lib. iv, 670) also mentions opium, and it was known to Dioscorides. It is derived from *opium*, the juice (of poppy). The points I wish to emphasise are (1) that opium was well known before Paracelsus; (2) laudanum was not at first an opiate; and (3) its connection with *laudo* is an accident.

Now medieval writers speak of laudanum and laudanum indiscriminately. Laudanum was a gum-resin derived from a species of cistus (N.O. Leguminosae), and is so described in Pereira ("Mat. Med.", ii, 263) in the nineteenth century. Subsequently the term became applicable to any gum, such as aloes, myrrh, and especially to opium. So far from the laudanum of Paracelsus being an opiate, after his death we find Michael Toxicus declaring "laudanum" is not opium, nor does it contain any poisonous or narcotic agent. In the middle of the seventeenth century we hear of Sydenham's "liquid laudanum," "Laudana Opiata," and Laudanum sine Opio; so far

had the origin of the simple laudanum been forgotten. Sydenham's laudanum consisted of opium with various aromatics dissolved in sherry wine, the probable origin of Vin. Opii. Sydenham's name is as recently associated with opium as 1720, where Ext. Opii Liq. = Liq. Sydenhami.

Apologising for occupying so much of your valuable space, I am, dear sir, yours faithfully,
M.

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

SIR,—I see with the very deepest regrets a report of Mr. Mark Morris's death. For some time past I have been wishing to ascertain, through the medium of this journal, the possibility of obtaining an engraving of his portrait, which now hangs in the Steward's office, superintending the work there while he is absent. I am myself very anxious to have one, and I am sure that a very great many past and present sisters and nurses and Bart's men feel as I do; and if some one will only take this matter in hand, and send round circulars, there will be a long list of subscribers.

No one was ever more popular, and no face will ever recall more vividly our time spent at the old Hospital with all its surrounding memories. Very few probably know that he left the Hospital only a short time ago on account of failing health, and now one can hardly realise the fact that we shall never see him again as Steward where he has worked so long and so kindly.—I am, faithfully yours,
J. P. STREEDMAN, F.R.C.S.

Streatham, S.W.

N.B.—The cost of an engraving will be about £100. Supposing 250 subscribers, each copy will be about 10s. 6d. An autotype would be much less.

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

SIR.—The following letter, received by one of the house surgeons a few days ago, may be considered of sufficient interest to justify its reproduction in your columns.

[Confidential]

"c/o Post Office,

"—shire.

"To House Surgeon, St. Bartholomew's Hospital.

"SIR.—In 'Tit-Bits' last week I saw mentioned a case of where a man had sold his body to a society of surgeons for experimental purposes after death. Is such a thing possible? If so, would you mind letting me know whom to apply to?

"Am an actor (provincial), well experienced, but utterly unable to apply for shop in any better company, as my wardrobe is in an awful state—what is not in pawn or left as security at 'digs,—and see no prospect of ever saving a penny towards new clothing or stage props, as only just get enough to clear expenses in each town.

"I would willingly mortgage my body for use of surgeons after my death if only I could get £20 or so now; but I expect this sort of thing can't be done. Sorry to trouble you.—Yours truly,

New Drugs.

MENTHOL SNUFF.

Messrs. Burroughs, Wellcome and Co. have sent us a specimen of the new mode in which they are supplying menthol snuff. This is a neat little package which can be carried in the pocket without inconvenience. Menthol snuff is composed of menthol, cocaine ($\frac{1}{2}$ per cent.), ammonium chloride, camphor, and lycoperidum. It has been found useful in the treatment of catarrhal conditions of the nasal cavity. Its use is not unpleasant, and has certainly seemed to do good in those cases in which we have tried it.

Obituary.

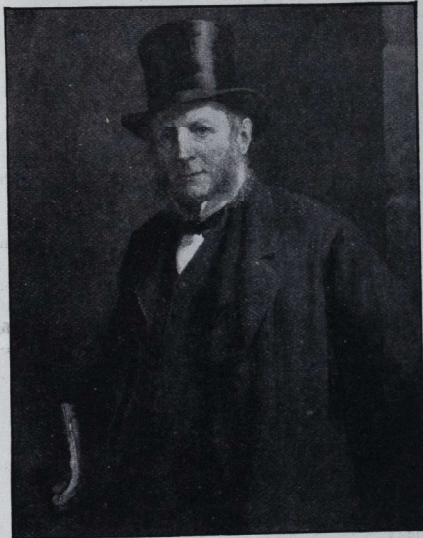
By the death of the Steward the Hospital has lost a faithful and devoted servant, while old Bartholomew men have to mourn the death of an old and much-respected friend. He was born at Stoke Damerel, Devon, in August, 1818, and was educated at the Devonport Classical and Mathematical School, which at that time was in high repute.

In 1840, Mark Morris first came to the Hospital, and was appointed Subcurator of the Museum. In 1850 he became Curator of the Surgery, and in 1859 he was promoted to the Stewardship of the Hospital, continuing to discharge the duties of that office until a very short time before his death.

Without any training for the special work of the Museum, the Surgery, or the Steward's office, he was singularly successful in discharging the widely different duties of his various appointments to the entire satisfaction of his superiors, and without any sensible friction in his dealings with his equals and subordinates; at the same time he gained the friendship and respect of almost all who were brought in contact with him.

Sir James Paget said of Morris when presenting him with his portrait, "When Morris came to assist me in the Museum the work was new to him, he had no special training for it, no special admiration for it, but he learned it carefully and never neglected it. He did everything punctually, without seeming to care whether it were much or little, difficult or easy; he seemed only to feel that it was his duty, and he did it as well as he could. I cannot remember that I ever had occasion to find fault with him, and I have always thought of him as one whose career might be cited as an example of the good of simply doing one's duty, and of the reward to which ordinary duties well done may attain."

Morris possessed in a singular degree the power of adapting himself and his demeanour to the needs and increasing responsibilities of his successive appointments, and those who only knew him of late years as a sedate and kindly steward, sitting screened from public gaze in his box in the office, can have no idea of his physical and mental activity



forty years ago, when he was curator of the surgery. At that time he lived in the rooms off the surgery, which now form the surgery ward, and his duty was to maintain order, to direct the porters in their duties, to marshal the patients, and to keep the dressers to their work. He did maintain excellent order and good discipline, but not without the use of very vigorous English, impartially distributed among porters, patients, and dressers, and greatly helped by his ready wit and an inexhaustible power of repartee.

Possessing a strong individuality, very outspoken and straightforward, in chaff no one could get the better of

Mark Morris, he was a master of the art, and in the exercise of this craft he neither gave nor took offence. In his small domain he was a most genial but despotic ruler, and I cannot remember any resistance to his authority, nor that anything but a most kindly feeling existed between himself and the dressers, of whom I was one at that time. In the Steward's office his duties brought him into administrative relations with the whole nursing staff, with whom he was deservedly popular, and by whom he was greatly respected, both as a compassionate almoner of the Samaritan Fund, and as just and wise in maintaining discipline among the patients.

As Steward, Mark Morris served the Hospital faithfully for thirty-six years, discharging the somewhat difficult and delicate duties of that office wisely and well, earning the approbation of the Treasurer and Governors, and the personal regard and goodwill of the entire staff of the Hospital.

No notice of Mark Morris would be complete without mention of his artistic taste which led him to collect works of art and especially old engravings, in which he took great delight, and of which he was said to be an excellent judge. His own portrait by Oulless which hangs in the Steward's office is a striking likeness, and will remain a permanent memorial of one who was diligent in his business, faithful as a steward, compassionate to the poor, and a warm-hearted friend.

The accompanying portrait, which is characteristic of our

late friend, is reproduced from a photograph, and not from the oil painting referred to above.

On October 29th, 1895, there passed away, at the early age of thirty-one, one whose memory will long be cherished by most of those who have been students at Bartholomew's during the past thirteen years, and by those of his seniors with whom he was most brought in contact. By some LAUNCELOT ANDREWS will be best remembered as a member of the Junior Staff for two and a half years; by others as President of the Abernethian Society, and by others again as an active member of the Rugby Football team; but the many who enjoyed the privilege of his more intimate acquaintance will always think of him as an earnest and helpful fellow-worker, and as a genial friend.

In all matters relating to his profession, Launcelet Andrews took the deepest interest, and upon all, even the most recent advances, he brought to bear a highly-trained mind and a great natural ability. He was a man who took nothing for granted, subjecting every detail that came under his notice to careful thought and shrewd criticism. These high qualities render his untimely death a sad loss to our profession as a whole, but to his friends the loss is a far greater one, for to them he was endeared by the possession of other even higher qualities.

Launcelet Andrews was born on March 1st, 1864, and was the eldest son of the Rev. W. R. Andrews of Treford Ewyas, Wiltshire. After passing through Haileybury College he entered St. Bartholomew's in 1882. He became in due time a Member of the Royal College of Surgeons and a Licentiate of the Royal College of Physicians, and afterwards proceeded to the M.B. and M.D. Lond. and took in 1893 the D.P.H. of Cambridge.

As already mentioned he held in succession the offices of House Surgeon to Sir W. Savory, of House Physician to Dr. Andrew, and of Ophthalmic House Surgeon to Mr. Power and Mr. Vernon.

On leaving the Hospital he started in general practice at Stamford, but shortly returned to London, married, and settled in Cheyne Gardens, Chelsea. Even then he kept up his interest in hospital work, acting for a time as Assistant Electrician to St. Bartholomew's, as Clinical Assistant at the Royal South London Ophthalmic Hospital, and as Surgeon to the Sloane Square Dispensary.

In the early part of the present year he submitted to removal of what, contrary to expectation, turned out to be a carcinomatous growth, and during his summer holiday in Switzerland and at Eastbourne he began to suffer from pain in the back, which was the earliest symptom of a secondary growth in the abdomen. This increased in size with much rapidity, and after a few weeks of severe suffering, alleviated by the devoted and skilful care of his wife, who had previously been Sister in the John ward of our Hospital,

he succumbed to its progress. Even during his last illness his mind had lost none of its wonted activity, and he delighted in seeing and talking with his many friends, to whom he has left the example of an upright and noble life and of suffering bravely borne. Those who had the melancholy privilege of being with him at the end will not easily forget the calm heroism with which he faced the onset of death.

By the death of Mr. FRANK MARSH WRIGHT, on August 23rd, the medical profession has lost a valuable member. Having arranged to go with some friends for a day's outing, and in ignorance that the train agreed upon started four minutes earlier than formerly, he reached Bottesford Station just in time to see the train steaming away. Seeing his friends in the last compartment of one of the carriages, he attempted to get in and grasped at the carriage railing; but missing it, fell in between two carriages, and was so terribly injured that he died within a few minutes. Mr. Wright, who was a native of Bottesford, received his early education at Derby School, and subsequently began the study of medicine as a pupil at the Nottingham General Hospital. Thence he passed, in 1881, to St. Bartholomew's Hospital, where he pursued his studies with credit and distinction. He was Foster prizeman in anatomy in 1883, and Prosector of Anatomy to the Royal College of Surgeons in 1883-4. He obtained the L.S.A. in 1884, and in the following year became a Member of the Royal College of Surgeons. Having fully equipped himself for the work of a general practitioner, he returned home to Bottesford, and joined his father, Mr. James Wright, who had carried on a very extensive country practice there for many years.—*Brit. Med. Journ., September 14th, 1895.*

Reviews.

HYGIENE AND PUBLIC HEALTH, by Louis C. Parkes, M.D. (London, H. K. Lewis, 1895, price 10s. 6d.).—This text-book of hygiene and public health has reached its fourth edition within almost so many years, a fact which speaks well for its popularity with students and practitioners. The present edition has been revised, and to a slight extent enlarged where the author has thought additions have been requisite in order to keep the book well abreast of the recent advances which have been made in the science of hygiene and public health. In the chapter on communicable diseases an account of the method by which the antitoxin serum is now used in the treatment of diphtheria is given, and a simple statement is made that this serum has the power not only of conferring immunity upon animals, but also of arresting the disease after it has commenced in the human subject. We think that it would have been wise to add a few more details concerning the results of this method of treatment, and not to have made the unqualified statement which has just been quoted. Considered as a whole the book presents a very clear and moderately short account of the present state of the subject upon which it treats.

A BRIEF RELATION OF THE PAST AND PRESENT STATE OF THE ROYAL AND RELIGIOUS FOUNDATION OF ST. BARTHOLOMEW'S

HOSPITAL, by Norman Moore, M.D.—This little volume, neatly bound in green cloth, was distributed amongst our guests at the dinner given by the Hospital to the members of the British Medical Association on July 31st of this year. Once again we have evidence of Dr. Moore's historical knowledge, and of his pleasing mode of expression. A division is made into five sections:—(1) The Patron of this Hospital; (2) the Founder; (3) the Hospital; (4) the Physicians and Surgeons; (5) the Present Aspect of the Hospital; and the accounts, as Dr. Moore's name at the beginning would lead one to expect, contain many most interesting details. We are not in a position to state whether there is any possibility of obtaining further copies, but we feel sure that a reprint would give much pleasure, and that every Bart.'s man would be glad to possess a copy.

Surgery up to Date.

OUR friends at St. George's paid us the compliment a short time ago of quoting in their 'Gazette' an extract from some verses which had appeared in our JOURNAL.

The St. 'George's Gazette' for October contained a poem called "Surgery up to Date," which set forth many valuable hints to the would-be surgeon.

All the advice was good, but some of it seemed so excellent that we take the liberty of extracting three verses in order that Bart.'s men may have a chance.

You take a noble mansion,
And you keep it trim and smart
(The public needn't know it
If you let the "upper part"):
You give *recherché* dinners,
And your guests depart well fed,
Little dreaming they've been dining
Twenty-two and six the head!

* * *
You practise self-possession,
And you mustn't turn a hair
When your cases all go badly,
But just publish them as "rare."
You cultivate expressions
Which will not betray your mind,
And if you smile unduly
You'll be thought to be unkind.

* * *
Then you lecture at the "College,"
In a professorial style,
On the tumours found in gad-flies,
Or on crocodilian bile;
And you grow a bit eccentric
In your usual mode of life,
Letting everybody know it
Through the medium of your wife.

Births.

ADDISON.—On Sept. 22nd, at Westbourne, Tenterden, Kent, the wife of W. B. Addison, B.A., M.D., B.C.Cantab., M.R.C.S.Eng., L.R.C.P.Lond., of a son.
BENJAMIN.—On Sept. 17th, at The Old Hall, Dorrington, near Shrewsbury, the wife of J. K. Kinsman Benjamin, M.R.C.S.Eng., L.R.C.P.Lond., of a daughter.
BARTON.—On Oct. 3rd, at Cloghan Castle, Banagher, King's County, the wife of James Kingston Barton, M.R.C.P.Lond., of a son.
EDWARDS.—On Oct. 27th, at 55, Harley Street, W., the wife of T. Swinford Edwards, F.R.C.S., of a daughter.
STEEDMAN.—On Oct. 29th, at Streatham, S.W., the wife of J. F. Steedman, F.R.C.S., of a daughter.
MARSHALL.—On Oct. 17th, at 2, The Common, Upper Clapton, N.E., the wife of Arthur L. Marshall, M.B.Cantab., of a son.
HOLDEN.—On Nov. 7th, at 168, Castle Hill, Reading, the wife of G. H. R. Holden, M.A., M.D.Cantab., of a son.
NICHOLLS.—Sept. 11th, at Monkland, Longton, Staffs, the wife of Hubert Nicholls, M.A., M.B.Cantab., M.R.C.S., of a son.
COOK.—On Nov. 15th, at Cardiff, the wife of H. G. Cook, M.D., F.R.C.S., of a son.

Marriages.

ATTLEE—STUART.—On Oct. 9th, at St. Saviour's, Clapham, by the Rev. H. Hughes, assisted by the Rev. D. H. Davys, John Attlee, M.D.Cantab., of 58, Brook Street, W., son of John Attlee, of Rose Hill, Dorking, to Edith Mary, elder daughter of John Stuart, of The Hollies, Clapham Common, and of Stonehurst, Ardingly, Sussex.
BAKER—SMITH.—On Oct. 17th, at St. Thomas's, Portman Square, by the Ven. Archdeacon Smith, uncle of the bride, assisted by the Rev. W. De Poe Baker, uncle of the bridegroom, and the Rev. Percy Thompson (Vicar), Charles Ernest Baker, M.B.Cantab., F.R.C.S.Eng., of 5, Gledhow Gardens, South Kensington, to Ada Marion, third daughter of Thomas Smith, Esq., F.R.C.S.Eng., of 5, Stratford Place, W.
BOSTOCK—HADEN.—On Oct. 24th, at the Parish Church, Sidmouth, by the Rev. S. A. Thompson Yates and the Rev. F. W. Haden, Robert Ashton Bostock, Surgeon-Captain 2nd Scots Guards, to Caroline Mary, daughter of Mrs. Haden, of Cardigan, and the niece of the Rev. W. H. Freer, The Lodge, Sidmouth.
WEST—DEAR.—On Oct. 23rd, at St. James's Church, Pokesdown, Bournemouth, Richard Milbourne West, son of H. A. West, of Ryde, Isle of Wight, to Ellen, daughter of F. C. Dear, of Bengoe, Hertford.
WYNTER—WILLS.—On Oct. 19th, at St. Paul's, Clifton, by the Rev. Canon Mather, assisted by the Rev. Canon Dacre, Walter Essex Wynter, M.D., B.S.Lond., M.R.C.P., F.R.C.S., of 30, Upper Berkeley Street, Portman Square, London, W., eldest son of the late Dr. Andrew Wynter of Chiswick, to Ada Margaret, third daughter of Samuel Wills, Esq., J.P., of 1, Royal Park, Clifton.

Death.

STACEY.—On Aug. 21st, at Durban, Port Natal, William Henry Waterhouse Stacey, M.R.C.S.Eng., L.R.C.P.Edin., recently of Grimston, King's Lynn, in his 33rd year.

ACKNOWLEDGMENTS.—*City's Hospital Gazette*, *St. Thomas's Hospital Gazette*, *St. George's Hospital Gazette*, *London Hospital Gazette*, *St. Mary's Hospital Gazette*, *The Student* (Edinburgh), *The London School of Medicine for Women* and *Royal Free Hospital Magazine*, *The Nursing Record*; *Elements of Practical Medicine*, by ALBERT H. CARTER, M.D.Lond. (H. K. Lewis); *The Diseases of Children's Teeth, their Diseases and Treatment*.

St. Bartholomew's Hospital



JOURNAL.

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[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, W. E. SARGANT, M.R.C.S., at the Hospital.

All communications, financial or otherwise, relative to Advertisements ONLY, should be addressed to J. H. BOOTH, Advertisement Canvaser and Collector, 29, Wood Lane, Uxbridge Road, W.

A Cover for binding (black cloth boards with lettering and King Henry VIII Gateway in gilt) can be obtained (price 9d. post free) from MESSRS. ADLARD AND SON, Bartholomew Close. MESSRS. ADLARD have arranged to do the binding, with cut and sprinkled edges, at a cost of 1s. 6d.—cover included.

St. Bartholomew's Hospital Journal, DECEMBER 14th, 1895.

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

A Teaching University for London.

IV. Events which have occurred since the Issue of the Report of Lord Cowper's Commission.

In the ST. BARTHOLOMEW'S HOSPITAL JOURNAL of March, April, and May, 1894, we published a series of three articles upon the above subject, dealing with (1) *From the Commencement of the Movement to the Report of the First Royal Commission*; (2) *The Events which followed the Report of the First Royal Commission*; (3) *The Report of the Gresham University Commission*.

Since the date of the last of these articles in May, 1894, many events have happened, and though as yet no practical outcome has resulted, we cannot help thinking that we

must be nearer to a solution of this great problem than we were eighteen months ago. At any rate it seems to us desirable to chronicle what has happened since then, so that our readers may be fully informed of the most recent doings of those interested in this question, and at the same time, to take a general review of the present position of affairs.

The interval between March, 1894, when the report of Lord Cowper's Commission was published, and June, 1894, when a General Meeting of Delegates from Institutions mentioned in the Report of the Royal Commission was held at the Royal College of Physicians, was occupied by the consideration of the proposals of the scheme by the various institutions and bodies affected. In brief, it may be stated that, with the exception of King's College, all the Institutions outside the University had by June, 1894, expressed their general agreement with the scheme proposed in the Report of the Commission. The greatest interest during that period was centred upon the University of London itself, and it will be necessary now to describe somewhat fully the events within the University up to that time. The Annual Committee of Convocation which was in office in March, 1894, was hostile to the scheme of reconstruction which we are now dealing with, and this Committee presented a special report upon it at an Extraordinary Meeting of Convocation held on April 10th. In this report the (then) Annual Committee recommended the adoption by Convocation of a series of five resolutions declining to accept the scheme of Lord Cowper's Commission. After the first of these proposed resolutions had been discussed at some length, it became clear that the results of a vote would be very doubtful, and the supporters of the Annual Committee very cleverly managed to shelve the whole question and to prevent Convocation expressing an opinion on the direct issue. The result of their manoeuvre was that the scheme was referred back to the Annual Committee with power to appoint members of a Joint Consultative Committee of the Senate and Convocation. The Senate having agreed to the proposed Joint Consultative Committee, the Annual Committee proceeded to appoint its half of the Consultative

Committee, the majority of whom were known to be hostile to reconstruction.

Meanwhile a very large and influential body of graduates who are in favour of reform on the lines of the Report of Lord Cowper's Commission formed a Committee with Mr. Cozens Hardy as Chairman, Mr. Thistleton Dyer and Dr. Allchin as Vice-Chairmen, and Mr. H. J. Waring, Dr. Wynne, and Mr. Gregory Foster as Secretaries. This Committee at once took two important steps—(1) A circular was sent to all members of Convocation asking for an expression of opinion on the scheme, and within a week or so, 750 favorable replies were received; (2) They nominated a number of graduates known to be favorable to the scheme, for the Annual Committee, the election to which was fixed for May 8th, 1894. When the Annual Meeting was held on May 8th, 1894, Mr. Thistleton Dyer rose to propose the motion: "That Convocation, whilst reserving its right to represent its views before the proposed Statutory Commission, hereby expresses its general approval of the Report of the Royal Commission;" but was at once ruled out of order. Thus, Convocation was again prevented from expressing its opinion on the main issue. When, however, the result of the election of the Annual Committee became known it was found that the whole of the nominees favorable to the scheme had been elected by large majorities. Thus, indirectly, the view of Convocation became known. Meanwhile, an indignation meeting of the graduates favorable to the scheme, numbering 230, was held, and resolutions passed and forwarded to the Senate. The members of the Consultative Committee appointed by the old (and disgraced) Annual Committee thereupon resigned, and the new Annual Committee appointed new members to the Joint Consultative Committee. The legality of this election was called in question, and the Senate thereupon decided not to proceed further with the Joint Consultative Committee, but appointed a day to hear the views of both sides. On June 28th the new Annual Committee resolved:

"That it is desirable to memorialise Government to take immediate steps for the appointment of a Statutory Commission to frame Statutes in general accordance with the Report of the Gresham Commission, with full power to make such modifications as they may see fit, after conference with Convocation and other bodies affected."

By this time, all the Institutions outside the University mentioned in the Report had agreed to the scheme, except King's College, and the meeting at the College of Physicians had been arranged. At the date, then, of this meeting on June 30th, 1894, neither the Senate nor Convocation had formally agreed to the scheme of the Royal Commission, but on the previous day a Committee of the Senate had consulted with the members of Convocation opposed to, and with the Annual Committee of Convocation in favour of the scheme.

The meeting at the College of Physicians was not quite unanimous, King's College dissenting. But 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."

This resolution was forwarded to the Government, but the Session was too far advanced for any action to be taken upon it.

Immediately afterwards, the Senate, with only two dissentients, resolved:

"That it is desirable to memorialise Government to take immediate steps for the appointment of a Statutory Commission to frame statutes and ordinances in general accordance with the Report of the Gresham Commission, but with power to make such modifications as may seem to them expedient after considering any representations made to them by the Senate, Convocation, or any other bodies affected."

To sum up—the position in July, 1894, was that all bodies were agreed, except King's College and (by formal vote) Convocation of the University.

Affairs after this remained in a more or less inactive state until the beginning of 1895, when it was intimated that Lord Rosebery was willing to receive a deputation of delegates from Institutions mentioned in Lord Cowper's Report in support of the resolution passed at the College of Physicians in the preceding July. A preliminary meeting of these delegates was held at the University of London on January 21st, when speakers were chosen. It was then learnt for the first time, that though the Council of King's College did not consider the scheme the best possible solution, they were willing to concur with other institutions in supporting the appointment of a Statutory Commission, reserving their right to urge their objections before that Commission. The deputation waited upon Lord Rosebery on January 22nd, and was introduced by the late Professor Huxley, who asked Lord Rosebery to listen to an exposition of their views as to the best means of organizing into a university the institutions for teaching and learning which at present exist in London, and with a view of inducing the Government to take steps which they believe are necessary to bring about such a result. The deputation included representatives of the Senate, the Annual Committee of Convocation, the Committee of the Graduates of the University, the principal London colleges, the great medical colleges and schools, and other educational institutions, as well as those engaged in teaching and investigation of science.

After reviewing the general history of the movement to found in London an university worthy of the name,—not a purely examining body,—Professor Huxley stated that all were agreed in desiring, first, the formation of one gigantic University in London by the voluntary co-operation of the various institutions for learning, teaching, and examining, which separately co-existed in London; and, secondly, the appointment of a Statutory Commission as an instrument for affecting such an organization.

Lord Rosebery's reply was, on the whole, favorable, for he said that he thought the desire of the deputation a reasonable one, and that the time secured a good one for the appointment of a Statutory Commission.

A second deputation from two opposing factions in the minority of Convocation attended subsequently on the same day, and Lord Rosebery's reply to them was even more favorable to the proposals of reconstruction than his reply to the first deputation.

On the same day, January 22nd, 1895, a meeting of Convocation *ad hoc* was held, and, after a long debate, passed the following resolution by 206 to 175:

"That Convocation is of opinion that there should be one University in London and not two; and that the interests of higher education will be best served by such an enlargement and reconstruction of the existing University as will (while retaining its existing powers and privileges, and without interfering with the efficient discharge of its present duties as an examining body for students from all parts of the British Empire) enable it to promote learning, scholarship, and research as a teaching University for London."

At the same meeting, the further resolution was passed by 157 to 133, viz.:

"That Convocation, while desiring to express generally its approval of the proposals contained in the Report of the Royal Commission, is of opinion that power ought to be given to the Statutory Commission to vary the details of the scheme, and that it ought to be made an instruction to the Commissioners before framing statutes and regulations to confer with duly accredited representatives of the Senate and Convocation as to the modifications which may be desirable."

Thus, on January 22nd of this year, *all the institutions or bodies affected had by direct formal vote accepted the main principles of the scheme.*

After this, no important step was taken until on May 9th, when Lord Playfair, on behalf of the Government, introduced a Bill into the House of Lords to appoint a Statutory Commission. The most important clauses in this Bill were:

2. "(1) The Commissioners shall frame statutes and ordinances for the University of London in general accordance with the scheme of the report herebefore referred to, but subject to any modifications which may appear to them expedient after considering any representations made to them by the Senate or Convocation of the University of London, or by any other body or persons affected.

"(2) In framing such statutes or ordinances the Commissioners shall see that provision is made for securing adequately the interests of non-collegiate students.

"(3) All such statutes and ordinances shall be laid forthwith before both Houses of Parliament, and shall come into operation on the expiration of forty days after they have been so laid, and shall have effect as if enacted by this Act, but shall be subject to alteration in manner provided by such statutes and ordinances—"

A few days later, on May 14th, 1895, Convocation of the University again met, and Mr. Bompas, Q.C., invited the members present to rescind the resolutions passed on January 22nd; but his motion to rescind was lost by 238 to 117, or by two to one. Thus Convocation again affirmed its approval of the scheme. At the same meeting the whole of the nominees of the graduates favorable to reform were re-elected to the Annual Committee.

Lord Playfair's Bill never came to a Second Reading, for as everyone knows, a political crisis occurred shortly after

the events just narrated, which resulted in the defeat of the Government of Lord Rosebery. Then followed the General Election of July, 1895. It is necessary to refer to this, for it formed the starting point of the next phase in the history of this question. It is now, perhaps, desirable to point out that, though *officially* agreed to, there is a large minority opposed to the scheme of reconstruction. This minority consists of two factions opposed to each other, but united on the one point of opposition to the scheme. They are: (1) Those graduates who are opposed to *any change whatever* in the existing arrangements of the University; (2) Those who, while in favour of developing the University into a real Teaching University, are not in favour of the *particular* scheme embodied in Lord Cowper's report.

One or both of these sections of the minority appear to have been actively at work, and to have influenced Sir John Lubbock, the member for the University, for when his electoral address was issued, it contained the remarkable paragraph:

"Feeling that Convocation ought to be consulted on a matter so vitally affecting the University, I should strongly urge, and would do my best to secure, that the scheme, when arranged, should be submitted to Convocation for their approval, to be signified as at a Senatorial election, and would oppose the Bill unless this were conceded."

This must have been written without a full knowledge of the facts. The first clause seems to imply that it was desired to force on the University something which Convocation does not want. This is not so; Convocation *has been consulted*, and has decided by clear and distinct majorities on two occasions in favour of appointing a Statutory Commission reserving the right to be heard before that Commission, and the Bill of Lord Playfair, as quoted above, expressly provides that modifications may be made after considering *any representations from the Senate or Convocation.*

The ground, then, on which Sir John Lubbock would urge that the scheme, when finally arranged, should be submitted to the veto of Convocation, *does not exist.*

In the extract from Sir John Lubbock's address, above quoted, occur the words: "to be signified as at a Senatorial election." On these words hang the whole of the present difficulties. In May last, a vacancy in the Senate was filled up by the election of Dr. Napier, one of the main opponents in Convocation of the scheme of reconstruction, by 1231 votes to 733 given to Mr. Cozens Hardy. In an election to the Senate, members of Convocation can vote *whether present at the meeting or not*, and it is asserted that Dr. Napier's election indicates that the majority of members of Convocation are opposed to the scheme. To say the least, it is extremely doubtful whether this conclusion can be drawn from this particular vote, for the election referred to *was not fought on the question of reconstruction at all.* Whether this be so or not, the opponents of reconstruction have made the most of the result of this Senatorial election, and it has undoubtedly weighed very greatly with the Duke of Devon-

shire, as is clear in his reply to a deputation to him on November 28th last.

Sir John Lubbock and those who oppose reconstruction now demand that a clause should be inserted in the Bill giving to members of Convocation a right to approve or condemn the results arrived at by the Statutory Commission, to be signified as at a Senatorial election by voting papers.

To take events chronologically, the next step was taken by the teachers in the medical schools of London, who held a general meeting at the Examination Hall on November 20th last, when the following resolution was unanimously passed:

"That the Government be requested to introduce, at an early date, a Bill, similar to Lord Playfair's London University Commission Bill, 1895, appointing a Statutory Commission to carry out the recommendations of Lord Cowper's Commission; but with an added clause giving (in accordance with precedent Acts of similar tenor) to all Institutions or persons directly affected by any Statute or Ordinance proposed by the Statutory Commission a right of appeal to the Privy Council for the disallowance or alteration thereof, previous to such Ordinance being laid before Parliament for confirmation."

A resolution in exactly the same terms was passed on the next day at a meeting of delegates from all Institutions and Bodies concerned, held at the University of London, with Sir James Paget in the chair, and a deputation of these waited upon the Duke of Devonshire on November 28th last. The influential character of this deputation cannot be denied, for it included representatives of all Bodies concerned, including the Annual Committee of Convocation. The speeches made were of the greatest ability, and put the case in a most forcible and definite manner. The Duke's reply was hardly encouraging, for he laid great stress on the views of the opposing factions in Convocation, and seemed to indicate that he regarded the introduction of the clause demanded by Sir John Lubbock as conceding only the rights which Convocation now possesses. In this we maintain, with all due respect, that the Duke of Devonshire is mistaken. Convocation has no such right of veto on the decisions of a Statutory Commission. Under the existing charter of the University, Convocation, i. e. the graduates in meeting assembled, has the right to consent to the surrender or modification of the existing charter, but no such right is given to the members of Convocation as individuals—in other words, Convocation has no right to agree (or disagree) to such surrender or modification, except in meeting assembled, and therefore no right to the veto demanded. By the votes on January 22nd, 1895, and on May 14th, 1895, Convocation has, in effect, surrendered its rights under the charter, by consenting to the formation of a Statutory Commission, subject only to the condition that it may represent its views before the Statutory Commission.

Why, it may be urged, will external bodies not consent to members of Convocation having the right of veto demanded? The reasons must be obvious:

1. They have no such existing right.
2. To make such a concession to one of the bodies con-

cerned would not be right to institutions external to the University, for very large and important interests other than those of the existing graduates are to be dealt with.

3. It is doubtful whether men of such eminence as would be required to form an efficient Statutory Commission could be found to serve, if all their labour is liable to be overturned by a chance vote of irresponsible graduates.

4. Granting that it is desirable that an appeal from the decisions of the Statutory Commission should exist, would it not be the height of absurdity that such appeal should be from a judicial and responsible Statutory Commission which has heard the evidence, to an irresponsible and non-judicial body such as the members of Convocation, who have not heard the evidence?

5. The supporters of the scheme, recognising the desirability of some appeal, are willing that the body to which such appeal can be made should be the Privy Council, as expressed in their last resolution.

6. The reason for wishing for a clause giving a right of veto to members of Convocation is that they fear that the interests of private students may be interfered with. This is founded on an entire misapprehension of the facts. In the scheme of the Gresham Commissioners the interests of external students are fully safeguarded, and a reference to the text of Lord Playfair's Bill, above quoted, will show that the proposed Statutory Commissioners are instructed to see that the interests of these students are adequately secured. What more security than this, coupled with an appeal to the Privy Council, can anyone reasonably desire?

7. There is no reason for granting to the graduates of the University of London more than was given to those of Oxford and Cambridge when these Universities were reformed by Statutory Commission.

In the foregoing description and criticism we have, we believe, put the facts fairly before our readers, and shown them exactly the present situation. What will be the outcome time only can show, but that the present is a crisis of the most vital importance to all medical students in London we are fully convinced.

Notes from Out-patient Practice among Epileptics.

By J. A. ORMEROD, M.D.

EPILEPSY is in theory a most interesting disease, but as seen in out-patient practice it sometimes proves a little dull, for the fits themselves are rarely witnessed by the physician, there is little to be made out by physical examination, and the progress of the case is apt to resolve itself into a mere record of fits on the one hand and administration of bromide on the other. Nevertheless I venture here a few remarks on chronic epileptics,

derived from some years' out-patient work among patients of this class. They may not be novel, but will serve to illustrate facts oftener read about than seen by students.

Granting that in most cases the essential cause of the disease is constitutional,—some deeply ingrained fault of the nervous system,—yet it is important to observe the exciting causes of the fits themselves. For, firstly, the frequency of fits may be the only means for measuring the progress of the disease; secondly, the mere occurrence of a fit increases (it is thought) the predisposition to further attacks, so that it must be our object to keep the fits in abeyance as much as possible.

Among such exciting causes the commonest are—excitement of all kinds, school treats, Christmas festivities, &c., for children; salvation army meetings and other religious dissipations for young adults; scenes of violence, fires, sudden deaths, injuries to the head, &c. Drunkenness may not only prepare the ground for epilepsy, but the fits may follow each bout of drinking. Thus James F—, æt. 28, a man accustomed to heavy drinking, had his first fit after drinking, and the third also (he had the first three in six weeks); then under bromide he had none for some months; a fourth bout of fits followed indulgence in "two or three half-pints;" the fifth attack came without alcohol, the sixth after he had begun to drink again. The following case in which the fits were determined by mental application is not at all common. A young man, Richard F—, determining to become a schoolmaster, had a fit while puzzling over arithmetic. He had had one before under similar circumstances, and had had fits as a schoolboy while trying to learn Latin and French. Some months later he had another fit while doing algebra, and another while at arithmetic, and so on several times. Much more commonly the reverse condition, namely sleep, favours the outbreak of fits. It is well known, of course, that epilepsy, like other neuroses, such as asthma, tetany, and the newly-named "acro-paræsthesia," may manifest itself solely or chiefly in the night-time; it is also frequent for patients to have their attacks soon after waking in the morning. That this is not mere periodicity but is in some way dependent on the sleep itself is shown by the case of a boy, Alfred W—, who used to have a fit regularly every morning after waking; if he got up the moment he woke, the fit would come after he was up. When the fits were checked by bromide, he would still have an headache for an hour or two after getting up. But this was not all, for if he went to sleep in the daytime he would have a fit on waking. Some patients are said to have fits mainly at certain times of year, viz. the "spring and the fall," but I have not been able to verify this, any more than the similar statements sometimes made that patients are worse at "the changes of the moon." There exists, however, in female patients a really potent periodical influence, viz. the menstrual nixus. Almost all epileptic women are worse about their catamenial times, and many

have their fits only then. The converse happens when they marry and conceive, for during pregnancy and suckling the fits may lessen or disappear. Of this I have seen several instances, as against some three or four only who said that they were worse during pregnancy. An epileptic, Marian Amelia L—, who had passed her menopause, continued for a year afterwards to have attacks of *petit mal* at the times when the menses would have been due.

Whether ear disease can set up epilepsy in a person not predisposed to it, is doubtful. It seems reasonable, however, to think that irritation from a diseased ear would make an epileptic worse. I have seen a few instances in which the fits improved after treatment of a chronic otorrhœa, or after the pent-up middle ear secretion began to discharge. Again, we may call to mind that vertigo is a symptom both of ear-disease and of epilepsy, and that it is by no means easy to draw the line between aural and epileptic vertigo. Some epileptics, suffering from ear-disease, and subject to attacks of vertigo, have the same vertigo as an aura of their epileptic fits. An elderly woman, Elizabeth L—, attended under me for aural vertigo. At any rate she had chronic middle ear catarrh, deafness, tinnitus, and paroxysms of severe vertigo, in which she would sometimes fall. These paroxysms were much benefited by Charcot's treatment with quinine. Later on she had attacks characterised by sudden loss of consciousness and falling. Such facts at least suggest that aural vertigo and epileptic vertigo may stand in some relation to each other.

Certain ophthalmologists, both in America and in England, have proposed to cure epilepsy by the correction of errors of refraction. I take it that here, as in the case of ear disease, relief is obtained by the removal of a source of peripheral irritation, but that the deeper-seated causes of the disease will remain.

Nevertheless, seeing that we have so little control over the central nervous system, the detection and removal of all sources of peripheral irritation, whether in the patient's organism or in his surroundings, is an extremely important task.

The mental condition of epileptics is not easily studied in the out-patient room; still, when many patients are watched for a long time, some information may be obtained on this head. The commonest and earliest mental defect is failure of memory, and in old-standing cases such failure is the rule. It may be accompanied by general dulness and hebetude of thought, which is often written plainly in the patient's face and manner. This is sometimes put down to the continuous administration of bromides, but more often, I believe, the disease is to blame. The epileptic maniac as described in books of forensic medicine, who, without warning, breaks out into attacks of homicidal violence, is happily not often seen in the out-patient room. Not long ago, however, a patient at Queen Square suddenly seized the poker, and was about to demolish his physician.

Once a big powerful man, who was sitting waiting his turn among my out-patients, rushed suddenly into the street, brandishing a heavy stick which he habitually carried, and had to be pursued and overpowered by the porters. And occasionally, after fits, there are scenes of extreme and unreasonable violence. More commonly one hears of a gradual mental degeneration—patients become irritable, spiteful, suspicious, and if not insane, yet very undesirable associates. A young man (George H—), whose aspect is that of a very low type, has been attending under me since 1883. He often comes into the room with an embarrassed suspicious look, and when asked what is the matter, will first say that he “sees these colours—red, green, blue, &c.,”—then that he “feels queer,” as if he had no business here, as if he had done something for which he should be blamed, &c. Lately, his friends say, he has become crazy on religion. There are out-patients who have had attacks of temporary insanity or dementia, yet who seem now to be mentally sound. A man, *et.* forty-five (W—) epileptic for twenty-two years, was recently brought to me by his wife in the following condition:—He sat in the chair, leaning back and occasionally laughing idiotically, barely replying when spoken to. When asked if he felt anything wrong, he rolled his head back, smiled, shut his eyes, and pointed to his epigastrium. Two days previously he had had a batch of fits; the next day he was apparently, well but very obstinate and tiresome, and the next morning woke in the condition described and was brought to the Hospital. The morning after his attendance there he woke quite well, and apparently remembered most of what had passed. But abnormal mental conditions may last much longer than this, and clear up.

Of permanent insanity necessitating confinement, one hears remarkably little, considering the large number of epileptics who attend at Queen Square, and the large contingent of epileptics in the various asylums. Either the out-patient drops into the asylum without the physician hearing of it from his friends, or the out-patient epileptic and the asylum epileptic belong to different types, as appears to be the case with the general paralytics.

Neither is it common to hear of death resulting directly from the disease, though in this matter too the friends may neglect to give information. The following are instances of death from epilepsy. Percy P—, *et.* 7, had had fits for two years. Formerly a bright child, he had become (like other children under like circumstances) unintelligent, troublesome, and cunning. Bromides diminished the fits, but made him heavy and more stupid. Tincture of belladonna for over a year did good; then the bromide was recommenced with better results. After four and a half years' attendance, resulting in a certain degree of improvement, he had several prolonged bouts of fits, and died *in statu epileptico*.

Charles F—, *et.* 20, when first seen, had been epileptic for six years. He attended for four and a half years, having

at one time seven months' freedom from fits and *petit mal*. Finally he died at Guy's Hospital *in statu epileptico*.

Caroline B—, *et.* 13, had been epileptic for six years. After three years' attendance she went to bed one evening apparently well, next morning was found insensible, and on the doctor's arrival was dead.

Alfred C—, *et.* 12, came for epilepsy of three months' standing, and attended for nine years. Bromide did not suit him, but he did rather better on borax. One morning he was found dead in his bed, lying on his face. A relative who slept with him, and who was usually roused by his fits, had heard nothing.

Curious conditions often follow the epileptic fit, and such post-epileptic states are always worthy of observation. Some years ago I interviewed an epileptic sent up from the country, and admitted him. The next day our then resident officer, Dr. James Oliver, who subsequently published the case, came to ask me why I had sent in a lunatic, for the man neither knew where he was nor how he came there. It turned out that he had had a fit in the night, as the result of which all memory of recent events was blotted out, though he could remember the scenes and events of his youth. There was no other mental defect, and his memory gradually returned. This happened repeatedly while he was under observation.

Mary R—, *et.* 20, had her first fit a fortnight after (and she thought in consequence of) a fright. After her fits she always assumed the attitudes and expression of fright. She had put her shoulder out in one fit, which seemed to indicate that they were not simply hysterical fits followed by *attitudes passionelles*.

Hannah B—, a single woman of 33, who, besides her regular fits, used to have so-called “stupors” and to act unconsciously, was accustomed at one time to wake from her post-epileptic sleep violent and frightened, and she would then accuse the first man she saw, even her own father, of having violated her. Obviously she might have proved more dangerous than any maniac.

Henry T—, *et.* 20, a mason by trade, had been epileptic from his youth. Recently, after a severe fit, he was for two or three days in a “kind of trance.” He imagined he was in the shop of a hairdresser, who told him to find a cure for fits. This passed off, he said, when he actually went into a shop of the kind. He has had similar feelings after subsequent fits. What started the imaginary hairdresser, or whether he merely antedated the real one in trying to recall his mental state, I could not find out.

The remarkable condition known as epileptic automatism generally occurs after a fit; indeed, some say always either after a fit or after an attack (perhaps unnoticed) of *petit mal*. The majority of patients do not exhibit this phenomenon; those that do are mostly epileptics of some standing, and it may recur often in the same patient. The epileptic performs some act, more or less complex, apparently without

knowing what he does, and without remembering it afterwards. Usually it is some trivial action of his daily life.

Thus Emily C—, whose fits, according to her account, were sometimes heralded by “a ding in her ears, and a peculiar feeling in her mind,” used to rake out the fire, put things away in wrong places, and so on, unconsciously. These actions of course may be quite incongruous with the time or the circumstances; thus patients often begin to undress in public. Eliza H—, *et.* 20, emptied a slop-pail into a bed. William S— mixed the tea with the sugar, made water into the children's shoes, and so forth. Much more elaborate actions than these may be performed unconsciously. Henry S—, a clerk, walked from his home in Mayfair to his work at the Army and Navy Stores without knowing it. On subsequent inquiry he was told that he started punctually, but arrived a quarter-hour late.

This same man sometimes ate his meals, or undressed and went to bed unconsciously,—always either after a fit or an attack of *petit mal*. This *petit mal* he described as “strange thoughts or remembrances;” he said a thought would suddenly come into his head, and he felt warm in the head and drowsy. At such times his wife noticed that he turned pale, looked “misty” about the eyes, and held up his hand as if to stop her speaking. He was sane, but irritable, and would threaten to “smash” his fellow clerks when they annoyed him.

Harriet Louisa S— used constantly to act automatically, generally in connection with her household work. On one occasion she did as follows. She started to go to the butcher's, but, losing consciousness on the way, went to the baker's instead; then she took from the hand of a girl who was scrubbing the counter some soap, with which she proceeded to wash her hands. The girl knew her peculiarities, and said nothing till afterwards. She also went to the grocer's and bought things she did not want—the shop-people not recognising her condition. Finally she went to the greengrocer's, where she came to, and was surprised to find herself with groceries and change which she could not account for. Another time she had an attack in her house, and on coming to found some linen from the mangling which had not been there before. It appeared that she had answered the door, taken in the mangling, and paid for it. She had also for no particular reason turned the clothes down off a bed. It might be supposed that she acted consciously and simply forgot what she had done afterwards, but in each case there was something wrong with her actions—the soap, the wrong shop, the bed-clothes. She is an unimaginative-looking person, past middle age, and I do not think she romances.

Abernethian Society.

The Mid-Sessional address will be given by Mr. Henry Power (in place of Mr. Vernon) on January 16th. Mr. Power's subject will be “Music and Medicine.”

The Mechanism of Phagocytosis.

A Paper read before the Abernethian Society on

November 14th, 1895.

By W. LANGDON BROWN, B.A.,
Assistant Demonstrator of Biology.



NEW facts have had such a wide application as that following the discovery of phagocytosis. The process is so closely connected with the study of many diseases, and with the whole question of the repair of injured tissues, that scant apology is needed for bringing some of the aspects of the subject before the Society, even though the treatment of those aspects be not clinical.

It is the special merit of Metschnikoff's work that he has recognised the important part played by the white blood-corpuscle in physiological and pathological processes. So far from its being simply an immature red blood-corpuscle as was taught not so many years ago, we now know it to possess a genealogical tree of the highest respectability, while the red corpuscle is the merest parvenu. Mere oxygen-carriers have arisen repeatedly in the evolution of species, we meet with isolated examples in the razor fish, in *Capitella* among the worms, and in that anomalous creature *Phoronis*. Nature has performed the comparatively easy task of manufacturing an oxidisable pigment like hæmoglobin or hæmocyannin wherever the necessity has arisen; while the white blood-corpuscle traces its pedigree directly back to the primitive amœba.

1. The Genealogy of the Sporadic Mesoblast.

I may perhaps be pardoned for recalling the genealogy of the phagocyte. The primitive Protozoon is typically amœboid, *i.e.* it effects both locomotion and capture of its prey by throwing out those protoplasmic processes known as pseudopodia. In a Metazoon like *Hydra*, however, such properties are confined to the inner layer of the body, the cells of the endoderm being capable of throwing out processes to enclose the solid particles found in its internal cavity (coelenteron); digestion being in the Protozoon entirely, and in the Coelenterata for the most part, *intra-cellular*. With the appearance of a third body-layer—the mesoderm—a further differentiation is shown; to this new layer the amœboid property is relegated. This is seen very concisely in the case of a star-fish larva (*Astropecten*). The segmented ovum forms the hypoblast by invagination of some of its cells, and from this invaginated layer (which will form the endoderm) the mesoblast is budded off in the form of amœboid cells. The property of intra-cellular digestion is now practically confined to cells of mesoblastic origin—the endoderm, the general digestive layer of the body, performing its task by the more potent method of elaborating secretions which it pours into the alimentary canal—*extra-cellular* digestion. Among the higher forms of life the last representatives of endodermal pseudopodia are to be found in the retractile cilia of the earthworm's intestine described by Miss Greenwood, and in the striated border of the cells of the intestinal villi in mammals.

So that it is to the mesoderm we must turn our attention if we desire to follow the history of the amœboid cell. In animals which possess no vascular system these cells can wander about in the body cavity freely, ingesting foreign particles which may have been introduced or surrounding those too large to be ingested. They still retain all the primitive amœboid characters. When the vascular system first appears it is not a completely closed system of tubes, a large part of the circulation being carried on in lacunar spaces. Hence the wandering cell can be readily transported to any part of the body in which its presence is needed. But when these lacunae are replaced by a closed system of capillaries, those wandering cells which are normally within the vessels have to escape from them before they can get to the required place; hence, we find the process of diapedesis, or the emigration of the white corpuscle through the capillary wall, is one of the first signs of the reaction of such an organism against foreign invasion.

To the whole class of intra-vascular and extra-vascular wandering cells the term sporadic mesoblast may conveniently be applied.

Thus in tracing the genealogy of phagocytosis we find that in every animal some cells retain the primitive power of locomotion and ingestion possessed by the amœba; that whereas in the lower forms this ingestion is the normal method of nutrition, in the higher forms only the nutrition of the sporadic mesoblast is thus carried out, and the process is maintained for protective reasons.

Wandering cells, then, are the survival of generalised movement which has been so largely replaced by specialised contractility; an

ameba or a leucocyte can move in any direction, while a muscle-fibre can only contract in the direction of its axis. Corresponding to this their optical properties differ,—for the former is singly-refracting while the latter contains doubly-refracting material.

It becomes of interest then to inquire into what we know of the machinery of this most primitive form of movement. Though so primitive among biological processes its complexity is very great compared with the most complex of inorganic machines, as is shown by the way in which an ameba can steer itself round an obstacle, while a steam-engine for instance is totally incapable of avoiding the simplest obstruction.

At a time when we are beginning to discuss the doctrine of variation in terms of the binomial theorem, and to state a man's constitution in terms of his maternal uncle, my title may have led some to expect that I am about to explain the mechanics of a phagocyte by the parallelogram of forces, and the dynamics of a particle. Let not the unmathematical be alarmed; our knowledge of protoplasmic movement has hardly got to that stage, and my title perhaps conveys a notion of accuracy which is wholly illusory.

At the same time a purely physical explanation has been attempted by Bütschli,* who was led from his researches on the protozoa to the conclusion that protoplasm had the structure of a delicate froth rather than that of a definite network. He thought it possible that a similarly delicate froth produced by artificial means might show similar movements. After many unsuccessful attempts he met with a satisfactory method; a small quantity of potassium carbonate slightly moistened is rubbed into a paste with a drop of thickened olive oil. A portion of this paste is placed on the under surface of a cover-slip, and mounted in water. At the moment of contact a number of minute oil drops separate off and become converted into foam drops. These drops initiate both the streaming and amoeboid movements of protoplasm with such accuracy that skilled observers have frequently been unable to say whether they were looking at artificial or natural protoplasm. The formation of these forms probably depends on the presence of small quantities of the salt dissolved in the oil; the addition of the water, in which the salt is more readily soluble than in oil, causes a flow from the latter to the former—a process which Lord Rayleigh has called "desolution."† On this desolution, then, the streaming movements depend.

Applying this for instance to the conditions attending the extrusion of pseudopodia in amebae or the streaming of a plasmodium, it is interesting to note that the streaming does not start from the hind end and advance to the portion of the organism which is pushing forward, but starts at the moving point and extends backwards. That is, it occurs just as if the extension current existed as the result of diminution of the surface tension at the anterior end. Now a similar condition governs the streaming of the oil foam, namely diminution of the surface tension at the point to which the streaming is taking place.

But there be physical subtleties into which we must not go further. It is, of course, impossible to explain all protoplasmic movements on purely physical grounds, at present at least. But whatever be the ultimate origin of the movements we are about to discuss, certain it is that they are carried out by a physical mechanism, just as the hebehest of the human brain are most frequently executed by levers of the third order. Simple physical laws, too, probably directly determine many of the less vital processes, such as the symmetrical arrangement of many shells. Bütschli's work then, though not conclusive is highly suggestive.

Let us approach the subject to-night from a different standpoint; let us investigate how the wandering cell reacts to external stimuli rather than how its internal machinery compacts that reaction. For of the former question we are beginning to know something—the latter is simply a series of "guesses and gaps."

II. The Stimuli to which Sporadic Mesoblast reacts.

(1) *Light*.—Wandering cells are rarely exposed to the direct influence of light in the normal economy, but that this stimulus is not without effect is well shown among certain unicellular animals and plants.‡ Thus, Engelmann found that Euglenae among the Flagellates accumulate on that side of a vessel which is exposed to light; if the vessel be illuminated by a spectrum they congregate between the lines F and G, that is to say, especially in the blue.

If the light be increased in intensity, a point is reached at which the organisms flee before it. To green algae the red and violet of the spectrum are the most attractive, in fact among the algae of different hues the complementary colour of their own is the one around which they accumulate.

* On Protoplasm, translated by E. A. Minchin.

† See Binet, *La vie physique des micro-organismes*.

But this effect of light appears to be dependent on the liberation of oxygen. If we place chlorophyll grains in the fluid containing bacteria, nothing happens so long as the preparation is kept in the dark. But as soon as it is illuminated, that is when oxygen is being liberated by the action of the grains the bacteria rapidly proceed towards them. When the tension of the oxygen becomes too high, the organisms retire from the field.

And Marshall Ward* had shown in a beautiful research that if bacteria cannot escape before strong light they perish. Thus, if a stencil-plate be placed over a gelatine culture of bacteria and the whole exposed to direct sunlight or the electric arc, subsequent incubation shows that where the light has penetrated the culture the organisms are killed; so that the letter which was on the stencil is now photographed, as it were, on to a background of bacterial colonies. And applying the spectroscopie he found that rays to the red side of the line F had no bactericidal effect, while blue and violet are distinctly deadly. The effect is at its maximum just beyond the visible spectrum, and (a point of special interest) extends far into the invisible ultra-violet rays.

Now, when light falls upon a moist surface from which evaporation is taking place in presence of oxygen, it is found that some oxidising substance, possibly ozone, is produced; and Hardy and D'Arcy† have shown that the portion of the spectrum which causes this formation of "active oxygen" exactly corresponds with the bactericidal rays determined by Marshall Ward, while Wesbrook‡ has proved that air is used up when bacilli or their products are destroyed by sunlight.

So that all these experiments may be summarised by saying that light in moderation has an attraction for motile protoplasm, but that in greater intensity it repels or even kills. And both these results seem to be due to the accompanying liberation of active oxygen.

Air.—Now, that air or oxygen has a distinct effect on the movements of wandering cells is well established. Ranvier deprived a leucocyte of oxygen by imprisoning it in a microscope cell through which indifferent gases could be passed. He found it did not become spherical as it would were all stimuli removed, but threw out delicate processes as though seeking for oxygen, these processes being most numerous on the air-side of the preparation. The dead cell on the other hand is spherical.

The effect of exposure to air is best seen among the more delicate cells of invertebrate blood. Taking the case of molluscs we find there is some dispute as to the immediate effects. According to Cattaneo§ there is an instant withdrawal of the pre-existing pseudopodia; at any rate it is agreed that this is rapidly followed by the throwing out of processes, many of them being extremely delicate plate-like expansions called sarcooidal processes. These expansions differ from the pseudopodia in being non-contractile and in never being withdrawn into the cell after they are once extruded.

My own observations, so far as they go, would support Cattaneo's contention that the plate-like expansions are of later formation than the pseudopodia, but I am strongly of opinion that many of the later stages are due to irritation by contact with foreign material, such as the microscope slide and especially the pipette. It is under this head that we will consider them. Semper, for instance, points out that the cell with spiky processes is only seen when the blood is withdrawn by a pipette, and never if the blood is allowed to drop on to the slide direct from the animal. He concludes that these processes are an artificial product, the result of anything which admits a current of air. But is it not rather an assumption that it is due to air and not to a stimulus by foreign matter? The blood dropped from the animal has also been in contact with air but has met with less stimulus by contact than blood taken up in a pipette. I shall venture, then, provisionally to classify the effects of oxygen on these cells as follows:

1. In total absence of oxygen the cell remains stationary with processes extended. If this absence is sufficiently prolonged to kill the cell it becomes spherical (Ranvier).
2. In presence of a normal amount of oxygen its pseudopodial activities are increased (see Ranvier, Cuénot).
3. In presence of an excess of this amount the pseudopodia are temporarily withdrawn (Cattaneo). This is even seen in the aerated blood of a snail's mantle (Semper).
4. Oxygen supplied beyond this acts as a powerful irritant, killing and even disintegrating the cells (Cattaneo, M. Ward).

* *Phil. Trans.*, 1894-5, B.

† *Ann. Physiol.*, xvii.

‡ *Journ. Path.*, 1894.

§ *Bollettino Scientifico*, 1889, No. 1.

|| Semper, Flemming, Leydig

Inert foreign matter.—The phenomena exhibited by leucocytes towards inert foreign matter is best summed up by Massart and Bordet: "When leucocytes meet a resistant surface, they react by offering as large a surface of contact as possible." We can see how this generalisation explains the inclusion of foreign particles, such as carmine, charcoal, globules of milk, or dead micro-organisms. If the cell offer the largest surface of contact to a particle of less diameter than itself it cannot surround that particle to do so. But if the foreign body be a plane surface such as a microscope slide, the cell can only spread itself out as a very fine film. And to this cause may be referred the delicate sarcooidal processes which are formed when a drop of invertebrate blood is shed, for they will always be found most numerous, if not confined to, the layer of fluid in contact with the slide on which they are placed. I think this justifies my contention that their formation is due to contact rather than to oxygen.

This property, moreover, enables leucocytes to get through the finest pores, and is of essential value in the manoeuvres of diapedesis. Such substances as elder pith or even densely compact tissues like bone or ivory can be penetrated by virtue of this mechanism. In several cases this "reaction by greatest surface" is assisted and intensified by plasmodium formation; thus a thorn introduced into *Asteropeton* is far too large for one cell to surround, but several cells fusing together the foreign body is shut off from the general cavity.

Heat.—Heat as a stimulus to the sporadic mesoblast is necessarily limited in application. All movements we are discussing stop at freezing-point, and very slight heat will, of course, totally disorganise protoplasm. But the best example of its action is that recently adduced by Ranvier.* He had described certain very large plasma cells in the peritoneum of rabbits and frogs, which are also readily found in the peritoneal membrane in the frog, being brought out by staining with methyl violet 5/3. These he terms "clasmotocytes"—they have many granules and very long processes; he regards them as derived from wandering cells which have increased in size and lost the power of movement. But in inflammation they may again come into activity, the long processes rapidly budding off to contribute to the formation of pus-cells.† Normally they are not found in the blood or large lymphatics, but he has devised a method by which he believes they may be formed artificially. A drop of frog's lymph is placed in a microscope cell with a scanty supply of air, and the whole treated on the warm stage to 15° C. and then to 25° C. to fix it.

At the bottom of the cell certain leucocytes may be observed to begin to spread themselves out into long ramifying processes and plates of such extreme delicacy that it is hard to trace them until they have been stained with osmic acid and methyl violet. The processes are frequently distinctly granular. These curious cells he designates "clasmotocytes in vitro." I repeated these experiments some time ago, but could not satisfy myself that these pigmented granules were not mere products of the degeneration of the cell just as we know pigment to be formed in the cells of crab's blood during clotting.‡ Whether they really represent the elements from which the clasmotocyte is formed or no is doubtful, but this much is clear—that under the gentle and gradual application of heat the normal tendency of the leucocyte to offer a large surface of contact to resistant surface has been greatly increased. Sarcooidal plates of far greater delicacy and extent than usual are formed under such conditions.

Chemiotaxis.—We now come to the most important method in which sporadic mesoderm reacts—namely, the attraction exercised over it by definite chemical substances.

The first steps in this subject were worked out among the minute organisms. Engelmann, in 1866, had noticed that these organisms were attracted from a distance towards substances which they required. Four years later Stahl found that a decoction of dead leaves will attract myxomycetes, while solutions of salt or sugar will repel them. A plasmodium placed between water from which the oxygen has been driven off by boiling and ordinary oxygenated water will creep away from the former and towards the latter. All these phenomena were referred to the nutritive needs of the organisms. But Pfeffer§ found this explanation would not cover all the facts, and in a series of brilliant researches placed the matter on a much surer basis. He showed that the female organs of some cryptogams would yield chemical substances which would strongly attract the spermatozooids. Thus male acid or the malates will attract the spermatozooids of ferns, causing them to ascend capillary tubes for a considerable distance; and maleic acid could always be found round the archegonia of the same species. For Funaria cane-sugar is the attracting sub-

stance, and closely allied bodies such as glucose, levulose, or lactose produce no such effect.

This attraction may be strong enough to cause a cautious micro-organism to run into danger with the temerity of mere man. Thus spirilla will dart into too highly concentrated solutions of sugar and glycerine to which attracting substances had been added, a medium in which they inevitably perished.

All these phenomena Pfeffer classed under the term chemiotaxis; positive or negative according as the substance exercised attraction or repulsion. It is noteworthy that a negative chemiotaxis may become positive in face of a more urgent need of the organism. Thus Stahl found that a plasmodium of *Fuligo* was at first repelled from a 2 per cent. solution of common salt, but after a time (especially if it lacks water) it will adapt itself and dip its pseudopodia into this solution. It would probably be more correct to say that the need for water was stronger than the negative chemiotaxis still exercised by the salt.

Perhaps the most startling fact adduced by Pfeffer is that Weber's Law is as true for chemiotaxis as for our own sensations—such as the highly specialised sense of sight—that is, when excitation is increased in geometrical progression, the sensation is increased in arithmetical progression.

It was not long before the principles of chemiotaxis were applied to some of the more apparently mysterious properties of leucocytes, and with rich result.

In 1888 Leber showed that a crystalline product known as phlogosin, prepared from *Staphylococcus aureus*, if placed in glass tubes and inserted into the anterior chamber of the eye would rapidly attract leucocytes towards it. Two years later Massart and Bordet* published some interesting papers on this point, from which it appears that culture fluids of various microbes, especially *Staphylococcus pyogenes albus*, would readily attract the leucocytes of a frog.

Experimenting with the oxidation products of albumen they found that leucin exerts a positive chemiotaxis, while substances like creatin or allantoin have no attraction. This fits in very well with Sheridan Lea's view that leucin, being a substance of relatively high potential energy compared with creatin, may have an anabolic value as a food-stuff, and is not a mere antecedent of urea.

Similar facts have been proved for mammalian leucocytes. Proteids extracted from Friedlander's pneumococcus, and from *Bacillus pyogenus* exert an attraction for them. Büchner's contention that only dead or injured bacilli can produce this effect is contradicted by the clinical observations of von Limbeck on erysipelas and croupous pneumonia. In the former disease an increase in the number of leucocytes is of constant occurrence, and reaches its height while the blood is swarming with living pneumococci; but after the crisis, when only dead microbes are to be found, the number of leucocytes rapidly falls. Moreover, in pneumonia this fall is sudden in the cases ending by crisis and gradual in those ending by lysis.

It is usually stated that the most virulently pathogenic microbes, so far from attracting the leucocytes exert a negative chemiotaxis upon them. In support of this it is pointed out that we may get an inflammatory reaction, as in malignant pustule, which takes the form of an oedema practically free from cells. But this need not be the result of the cells failing to arrive at the focus of inoculation; it may simply be due to their destruction as fast as they arrive. Kantback and Hardy† have shown that in the cases both of pathogenic and non-pathogenic bacilli the cells come to the invaded site, but that in the former instance very rapid destruction and disintegration of these cells follows. Hence they conclude that we cannot infer the paucity of cells present in such cases to negative chemiotaxis until we know something of the rate at which destruction occurs. Positive chemiotaxis apparently leads the cell on to its death under these circumstances. If the virus be attenuated we certainly find that positive chemiotaxis is at work. Thus Metschnikoff injected virulent anthrax into one ear of a rabbit where the typical exudation followed; into the other he injected attenuated anthrax, which provoked a dense accumulation of leucocytes. This certainly favours Kantback and Hardy's view that the serous exudation is due to destruction of the cells rather than to their repulsion by negative chemiotaxis.

Of course, even in the absence of leucocytes the organism is not wholly defenceless, since the antitoxins, wherever produced, are to be found in the serum.

Whatever may be the case with pathogenic microbes, it certainly appears that some substances do repel leucocytes without destroying

* See *Ann. Inst. Pasteur*, 1891.

† *Journal of Physiology*, xvii.

* *Comptes Rendus*, 1891, p. 688.

† *Loc. cit.*, p. 622.

‡ Haycraft and Carler, *Proc. Roy. Soc. Edin.*, 1888.

§ *Untersuchungen Bot. Inst. zu Tübingen*, vol. 1, 1884.

them. Thus, lactic acid, potassium chlorate, bile, quinine, and many other bodies have a marked negative chemiotaxis for them (Gabritschewsky). According to Bins, diapedesis ceases through a frog's mesentery when wetted with quinine solution, yet it has been proved by Dieselhorst that the leucocytes were not paralysed, for removed from their vessels they showed characteristic activity. This strongly marked negative chemiotaxis exerted by quinine seems specially difficult to understand in face of its beneficial action in malarial disorders.

Chemiotaxis is apparently of value in the regulation of the internal mechanism of the cell, especially in adjusting the relations of nucleus and cytoplasm. But this lies outside the limits of our discussion, and I must content myself by referring those curious in such matters to Verwoorn's paper.*

The theory of chemiotaxis, we must remember, is not an explanation but a classification. Its great value is that it brings a number of apparently diverse phenomena into line, and narrows the problem within more definite limits; but the delicacy of the chemical processes which must underlie it almost transcend our thought.

We may state then in general terms that the two great methods by which bodily mesoblast reacts to stimuli are—

(i) That it offers as large a surface of contact as possible to a foreign body.

(ii) That it is attracted towards certain definite chemical substances and repelled by certain others.

We have seen that the reaction to the influence of light, air, and heat cannot be isolated from these two. Many other physical changes in the environment—for instance, pressure or rapidity of movement in the liquids or their electrical conditions, probably produce their effect, but on these points we have very little clear information.

(To be continued.)

A Case of Wiring for Fractured Patella in a Man aged 70.

By F. C. WALLIS, F.R.C.S.,

Assistant Surgeon to Charing Cross Hospital, and to the Metropolitan Hospital.



T—, set. 70, was admitted into the Metropolitan Hospital on June 25th, suffering from a fractured patella on the right side.

Patient said that he was walking along, when he felt something snap in his joint; he fell down, and was unable to rise again.

On admission the right knee-joint was seen to be considerably distended with fluid, and on examination the patella was found to be fractured transversely, the fractured ends being separated to the extent of one inch.

On June 26th the patient was taken to the theatre and put under chloroform; the skin all round the joint was vigorously scrubbed with a nail-brush and 1–20 carbolic acid lotion until the skin was almost denuded of epidermis; the knee had been previously shaved.

A longitudinal incision was then made in the middle line of the joint, and the fractured bone came into view. The lower fragment was comminuted by two longitudinal fractures; one of the pieces, being quite small and almost detached, was removed.

On attempting to bring the fractured ends into apposition it was found that the stretched aponeurosis intervened and folded up between the fragments. The aponeurosis was divided and separated from the rough fractured surface of the patella, which had in some places transfixed the aponeurosis.

The fragments were then wired together by two pieces of rather fine wire, great care being taken to keep as far away from the articular surface as possible. The joint was thoroughly washed out with perchloride solution 1–3000, and then the aponeurosis was brought together with a few sutures. The skin was united by a continuous horsehair suture, the wound dried with absolute alcohol, and a collodion scab was placed over the incision. A good pad of blue wool, bandage and back splint completed the dressing.

The progress of the case was unimportantly good. In three days the patient was sitting up in bed; on the eighth day the stitches

* *Pflüger's Archiv*, li.

were removed; on the seventeenth day he was up and getting about the ward on crutches, the knee still having a back splint on.

He left the hospital on August 1st.—Just under five weeks,—walking with crutches and able to bend the knee.

When seen on August 28th he was able to walk well with a stick. When last seen he was able to walk up and down stairs without any support, and could flex the knee right up.

Remarks.—I had no hesitation in strongly recommending this patient to submit himself to the operation. I felt there was grave risk of some lung trouble intervening, if at this man's age he were to lie on his back for some weeks, more especially as he was subject to bronchitic attacks. Under the circumstances he sat up in bed three days after the operation, and was not troubled in his breathing at all.

It seems almost unnecessary to enumerate the advantages of an operation of this sort over the old-fashioned tedious and unsatisfactory treatment by splints, strapping, &c.

The saving of time—six weeks to two months as opposed to twelve to eighteen months, with a doubtful result at the end of this long period,—seems to me to be a strong reason, apart from others, for operating early.

Again, the "sandwiching" of the aponeurosis between the fractured ends of the patella, when the fragments were apposed, is probably a very constant factor, and one that accounts for a great many cases of non-union of the patella when treated expectantly.

It is not necessary in recent cases to use very stout wires, and therefore it is not necessary to bore a big hole through the bone, at the risk of splintering the fragments still further, with the ultimate risk of the patella becoming ankylosed to the femur.

I think it is a good plan to gently move the patella from side to side occasionally after the end of the first week.

The fact that certain early cases of wiring suppurred should not be any bar to the operation now.

Aseptic surgery as at present understood and practised is a very different thing to what was practised ten years ago even.

If a patient is distinctly alcoholic I should hesitate to recommend the operation, and there are certain isolated cases with peculiar features of their own where it may be deemed inadvisable to operate. The following case is an example:

An old woman set. 72 came to my out-patient department complaining of pain in the knee, which she had fallen on three days previously—she had been walking about and going up and down stairs. She had fractured her patella, but the aponeurosis was not stretched or torn and the fragments were not separated. She was put to bed and treated by Sir William Savory's method of rest on a pillow, with ultimate good results as far as union is concerned.

But, generally speaking, I believe the operation to be of the greatest benefit to the patient, and when the proper precautions are observed the risk of suppuration is so small that it may be disregarded.

"M.D. Lond."



O.V. 1st.—Think I ought to go up for the M.D., so send in cheque for £5 and certificate of "excellent moral character." N.B. I'll have this framed when they send it back; no knowing, may never be able to get another, surprised enough at getting this. Notice that Clay Shaw lectures on Psychology every Monday at Banstead and every Wednesday at Bart's.

Nov. 2nd.—No good beginning to read now, should forget it all before Dec. 2nd, so decide on an easy week to get brain clear and ready. Must let my brain have complete rest and be free from all care, so wire for Jones and Robinson to dine with me at the "Cri" and go to "Palace" after.

Nov. 3rd.—Don't feel very well this morning, "general feeling of malaise." Wonder if I'm going in for some better disease; take my temperature—normal. What can be the matter? surely not those eggs we had at a coffee-stall at 5 a.m. this morning—they tasted all right; must have smoked too many cigarettes. What a fool I was! Ring for beer, and resolve to smoke cigars in future.

Nov. 10th.—Have kept my brain as free from care as possible, and amused myself with Jones and Robinson every night since last entry. Unfortunate thing Jones always will choose such rotten places to dine at; I always get a headache next morning when I eat badly-cooked food. Must choose place myself in future.

Nov. 11th.—Been down to Banstead to Clay Shaw's grind.

Lunies made me roar with laughter, couldn't listen at all to what Shaw said, they were so funny. Must attend this class regularly.

Nov. 13th.—Shaw's grind at Bart's nothing like so jolly as the Banstead one. Horribly steep, and not in the least amusing. Talked about choice between bitter and sweet orange, and a lot of stuff about motor ideas, muscularity of thought, &c. Told us to read Wundt and Ziehen.

Nov. 15th.—Began reading Sully and Ziehen with a dash of Wundt, Tuke's dictionary, and Bevan Lewis thrown in. Don't think any of them know what they do mean. At all events jolly sure I don't.

Nov. 28th, Thursday.—Work telling on me fearfully, evenings with Jones and Robinson the only things that keep my pecker up. Shall be glad when this strain is over. Thank goodness exam begins on Monday, Reading Oster 120 pages a day, and corresponding quantities of Ziehen and Sully.

Nov. 29th, Friday.—Friend tells me to read Gowers on Brain, do so—237 pages in two days. Must have nearly reached "breaking strain." Think I'm losing my sense of identity.

Hoora! suddenly realised scheme of mind. Thus, mass of ideas in head, all struggling to "rise into consciousness," successful idea chosen according to definite laws. This is "thought," it may or may not produce "concomitant motor idea" which will result in non-union of the patella when treated expectantly. *Ergo*, thoughts and actions all result of definite laws, can't be modified by will. No longer my fault if I do anything wrong, can't disobey laws that govern consciousness. Delightful theory. No longer my responsibility whether I get through M.D. or not. Off to bed with a clear conscience. Nothing that I do or think can be my own fault.

30th, Saturday.—Have asked friend who looks as if he knew all about it, to dine at home with me, and go over Shaw's notes. We do so for three hours. Certain things neither of us understand, (privately don't think the examiners do, but learn up their own sentences in hope of being able to use them as if we understood them).

Dec. 2nd, Monday.—Hasty breakfast; look over Shaw's notes in hansom going down to exam.

10 a.m.—Enter exam. room and seize paper hastily—"Give a brief account of Weber's Law as to the relation between stimulus and sensation, and of the facts on which it is based. Has subsequent investigation tended to confirm the Law?" My eye! Know one thing, stimulus of that paper has produced sensation quite out of relation to stimulus, and with a disproportionately negative emotional tone.

Question 2: "Recent experiments on an act of attention." Great Scott!

Question 3: "Bring out the most important factors in the consciousness of self and personality. How would you explain the phenomena of double consciousness and altered personality." "Phenomena of double consciousness," phew! that's a nasty jar—means "e dunno where 'e are," I suppose. Remember that Robinson didn't seem to know where he was on Thursday night, but the only phenomena about that were that he would ride the hansom horse, and that we had greatest difficulty in preventing his being "run in" when the police came; on second thoughts don't think even this was phenomenal.

Question 3: "Describe the normal power of volition; show volition in primitive forms of movement." Worse and worse. Glance rapidly through remaining four questions, and see "Defects of speech," "Evolution of mind from infant to adult state," "Define subject consciousness and object consciousness." At last finish up with "Hypnotism." Remember with joy that I did go to see Kennedy at the Aquarium, though Jones said it was rot; however, in any case I don't seem to find it much use here. Sure my answers are at least original, never thought of them myself till a minute before I wrote them. (Private opinion is that examiners themselves couldn't answer questions; only ask 'em because they know M.D. men are a cuts lot, and hope some Johnny will give 'em a useful hint.)

After lunch write three hours' commentary on case of empyema. Any fool could do that, but wish I hadn't eaten so much "peasant and chips" for lunch; always like to "after dinner sleep awhile," and can't do that here, seats are so uncomfortable.

Dec. 3rd, Tuesday.—Six hours' medicine papers. Exhausted at the end of it. Took a tonic—

℞ Sp. Vin. Frum. ʒij.
Aq. polinar. ad ʒvj.
M. H. haust.

Sig.—The draught to be taken at once, and repeated every sixth minute until the depression passes off.

(N.B.—Never know this tonic fall.)

See by notice-board that I have to go to London Hospital for "cases" on Thursday at 1 o'clock.

Dec. 5th.—Go to London Hospital and see two cases—half an hour each. Haven't a ghost of a notion what's the matter with either of them, but write rigmarole about them for three hours, and then go home. Before going home, however, compare notes with another man who has had same cases. He seems to have made a hash of it, poor chap; but no! he says the nurse told him while he was examining eyes with ophthalmoscope. Wish to goodness she'd told me!

Vivas on Friday, December 13th.

Dec. 18th.—Result: many happy returns of the day in both. Worst of these cheap exams. I can't use the M.D., so use the D—m(n). Not quite sure which is the more useful.

Notes.

IT APPEARS that the rumour about the Third Examination of the Conjoint Board to which we referred last month was well founded. A Joint Committee of the two Collèges has been sitting for some weeks past, and has just reported to the Councils of the Collèges in favour of extensive modifications in the Examinations. The chief recommendation is the abolition of the Third Examination as a separate examination, and the incorporation of the subjects of it with those of the fourth, so that in future there shall be three examinations only, as under the old four years' course.

OTHER proposed changes are—

1. That the time of the clinical part of the examination in each subject be extended to thirty minutes.
2. That the interval between the Anatomical and Physiological examination and the final be (as in the four years' course) two years instead of three.
3. That the examination in midwifery may be passed at any time after the completion of the fourth year of study, provided the anatomical and physiological examination has been completed one year previously.
4. That the subject of pharmacology may be passed at any time after the completion of the fourth year provided the anatomical and physiological examination has been passed.
5. That the examination in practical pharmacy may be passed at any time after registration as a medical student.
6. That no candidate be referred for longer than three months, except under the special resolution of the examiners.
7. That the subject of elementary anatomy be eliminated from the first examination.

THESE are very important recommendations, and we cordially approve of them. They have been adopted with only one slight modification by the College of Physicians, and subsequently by the Council of the College of Surgeons. They have thus become law, and a much more thorough and satisfactory course of study and examination will be the result.

COMING to details. The final examination in medicine will consist of:—(a) Two papers, of five questions each,

on the Principles and Practice of Medicine, including Medical Anatomy, Pathology, Therapeutics, Forensic Medicine, and Public Health; three hours allowed for each paper. (b) Clinical Examination of patients for thirty minutes, divided between two examiners, after which the candidate will be required to write prescriptions, for which a quarter of an hour will be allowed. (c) *Viva voce* Examination in General Medicine for twenty minutes.

IN SURGERY, the examination will consist of: (a) A paper of six questions on the Principles and Practice of Surgery, including Surgical Anatomy and Pathology; three hours. (b) Clinical Examination of patients for thirty minutes, divided between two examiners. (c) *Viva voce* examination in three parts: (1) Surgical Anatomy, Operations and Apparatus, for fifteen minutes. (2) and (3) Principles and Practice of Surgery and Pathology, ten minutes each. (d) Examination of Microscopical Specimens.

IN MIDWIFERY, there will be no alteration on the plan in force under the four years' curriculum.

DR. CHATTAWAY has been appointed Assistant Examiner in Chemistry to the University of London.

THE DEPUTATION which interviewed the Duke of Devonshire and Sir John Gorst on November 28th, upon the subject of reform of the University of London, was one of the most influential deputations which has ever been got together. It included delegates from every one of the Institutions or Bodies interested in the formation of a Teaching University in London, and a most unanimous expression of opinion in very forcible terms was laid before the Duke.

His reply was not very encouraging, but in spite of this we cannot help thinking that such an unanimous and weighty opinion must influence the Government favorably. We certainly hope so.

THE HOSPITAL AUTHORITIES have decided to combine the duties of the offices of Medical Registrar and Demonstrator of Morbid Anatomy, and to appoint two gentlemen to the combined offices. At the moment of going to press we hear that Dr. CALVERT and Dr. GARROD have been appointed to these combined posts.

IT MUST BE in the highest degree gratifying to Bart's men, teachers, students and candidates alike, that out of ten who went up for the final Fellowship in November from Bart's, nine were successful. Particularly so when we remember that in May the result was exactly the same. Thus on two successive occasions, 90 per cent. of Bart's candidates have passed this severe examination.

WE call attention to the announcement on our front page in regard to the cover. We feel sure that many men will be

glad to have their copies of the JOURNAL bound as a memento of their days at Bart's.

WE CANNOT refrain from making a special comment on our late successes in the London M.B. Final, and at the same time especially congratulating Mr. S. GILLIES on his most brilliant performance. As will be seen by the list published in another column Mr. Gillies has taken the Medal and Scholarship (1st place) in Obstetric Medicine, the Medal (2nd place) in Forensic Medicine, and has the 3rd place (bracketed) in Medicine.

Our results in the Honours list tabulated are—

	1st Class Honours.	2nd Class Honours.	3rd Class Honours.
Medicine	1	3	1
Forensic Medicine	1	1	1
Obstetric Medicine	1	2	0

* Medal. † Medal and Scholarships.

THOSE who applied to the Librarian for a reproduction of Mr. E. C. Fincham's autotype of Rahere and found the supply unequal to the demand will be glad to hear that more copies have now been issued.

OUR energetic Matron read recently at the Matrons' Council an admirable paper urging the registration of certificated nurses by the State. She advocated a preliminary examination, a uniform three years' curriculum, and a central board of examiners, and after some discussion a resolution in favour of such a system was unanimously adopted.

WE REGRET that the following names were omitted in the list of those who obtained the M.R.C.S., L.R.C.P., in October last:—T. A. Bowes, M.B. Cantab., G. Cawley, E. C. Fincham.

E. C. FINCHAM has been elected a member of the Royal Photographic Society.

BART'S MEN, past and present, will be glad to hear that Dr. Brunton's Harveian Oration for 1894, *Modern Developments of Harvey's Work*, has been issued as a bound pamphlet by Messrs. Macmillan and Co.

DR. WALDO has issued a special report upon the overcrowding of the Salvation Army Shelter, which will interest any students of public health. The case was concluded on November 21st, the magistrate prohibiting the recurrence of the nuisance, but adding that he himself could not convict unless the number admitted exceeded 550. It was contended that the cubical space was only sufficient for 400, and as nearly twice that number had frequently been accommodated, Dr. Waldo has done good work in reducing the overcrowding.

WE hear that several of our dressers and clerks have been down to see the Editor of the *St. George's Magazine* in order to ascertain the whereabouts of a certain hospital which offers rest to the weary.

The following extract from the *St. George's Magazine* explains. "Our entry of students this session has reached . . . fifty-eight. . . . It is partly owing to our limited number that our opportunities in the wards are so exceptional. Instead of being, as is elsewhere the case, two or three dressers to one patient, we are in the habit of being dissatisfied if, as dresser or clerk, we do not have charge of five or six patients." (The italics are our own.) Oh happy "two or three dressers," would that I might have been one of you; then surely should I have escaped the toil of a Bart's dressership, and flat-foot and varicose veins would have spared me.

MORE than twenty men attended the Special Bacteriology Class in the Autumn Term. The popularity of this class is steadily increasing, and since the accommodation at their disposal is already fully used, it behoves the authorities to remember that the question of insufficient space will have to be faced almost immediately.

WE UNDERSTAND that our neighbours—Christ's Hospital—have now an extensive epidemic of measles, with a few cases of scarlet fever and diphtheria, and that it has been necessary to send most of the boys away.

ON DECEMBER 4TH a deputation from the Corporation of the City of London waited upon the Charity Commissioners in reference to Christ's Hospital, endeavouring to urge the Commissioners to recommend modification in the scheme of the School—the main point being an endeavour to secure that the School should continue at its present site, and not be removed to Horsham.

AT CAMBRIDGE, Dr. Donald MacAlister has been appointed a member of the Special Board for Medicine, Dr. A. Hill a member of the Agricultural Science Board, and Dr. L. E. Shore a member of the State Medicine Syndicate.

MR. H. J. WARING has been elected Surgeon to Out-patients to the Belgrave Hospital for Children.

Pathological Laboratory.

THE next Course in Elementary and Sanitary Bacteriology will begin on January 14th at 2 p.m. The class will meet every Tuesday, Wednesday, and Thursday from 2 to 4 p.m. Gentlemen intending to take part in this Course are requested to communicate with Dr. Kanthack before the above date.

Amalgamated Clubs.

BOXING CLUB.

THE following gentlemen have been elected to occupy the various official positions in this club:
President—Dr. Church.
Vice-Presidents.—P. Furnivall, Esq., F.R.C.S.; A. N. Weir, Esq., F.R.C.S.

Committee.—C. M. Welburn, A. H. Hawkins, T. Martin, I. Huddleston, W. K. Stowe, P. O. Andrew, J. S. Dunn.

Hon. Secs.—C. G. Meade, J. W. Hughes.
The Club Room will be open for practice on Mondays, Wednesdays, Thursdays, and Fridays from 3.30 to 6. Professor Alec Roberts will attend and give instruction on Fridays from 4 to 6.

RUGBY FOOTBALL CLUB.

THE Rugby Club are still continuing their successful career, for during the month of November four matches have been played, 2 won and 2 lost.

The victories were against Upper Clapton, whom we beat by 5 tries to nil, and Rugby, whom we beat by 1 goal to nil. The teams which beat us are Cooper's Hill and Wickham Park, the former beating us by 3 tries to nil, the latter by the narrow margin of 1 penalty goal to nil. From this it will be seen that the only team that has crossed our line is Cooper's Hill. During the latter part of the month we have been without the services of Cruddas.

The 2nd XV during the month of November have played four matches, of which we won 1 and lost 3. The win was against Wickham Park, whom we beat by 4 goals 7 tries to nil. When defeated by Upper Clapton our team was very weak, and the result was a defeat of 16 points to nil. Very even games against St. Thomas's and Guy's both ended in losses, the former by a dropped goal to a try, and the latter by 1 goal to nil.

BART'S 1ST XV v. UPPER CLAPTON.

Played at Upper Clapton on the 2nd of November before a good attendance of people; the game resulted in a win for us by 5 tries to nil. Of these tries Robbs scored three, Mason one, and Hawkins one, none of which were converted owing to the difficult angles. Just after half-time Ridout was injured, and was obliged to retire from the game. Weekes was taken out of the serum to supply his place, and although one short our forwards still held them.

Team.—H. Bond (back); A. J. W. Wells, T. M. Body, C. A. S. Ridout, S. Mason (three-quarter backs); A. Hawkins, G. C. Marrack (half-backs); H. M. Cruddas, W. F. Bennett, C. H. D. Robbs, W. M. James, F. G. Wood, F. G. Richards, H. Weekes, C. H. Adams (forwards).

BART'S 1ST XV v. COOPER'S HILL.

Played at Cooper's Hill on the 6th of November in a gale of wind. Cooper's Hill kicked off, and in the first half scored one try which was not converted. In the second half Cooper's Hill scored twice, but neither was converted. Had it not been for the splendid tackling of our forwards and of Bond, Cooper's Hill would have run their score up higher. Thus the match ended in a win for Cooper's Hill by 3 tries to nil.

Team.—H. Bond (back); A. J. W. Wells, T. M. Body, S. F. Smith, S. Mason (three-quarter backs); A. Hawkins, G. C. Marrack (half-backs); H. M. Cruddas, W. F. Bennett, C. H. D. Robbs, J. K. S. Fleming, W. M. James, H. C. Adams, F. J. Wood, F. G. Richards (forwards).

BART'S 1ST XV v. WICKHAM PARK.

Played at Winchmore Hill on the 23rd of November. Bart's were very poorly represented, Andrew, Cruddas, Bennett, Hawkins, and Adams being absent. As it was we were only beaten by the narrow margin of one penalty goal to nil.

Team.—H. Bond (back); A. J. W. Wells, T. M. Body, W. H. K. Randolph, S. Mason (three-quarter backs); T. Martin, G. C. Marrack (half-backs); C. H. D. Robbs, W. M. James, F. G. Richards, F. J. Wood, H. Weekes, A. L. Vaughan, J. C. S. Dunn, A. N. Other (forwards).

BART'S 1ST XV v. RUGBY.

On Saturday, 30th November, our team journeyed to Rugby, and played the above club in very favourable weather. Bart's were not fully represented, Andrew and Cruddas being absent. In the first half nothing was scored, although our forwards pressed their forwards all through. On crossing over we penned our opponents in their "25," and after several unsuccessful attempts on the part of the three-quarters, Hawkins got over the line and scored a try, which was easily

converted by Body; so we won a well-deserved victory by one goal to nil.

Team.—H. Bond (back); A. J. W. Wells, T. M. Dody, W. H. Randolph, S. Mason (three-quarter backs); A. Hawkins, G. C. Marraek (half backs); W. F. Bennett, C. H. D. Robbs, W. M. James, J. K. S. Fleming, F. J. Wood, H. C. Adams, F. G. Richards, H. Weekes (forwards).

ASSOCIATION FOOTBALL CLUB.

This month we have to record, out of five matches played, three wins, one defeat, and one draw. The goals scored were nineteen goals for and five against.

Unfortunately we have had several of our matches scratched, and though others have been arranged, these have fallen through, so we have only been able to play five matches.

The team has been getting together very well, and some of the matches gave evidence of some very promising combination, notably that of Robinson and Talbot on the right wing. The shooting has certainly been better of late, but it still seems to lack the force and precision which is necessary to score goals against a good goal-keeper. The halves are playing very well, Bostock especially having improved, and though perhaps Joy might play with a little more vigour, he is very hard to get past. Pickering is quite up to his usual form, and of the backs Brown has been playing very well indeed. Fox in goal is playing better than ever. Altogether the team looks as if it should have a very good chance of the Cup at the end of the year. We have had great hard luck, notably in the Casuals match, though we perpetually besieged the goal, our shooting was just not good enough, as the excellence of the goal-keeper was beyond dispute.

The second team have not done quite so well, having out of six matches lost three and won three, the number of goals for being fourteen, and the number against nineteen.

Saturday, Nov. 2nd.—ST. BARTHOLOMEWS HOSPITAL v. OLD BRIGHTONIANS.

This match was played at Winchmore Hill, and although not fully represented Bart.'s scored a very creditable win by seven goals to two.

Three goals were scored for Bart.'s during the first ten minutes from shots by Prance (2) and Robinson. This seemed to give Bart.'s great confidence, as not until the end of the first half did the O.B.'s become dangerous, when Moorhouse scored for them from a rush in front of goal.

After half-time Bart.'s still continued the attack, and goals were secured by Talbot and Hay, the former running down the whole length of the ground and putting in a grand shot which beat the O.B. custodian. Another goal for Bart.'s was scored by Prance from a centre by Robinson, and just before time Moorhouse scored again for the Old Brightonians by a weak shot.

Prance and Talbot played very well for Bart.'s.

Team.—E. H. B. Fox, goal; R. P. Brown and L. E. Whitaker, backs; T. D. Dawson, W. H. Joy, and H. J. Pickering, half-backs; T. H. Talbot, C. A. Robinson, C. H. G. Prance, H. Marrett, and A. Hay, forwards.

Wednesday, Nov. 6th.—ST. BARTHOLOMEWS HOSPITAL v. CASUALS.

Played at Leyton before a good number of spectators. The result was a defeat for the Hospital by three goals to one. Rhodes kicked off for the Casuals, and the ball was taken down to Bart.'s end with no result. The Hospital took the lead then, and kept their opponents well in their own half till Drake getting the ball centred well, and Bryant, aided by a strong wind, put the ball into the net from a long shot. The same player added another within a few minutes from a centre by the outside left. After this Bart.'s were constantly pressing their opponents, but no points were scored. Just before half-time, from a good run Rhodes scored again for the Casuals, half-time score being 3-0. On restarting Bart.'s, with the wind, took the ball into their opponents' end, and were only prevented from scoring by the excellence of the Casuals' goal-keeper. After several unsuccessful attempts, Joy from a good shot put the ball into the net. This was the only point scored by Bart.'s, though it is not too much to say that the Casuals did not get over the half-way line more than three or four times during the second half. Bart.'s sadly missed Willett and Robinson among the forwards, as the shooting was deplorable and in front of goal the play very poor indeed.

Woodbridge was the best of the forwards and Pickering of the backs.

Team.—E. H. B. Fox, goal; R. P. Brown and L. E. Whitaker, backs; A. H. Bostock, W. H. Joy, and H. J. Pickering, half-backs; T. H. Talbot, R. Waterhouse, C. H. G. Prance, E. W. Woodbridge, and A. Hay, forwards.

Saturday, Nov. 9th.—ST. BARTHOLOMEWS HOSPITAL v. REIGATE.

Played at Reigate before a large number of spectators. The play was of an exceedingly even character, and time was called without any point being scored. Bart.'s kicked off down hill, and for a long time Reigate did not get away at all. Several shots were put in, but lobs, the Reigate goal-keeper, was quite equal to stopping them. Without his assistance Reigate would certainly have succumbed, as shot after shot was sent in to no effect. Meanwhile Fox was very busy, and though he had only one difficult shot to stop there were several occasions which a less experienced keeper might have been unequal to.

Pickering was the best of the backs and Robinson and Talbot on the right wing did some very useful work. The Reigate backs were a very good pair.

Team.—E. H. B. Fox, goal; R. P. Brown and L. E. Whitaker, backs; A. H. Bostock, W. H. Joy, and H. J. Pickering, half-backs; T. H. Talbot, C. A. Robinson, E. W. Woodbridge, M. D. Wood, and A. Hay, forwards.

Saturday, Nov. 16th.—ST. BARTHOLOMEWS v. BECKENHAM.

This match was played at Winchmore Hill, and resulted in a very easy win for the Hospital by ten goals to nothing. The wind, which was blowing very hard straight down the ground, spoilt much of the play. Five goals were scored in each half—by Robinson (1), Talbot (1), Hay (1), Willett (4), Woodbridge (3). The forwards were very well together.

Team.—E. H. B. Fox, goal; L. E. Whitaker and R. P. Brown, backs; A. H. Bostock, W. H. Joy, and H. J. Pickering, half-backs; T. H. Talbot, C. A. Robinson, J. A. Willett, E. W. Woodbridge, and A. Hay, forwards.

Wednesday, Nov. 20th.—ST. BARTHOLOMEWS HOSPITAL v. HASTINGS.

Played at Hastings before a large number of spectators, resulting in a win for the Hospital by one to nothing. Bart.'s lost the toss and played against the wind. Willett kicking off. The ball was immediately taken down to the Hastings end, and shots were sent in by Pickering and Deck, which however went wide of the post. Hastings then took possession, and taking the ball down to Bart.'s end things looked dangerous, but the pressure was relieved by a good volley by Brown; Talbot getting the ball and running down sent a shot in with great force, it however just skimming the cross-bar and going over. At half-time no points had been scored, but on re-starting, Bart.'s, keeping their opponents well in hand, besieged the goal time after time until Willett from a centre by Woodbridge put the ball into the net. The point, however, was disallowed owing to an energetic appeal for offside by Hastings. Shortly after Hay from a good run sent in a shot which went into the net. No more goals were scored for either side, though on several occasions it seemed as if Bart.'s must score, but the efforts of the back division of Hastings were sufficient to cope with them.

Time was called with the score at one to none in Bart.'s favour after a very enjoyable and good game.

The Bart.'s team played very well together and not individually as is sometimes the case. Deck, who took Joy's place, played very well at centre half.

Team.—E. H. B. Fox, goal; R. P. Brown and L. E. Whitaker, backs; A. H. Bostock, E. J. Deeks, and H. J. Pickering, half-backs; T. H. Talbot, C. A. Robinson, J. A. Willett, E. W. Woodbridge, and A. Hay, forwards.

After the match an excellent tea and concert was provided for our benefit by several old Bart.'s men resident in Hastings, namely, Messrs. Christopherson, Coventon, Gabb, Jowers, Trollope, Wadd, and Wilson.

Mr. Christopherson, in the chair, rose to propose success to St. Bartholomew's Hospital, and Mr. Brown, the captain of the Bart.'s team, replied in a few well-chosen words, thanking our hosts, in the name of the team, "for the very kind way in which the Bart.'s men of that town had now for three consecutive years given the representatives of their Hospital a welcome which made the fixture with Hastings Athletic the event of the year among the Hospital fixtures." Between the speeches and after the concert went merrily on the quartette of Messrs. Holyoake, Wait, Hessey, and Redmayne being especially admired. Towards the end of the concert Dr. Gabb was called upon very vigorously for a speech, and after futile protests, finding the opposition too strong, he rose to his feet and in a very humorous speech described his pleasure in forming one of the seven giving the tea and concert to the Bart.'s representatives. Of one thing he may be sure, that we shall not easily forget the cordiality of our reception nor the excellence of the entertainment.

As soon as the concert was finished we had to hasten away with great reluctance to catch the last train back to town.

THE RUGBY CUP TIES have been drawn as follows:—**First Round.**—(A) Charing Cross v. St. Bartholomew's, January 27th; (D) Guy's v. Middlesex, January 28th; (C) St. Thomas's v. London, January 30th. **Byes.**—University, St. George's, St. Mary's, King's, and Westminster. **Second Round.**—(D) Winner of A. v. winner of B, February 10th; (E) Winner of C. v. University, February 11th; (F) St. George's v. St. Mary's, February 12th; (G) Westminster v. King's, February 14th. **Semi-Finals.**—(H) Winner of D. v. winner of E, February 25th; (I) Winner of F. v. winner of G, February 27th. **Final.**—Winner of H. v. winner of I, March 5th.

Smoking Concert Club.

ATURDAY, November 30th, was a red-letter day in the annals of the Club, as it was marked by a concert which fairly eclipsed any previous effort of the executive; in fact we shall never see another like it, because Gale has made his last appearance at a Bart.'s smoker. This concert, accorded as a farewell to the founder of the Club, and one whose "turn" has been the chief attraction at the smokers since they were started, was given at the Frascati Restaurant before a "bumper" house of Bart.'s men, from the Staff down to the Freshers. Gale, the hero of the evening, received a memento from his old friends in the shape of a case of pipes and a portrait of Kahere. The Chairman, in making the presentation, said the pipes would serve to keep the memory of the Smoking Concert Club and its doings green in the mind of the owner, and hoped they would solace him in times of perplexity. In returning thanks in a quaint and telling speech Gale wished the Club prosperity, and concluded by proposing the health of the Smoking Concert Club, coupled with the name of Mr. Marsh, the President. The toast was received with acclamation and a roar of approval. The success of Gale's songs was immediate and immense; it is difficult to say which is his *chef d'œuvre*, but the song describing the adventures of Dring and Bolton under the auspices of a brass plate is too funny for words, and convulsed his hearers. "The Birdseye Fill," another of Gale's latest compositions, sung with comic vigour, and excellent effect by Mr. J. K. Birdseye, brought the house down once again, and when Messrs. Gale and Birdseye responded to the encore and sang the famous duet, "The Missing Word," the house was on the verge of syncope. The audience shouted for more, and in the course of the programme Gale appeared again, and sang "The Doctor," "The Bartholomew's Ball," and "The Lost Chord" (his own version). The other items in the programme were distinctly good. Mr. J. Edgar officiated at the piano most satisfactorily. Dr. Haydon, whose technique shows consistent improvement, played a violin solo, a "Romance" by Svendsen, which was favourably received. Mr. C. G. Meade gave the audience an opportunity for a chorus by singing "Flat-footed Jane" in his well-known style, the last verse ushering in Mr. Marsh and his guests, who received a hearty welcome. Mr. John Macauley, whose fine voice was heard to great advantage in "Take a pair of sparkling eyes," sang splendidly, and was vociferously encored. Mr. F. E. Meade made his *début* before a Bart.'s audience, and delighted everybody with his singing of "Thy Sentinel am I." In response to an encore and loud requests he sang "Drinking, Drinking, Drinking!" The next turn was an agreeable surprise to everybody, Mr. George Robey skipped on to the stage and sang "Dear Kind Doctor," the Club is much indebted to him for his kindness in coming, though at great personal inconvenience. The same remark applies to Mr. George Beauchamp, whose song, "One of the early birds," was applauded to the echo. The second part opened with a pianoforte selection by Mr. J. Edgar. Mr. Macauley scored another success by singing "Say Au Revoir" by Mr. Frederic Russell; he gave a very clever exhibition of his art, and put his "Coster" through manoeuvres funny enough to make a sphinx chuckle. The Concert concluded with an enthusiastic roar, which might have been diagnosed at times to be "Auld Lang Syne." Amongst those present were Mr. Marsh, Mr. Rowley, Mr. Jessop, Mr. Waring, Mr. Wallis, Mr. Sloane, Dr. Hayward, Mr. Weir, and Mr. Gill. The Junior Staff were strongly represented. Three hundred is approximately the number of those present. The appearance of the room was immensely improved by ferns and flowers, very kindly provided for the occasion by Mr. Marsh. We cannot conclude without wishing Gale many turns of good fortune and a very successful practice in the Antipodes. He leaves for New Zealand early this month.

Golf Match.

GUY'S HOSPITAL v. ST. BARTHOLOMEWS HOSPITAL.

GUY'S.		ST. BART'S.	
C. Coventry	0	F. W. Robertson	3
W. G. Mitchell	0	P. Furnivall	1
C. Trouncer	0	L. Evans	3
J. Bevis	7	R. C. Bailey	0
E. N. Scott	4	A. N. Weir	0
F. G. Thomas	0	G. W. Ellacombe	0
P. R. Lowe	5	H. Lance	0
C. Shepherd	4	J. Blagden	0
G. Duncan	7	Dr. Bowman	0

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The above match took place on Friday, October 25th last, over the Bickley Golf Club Ground, when Guy's won by a majority of 14 holes. Several of our men were without caddies—a circumstance which always has a deleterious effect in such a match.

C. Coventry and F. W. Robertson. This match at the start appeared to be a runaway thing for Robertson, who was 6 up in the first seven holes, also 6 up at the turn. Then Coventry, who besides having had luck was playing much below his form, woke up, and coming in with a good score of 38 for the last nine holes reduced the lead to three holes.

W. G. Mitchell and P. Furnivall. This was a close match. It was of ding-dong character all through; Furnivall was 3 up and 2 to play, but lost the last two holes.

C. Trouncer and L. Evans. Evans played a strong game all through, and was never down, winning at the last by 3 up.

J. Bevis and R. C. Bailey. Bailey had the misfortune to be drawn against a player much his superior, and one who has had the advantage of a longer training in the game. Dainty, though obviously overmatched, played pluckily, and was beaten but not disgraced. Bevis was thought to be one of the strongest players on the field.

E. N. Scott and A. N. Weir. Weir was not in his best form; he was 3 up in the first four holes, square at the turn. Then Scott playing a strong game stood 4 up at the finish.

F. G. Thomas and G. W. Ellacombe. These two played in the first of our matches, when Ellacombe was successful; this success he was able to repeat after a well-contested game.

P. R. Lowe and H. Lance. This was a well-contested and even match up till the turn, and then Lowe came away with a strong game doing the last nine holes in 38, and won as above.

C. Shepherd and J. Blagden. This was a good match. No doubt Blagden will give a good account of himself if this couple meet again in our future matches.

C. Duncan and Dr. Bowman. This, as in the case of Bailey, was a match of a player of about to handicap allowance against one of 20. There is, therefore, no cause for surprise that Dr. Bowman was defeated, and indeed, he did well not to be more severely beaten.

Looking at the match as a whole the better side won. The team sent out by Guy's Hospital was one of very even calibre; their average handicap allowance would not exceed 7. Our average handicap lay at about 12.

We hope many future matches will be played, and that this match first started by Guy's will extend to other hospitals, and be the means of good fellowship among golfers at all the hospitals.

Reminiscences.

THE two following cases sent to us by Dr. Lloyd Williams, of Colwyn, North Wales, a late Bart.'s house surgeon, show that house surgeons of the present time meet with much the same style of thing as their predecessors did thirty years ago.

CASE I.—A man, accompanied by a friend, walked to the surgery with a history that he had, whilst crossing Ludgate Hill, been struck by the pole of an omnibus on the bridge of his nose. When seen he appeared muddled, although he gave his name and a hazy account of what had happened. He did not smell of liquor, his friend stating from his own knowledge that the patient was, and had been for years, a total abstainer. For safety's sake I suggested he should stay at the

hospital, and walked with him across the square to Rahere, the late Mr. Coue's Accident Ward, Sister being told I wished the man to get into bed, which he did. He was seen in an hour's time, and seemed in sound natural sleep. At intervals he was visited, when the breathing was each time found to be more stertorous. Finally, about five hours after admission he died.

Post-mortem, which, by the way house surgeons then did (surgical registrars not then having been invented), it was found that both nasal bones were fractured, and that a fracture ran along the cribriform plate of ethmoid, and on to the lesser wing of the sphenoid on the right side. Over the fracture a clot of blood about the size of an egg was found.

This case exemplifies the wisdom of the golden rule paraphrased by the late Sir W. (then Mr.) Lawrence in his clinical lectures. If in doubt, "ward"—many a scandal and sensational newspaper paragraph being thus avoided, and Alma Mater *honorum* passed on untroubled.

CASE 2.—Drunk or dying?

Called to surgery one night to a "police case," found woman on stretcher, four policemen and a sergeant; she having been carried all the way from the neighbourhood of the "Angel" at Islington.

History.—Said to have fallen backwards getting out of an omnibus. Having examined her carefully, finding no surgical injury, and observing pupils sensitive to light, I said to the "box-carrier," "Clerk, fetch Mr. Wood." With that the *quasi-moribund* jumped up, and said, "No, I am d— if you do." Anyhow, Mr. Wood was sent for, and came, the patient having meanwhile been placed in the old arm-chair, bracelets and garters being adjusted.

Enter Mr. Wood. "Hullo! here again, Clark? Pint of half-and-half, bunker, battery (half and half being Lotio Zinci Oss. and that wonderful cure-all H.M.S. & M.S. Oss). The result speedily followed, and in a short time a procession out of the surgery of an empty stretcher carried by the aforesaid P.C.'s, officered by the sergeant, and bringing up the rear the restored one, vowing eternal vengeance on the humoured head of Mr. Wood, the apothecary. The necessity for house physicians had not then dawned on the Hospital authorities. Thus the case was one of neither dead nor drunk, but malingering.

Appointments.

ABRAHAM, P. S., M.A., M.D., &c., to be Assistant Surgeon to the Hospital for Diseases of the Skin, Blackfriars.

TINDALL, ALEX. McL., M.R.C.S., L.S.A., to be Medical Officer to No. 2 District of the Market Harborough Union.

BAONALL, OAKLEEV, J. L., M.R.C.S., Staff Surgeon to H.M.S. "Sappho."

SURGEON CAPTAIN F. E. SWINTON is appointed Personal Assistant to the Principal Medical Officer Bombay Command.

Examinations.

M.B. LONDON.—The following have passed the M.B. final held last month.—1st *Division*, A. R. Cook, D.Sc., S. Gillies, G. H. Sowry, H. J. Walton. 2nd *Division*, J. H. Bodman, G. A. Grace Calvert, C. S. de Segundo, P. W. Dove, A. C. Gurney, J. P. O'Hea, M. G. Pearson, B.Sc., F. A. Smith.

FINAL F.R.C.S.—The following have passed the final F.R.C.S. recently held.—F. Fraser, Christopher Addison, T. R. Smith, F. E. A. Culby, T. Haig Brodie, H. S. Elworthy, J. W. Haines, Foulerton, and J. L. Dick.

FIRST F.R.C.S.—The following have been successful:—R. E. Newton, M.D., B.Sc. (Glas.), H. H. T. Dent, T. C. Littler Jones, W. J. Harding, E. C. Morland, A. W. Dickson, and S. H. Berry.

FINAL M.B. LONDON (HONOURS).—*Medicine*—1st Class, S. Gillies (bracketed third), and Class, A. R. Cook (second), G. H. Sowry (third), H. J. Walton (eighth). 3rd Class, J. H. Bodman.

FINAL M.B. LONDON (HONOURS).—*Forensic Medicine*. 1st Class, S. Gillies (second) Gold Medal, 2nd Class, M. G. Pearson (fifth place), 3rd Class, A. R. Cook (third place).

OBSTETRIC MEDICINE LONDON (HONOURS).—1st Class, S. Gillies (Scholarship and Gold Medal), A. R. Cook (fourth). 2nd Class, J. H. Bodman (fourth), G. H. Sowry (sixth).

Dr. F. W. ANDREWES has just taken the degree of M.D. in the University of Oxford.

Mr. G. V. WORTHINGTON has taken the degrees of M.B. and B.C. in the University of Cambridge.

OXFORD D.P.H.—F. J. Sadler, M.B. (Oxon.) and W. H. Symons, M.D. (Brit.), F.I.C., have just passed the above.

Correspondence.

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

SIR,—Mr. Steadman's suggestion is a very happy one. Few men who have held appointments at Bart's but would be glad to have some memento of dear old Mark Morris. Words fail to describe the ready and valuable help he was always willing to give us. His bright cheery manner helped us in many a difficulty.

I would willingly subscribe towards an engraving of his portrait—I am, faithfully yours, F. W. STRUGNELL.

[If those gentlemen who wish for a copy of the portrait of Mr. Mark Morris, which hangs in the Steward's Office, will send in their names to Mr. W. E. Sargant (Business Manager of the JOURNAL), the JOURNAL will take the necessary steps to secure its reproduction either as an engraving, or as an "autotype." The cost, provided the sufficient number of names is sent in, will not be more than 10s. 6d.—possibly less.—ED.]

Review.

SCANDINAVIAN AND RUSS, or BY WAY OF THE BALTIC, by J. A. Manton, M.R.C.S., L.R.C.P.—This little book, which is profusely illustrated by reproductions from his own photographs, gives an account of Mr. Manton's holiday trip in Scandinavia and Russia. It is written in a clear, chatty way, and at the same time contains much useful information and many hints derived from actual experience, which cannot fail to be very serviceable to anyone contemplating a holiday on the Baltic. In the appendix we find a fund of particulars of where to go and what to see in Christiania, Copenhagen, Stockholm, St. Petersburg, and Moscow, and their neighbourhoods. We commend the book to all who contemplate a holiday in those parts.

Births.

COOK.—On November 15th, at 22, Newport Road, Cardiff, the wife of Herbert G. Cook, M.D., F.R.C.S., of a son.

KENDLE.—On December 4th, at 7, Buckland Terrace, Plymouth, the wife of C. E. Russel Rendle, Surgeon (son of E. M. Russel Rendle, of 11, Athenaeum Terrace, Plymouth), of a son.

WARDE.—On November 9th, at Knowlesy, Prescott, the wife of Wilfrid Brougham Warde, M.R.C.S., L.R.C.P., of a son.

Marriage.

NEWINGTON—SOUNDY.—On the 4th December, at St. Nicholas Church, Sutton, by the Rev. W. H. Turner, M.A., Charles W. H. Newington, M.R.C.S., L.R.C.P., son of the late S. W. Newington, Surgeon, of Goudhurst, Kent, to Maud, daughter of the late W. B. Soundy, formerly of Redhill, and of Mrs. Soundy, Stanley House, Sutton, Surrey.

ACKNOWLEDGMENTS.—*Guy's Hospital Gazette*, *St. George's Hospital Gazette*, *The Student* (Edinburgh), *On the Localisation of the Foramen at the Base of the Skull*, by EDWARD FAWCETT, M.B., C.M. Edin.

St. Bartholomew's Hospital



JOURNAL.

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JANUARY, 1896.

[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, W. E. SARGANT, M.R.C.S., at the Hospital.

All communications, financial or otherwise, relative to Advertisements ONLY, should be addressed to J. H. BOOBY, Advertisement Convoasser and Collector, 29, Wood Lane, Uxbridge Road, W.

A Cover for binding (black cloth boards with lettering and King Henry VIII Gateway in gilt) can be obtained (price 9d. post free) from MESSRS. ADLARD AND SONS, Bartholomew Close. MESSRS. ADLARD have arranged to do the binding, with cut and sprinkled edges, at a cost of 1s. 6d.—cover included.

St. Bartholomew's Hospital Journal,
JANUARY 14th, 1896.

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

To Old Bart's Men.

NOTHING, it is said, succeeds like success, but few projects enjoy so great a success as that which has attended the publication of a ST. BARTHOLOMEW'S HOSPITAL JOURNAL. Started nearly two and a half years ago, in the face, we regret to say, of considerable opposition, its circulation has increased steadily and uniformly from the commencement, and we now feel amply justified in predicting that so long as there is a medical school at Bart's, so long will there be an "official organ" of the students of that institution.

As has been often stated, one of the main objects put forward by those who first set the infant JOURNAL on its feet was the bringing of old Bart's men into a closer relation,

not only with each other, but also with their old school. It was felt that famous as Bart's men were for their affection for their Alma Mater, there were yet many men in distant parts of the country, and out of England, who could seldom revisit their school, and whose sources of information, as regards the doings either of their contemporaries or of their successors at St. Bartholomew's, were few indeed. To these it was believed the JOURNAL would serve as a constant channel for welcome news.

The first number of the JOURNAL, published in October, 1893, was sent to every old Bart's man whose name was in the Directory. The result, though encouraging, did not represent so great a percentage of old Bart's men as had previously been hoped for, and in consequence it was decided to repeat the process with the thirteenth number of the JOURNAL, published in October, 1894. On this occasion there was a most gratifying increase in names of old Bart's men on the subscribers' list,—so gratifying, indeed, that the advisability of making another effort at a later date in order to add as many as possible of the remaining names to our list was at once decided upon.

The Finance Committee of the Amalgamated Clubs has chosen the present issue for the occasion, and accordingly this number will be sent to every Bart's man whose name can be found in the Directory.

Should our attempt meet with anything like our previous success, we do not doubt but that it will be long ere it again becomes necessary to remind Bart's men of the existence of the JOURNAL.

We have, however, in sending out this number a further object than the increase in our subscribers' list. We are particularly anxious to supply our readers with more news of old Bart's men. We hesitate to again formulate so old and oft-repeated a request. Surely it is no great thing that we ask, merely that a man on getting an appointment or doing anything that is likely to prove of interest to the friends of his student days, will write a note of the same upon a post-card and address it to the Editor. Perhaps modesty is our opponent in this endeavour; if so, we cannot but express the opinion that such modesty smacks of the

"pride that apes humility," and for the sake of those who do not agree with our opinion we will add that editorial secrets are carefully recognised as such. Even the Publication Committee do not enjoy a knowledge of our sources of information, still less could they translate the *noms de plume* in our Correspondence column. Several old Bart.'s men are kind enough week by week to keep their eyes and ears open, and to send us during the first week of the month various items of news which they consider likely to prove interesting to readers of the JOURNAL. It is to these men that we are indebted for many of the notices of Births, Deaths, Marriages, and Appointments, and to them we tender our sincere thanks for the trouble they take.

On the other hand, it is a matter of common occurrence for us to receive grumbling letters from men whose names appear with some slight inaccuracy in the qualifications. These men have their own laziness to thank. Such errors would never occur if they themselves sent us an accurate notice.

For the sake of those who may still be ignorant of the exact state of affairs, it may perhaps be as well to dip into history and explain the footing on which the JOURNAL stands. Since October, 1892, the various athletic clubs of the Hospital have been amalgamated financially, under the title of "The Amalgamated Clubs," and this body has in turn been amalgamated with the Abernethian Society, so that the present correct designation of the body is "The Amalgamated Clubs and Abernethian Society." The finances of the Amalgamation are controlled by a Finance Committee composed of representatives from the various constituent bodies. The JOURNAL is the property and official organ of the Amalgamation and is under the control of the Finance Committee. An endeavour is made each month to report the doings of the Clubs and of the Abernethian Society, together with a certain amount of clinical news of the Hospital. From time to time papers are contributed by members of the staff, while clinical lectures appear at intervals. The "Notes" column is intended to contain items of general interest to either present or past Bart.'s men.

Efforts are at the present time being made to establish a "Pathological Department," in which pathological examinations will be made at a fixed scale of charges, for the benefit of readers of the JOURNAL. It is hoped that these arrangements will shortly reach completion.

In conclusion, we would direct the attention of old Bart.'s men to the slips enclosed with this number relating to the engravings of the portrait of our late steward, Mr. Mark Morris, by Oulless. Already a considerable number of names have been sent in. Those who wish for copies of the engraving should send back the slips without delay.

The continuation of Mr. Langdon Brown's Abernethian Society paper on the "Mechanism of Phagocytosis" is, we regret to say, crowded out of this number, but will appear in the next issue.

A Fading Record: Early Observations on the Ray Fungus by Mr. Thomas Smith, F.R.C.S.

By A. A. KANTHACK, M.D., M.R.C.P.

IN 1845 B. von Langenbeck, the great German surgeon, while examining some morbid tissues microscopically, discovered curious, star-shaped bodies which he was unable to explain, nor could compare to anything else at that time known to him. It was not till 1878 that the nature and meaning of this discovery was made clear. Then James Israel* of Berlin published his first account on the ray fungus which he found in the tissues of a man who apparently had suffered from pyæmia. Langenbeck, not understanding what he saw, had not made his observations known, but he allowed Israel to publish the drawings which he had made for his own information and instruction in 1845. Since Israel's paper, actinomycosis, the disease produced by the ray fungus, has been recognised as a by no means uncommon affection, and further it has been shown that formerly what was actually actinomycosis had been frequently diagnosed and included under tuberculosis or sarcoma. Thus in our own Museum, under "Diseases of the Liver," there is a specimen (No. 2239) which in the catalogue was described as tuberculosis until I examined it at Mr. Edgar Willett's request, and proved it to be undoubted actinomycosis. In the animal the ray fungus had been recognised by Bollinger † in 1877; and curiously enough the Indian surgeons, so much maligned in certain quarters for their want of learning and scientific enthusiasm, saw in the Indian fungus disease, or mycetoma—also called Madura disease—a lesion not sarcomatous nor tuberculous in nature. This was in 1866; in 1886 Vandyke Carter suggested that some forms of mycetoma are produced by a fungus resembling the actinomycetes in nature. That the yellow variety of mycetoma is actually caused by a form of actinomycetes or ray fungus was proved by me in 1892. ‡

I now wish to record an unknown page in the history of actinomycosis, discovered by Mr. Rudolf Smith among some papers belonging to his father, our senior surgeon. It is a faded sheet of note-paper, covered with neat writing and pencil drawings, both of which show distinct traces of old age. The date of this paper is about 1855. Mr. Smith was then examining the tissues of some interesting and obscure case for Sir James Paget (then Mr. Paget), whose assistant he was. Messrs. C. H. Cosens and E. W. Roughton have kindly photographed the page with the drawings, which is here reproduced. Mr. Smith's own words read as follows:

"Whitish colour slightly tinged with yellow—breaks up easily, no fluid can be pressed out. A section under a low

* Virchow's Archiv, lxxiv, 1878.

† Centralbl. f. d. med. Wiss., 1877, No. 27.

‡ Journal of Path. and Bact., vol. 1.

power looks like an — colloid, only that the interspaces are not so uniformly ovoid. The cells? the more they are magnified the less like cells do they become—and the more evident does the fibrous element show itself. Under a $\frac{1}{4}$ and when together the cells look a little like (starch granules), but have radiating lines running from their circumferences—they are faintly yellow—it is almost impossible to separate them from one another, they seem to break up into fibrous tissue and smaller cells, referred to below, if finely dissected. They are apparently spheroidal, and are matted with each other and with the fibrous tissue. There are as well abundant smaller cells like irregular glandular epithelium.

"The tumour contains a large quantity of imperfectly formed bone mixed up with the proper structure, it creaks when cut with the knife as if the blade were passing between osseous granules. I have seen just the same appearance in ossifying fibrous tissue as is generally presented in this growth, though of course have never met with glandular epithelium cells in the former, but the shining and apparently spheroidal radiated cells and the fibrous tissue arranged as in colloid I have seen either in periosteum or in a kitten's cranial bones."

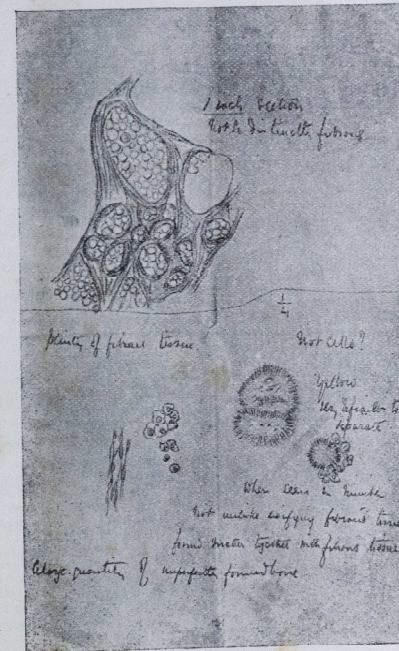
The next page is faithfully reproduced in the accompanying figure, and it we must study more carefully now. It is evident that Mr. Smith had a case of actinomycosis before him which completely baffled him. In the lower right hand corner of the drawing we find very good representations (under the high power) of the ray fungus, the fringed periphery where the clubs are, and the central granular mycelium. They are correctly described as "yellow," and equally correctly Mr. Smith writes "not cells," for of course they are not cells. "Very difficult to separate,"—this also is true, but I cannot understand what tempted Mr. Smith to say that "when seen in number not unlike ossifying fibrous tissue," as is written below the excellent drawings of the fungus. I dare say Mr. Smith himself can hardly understand this now, even if he could

then. He further says, rightly, that the masses were "found unatted together with fibrous tissue," and that there was "a large quantity of imperfectly formed bone." The "glandular epithelium cells" are undoubtedly the epithelioid cells which we find in the infective granulomata (so-called) to which class the actinomycotic lesions belong. The oat-shaped bodies, seen in the drawing in the left hand lower corner, are undoubtedly clubs separated off from the fungus. The "one inch section" in the upper half of the page fairly well represents the appearances of the lesion;

we notice the marked fibrous tissue,—"plenty of fibrous tissue," Mr. Smith writes,—and the number of spheroidal bodies, which are no doubt the fungus masses. These cells "look a little like (starch granules)," he says, "but have radiating lines running from their circumferences." Apparently Mr. Smith does not quite like his simile, for he encloses the starch granules in brackets. The radiating lines are the rays, and these he, again correctly, describes as "faintly yellow." Although Mr. Smith ends up by saying that he has seen just the same appearance in ossifying fibrous tissue or in periosteum and in feline cranial bones, I must question this; nor does he himself seem to be quite certain about it.

It is evident, then, that independently Mr. Smith had discovered the ray fungus ten years later than Langenbeck, and like him had drawn it without knowing what lay before him. Unfortunately he had no Israel to secure the fungus for him. I also understand that the sections and specimens described by Mr. Smith were obtained from a tumour of the upper jaw—a significant point.

To me this little sheet of notepaper, fading and soiled with age, was of great interest, and I am grateful to both Mr. Smith and Mr. Rudolf Smith for permitting me to record this unobserved and hidden discovery. With insufficient microscopes and coarser methods our masters and teachers knew how to achieve great results, and knew how to make good and sound observations. Unfortunately,



this one was doomed to obscurity, but that matters not, to me at least, for I admire the objective description and the truthful drawing, and the acute eye that recognises the unknown, even though the mind fails in grasping it. I doubt not that other Bart.'s men will share this admiration with me.

A Clinical Lecture on the Etiology of Mistakes in Diagnosis.

By HOWARD MARSH, F.R.C.S.



ENTLEMEN,—It is obvious that the results of your treatment must largely depend, in any given case, on the diagnosis that you have formed. Your opinion, in other words, as to what is the matter with a patient determines to a great extent what you do for his relief. Yet that diagnosis is often at fault—either positively erroneous, so that the symptoms observed are attributed to one cause when they are really due to some other; or incomplete and inadequate, so that no precise opinion is arrived at in a truth with which every one is only too familiar. Now I think it may be useful to study the various causes to which these defects of diagnosis are due,—to endeavour to ascertain how it is that mistakes are so apt to occur. Before we enter upon this act of penance, however, we may fairly remember that great advances in accurate diagnosis have been made in many directions in the course of the last few years.

1. It behoves us all to recollect that *our acquisitions may be deficient*. We may be ignorant of what others know, because either our opportunities, or our diligence and attention, have failed us. Or our powers of observation are deficient, our perception is obtuse, so that we do not notice what others see at once. An Indian hunter sees a footprint in his path, or a curl of smoke on the horizon, or he hears a sound which others cannot detect. Wild animals are keen observers: nothing escapes their notice. Our special senses, unless we train them carefully, are poor and rudimentary in comparison with theirs. Yet our sight, our hearing, and our sense of touch may be developed to a high degree of perfection by cultivation. This is best seen when they undergo what may be termed compensatory development. In a blind man the senses of hearing and of touch become so enlarged and intensified that the loss of sight is to a striking extent made good. Yet how few of us adopt the systematic practice of educating our special senses: our sense of sight, for instance, by a standing habit of studying a picture or some other object until we feel sure we really see all that it presents. How often should we have to answer the question, "Did you notice so and so?" by confessing "No, I am afraid I did not." It has been well said that "the eye sees what the eye brings the means of seeing." How keen and highly trained must the faculty of observation be in a great portrait painter. How completely he must see what there is in a face before he can produce a true likeness. In the diagnosis of a case one man will see things which will guide him at once to a correct conclusion. To another, these things, and what they plainly indicate, are as if they did not exist. He completely overlooks them. I remember at a clinical examination showing a candidate a diseased knee-joint, and asking for his diagnosis of the case. The affection was osteo-arthritis. I had no sooner, however, asked the question, than the patient placed his hand, all the finger-joints of which were enlarged and distorted, so that they presented a typical example of the disease, on the front of his thigh within six inches of the knee. With this tell-tale hand in this position, I felt it was useless to pursue the question further. Here, however, I was wrong, for the candidate came to the conclusion that the disease was tuberculosis. He did not in fact see the hand, on which "osteo-arthritis" was so plainly inscribed.

The following story is an old one; nor can I fully vouch for its literal accuracy. But in spite of both these drawbacks, it may still convey a useful lesson. While a quack in a country town was seeing his patients, a woman of thirty-five, who was a complete stranger to him, entered his room and handed him a bottle of urine. After he had inspected the bottle carefully, the following dialogue, history informs us, occurred. This is your husband's? Yes. He is older than you are—he is sixty-three? He is just sixty-four. He is a tailor? Yes. You come from —? (naming a village three or four miles off). Yes. Now how did he arrive at all these facts? He was a shrewd man, and one who had long cultivated the faculty of close

observation. The woman was married, for she wore a wedding ring. Her husband was living, for she was not in widow's weeds. The specimen did not refer to her own case, for she was evidently strong and well—probably the urine was her husband's. Floating in the bottle he saw a gray hair. This suggested that her husband was old. He saw some "list" (the selvage of cloth) rolled round the cork to make it fit the bottle. This list would be mere waste in a tailor's shop, but rare elsewhere. This indicated that the man was probably a tailor by trade. He noticed that she had some light-coloured loam on her boots, which was to be found in one place, and one place only in the neighbourhood—the village he had named. Now, although this man was "only a quack," his performance was admirable. Let us learn from him, and remember that no man who does not very carefully train his powers of observation can be completely equipped as a practitioner of medicine or surgery. Many mistakes are the direct outcome of detective observation, or deficient cultivation of the special senses.

2. *Instead of being alert, watchful, and critical, you are careless, inattentive, and off your guard.* In this slack state of mind you may easily overlook a dislocation of the humerus in a stout subject, a Colles' fracture without much displacement, or a small femoral hernia.

3. In a difficult case you omit to repeat your examination when the conditions which at first marked the real state of affairs—such conditions as swelling, severe pain in the part, want of daylight, or the general state of the patient—are removed. A boy of ten, for example, has fallen upon his elbow. When you see him an hour afterwards, and in the dusk of the evening, it may be impossible on account of the swelling to tell what injury has occurred. Or a man is admitted into the hospital when he is tired and jaded, so that he looks ill, and his extremities are blue with cold. You find he has a very ugly-looking swelling involving the lower third of his fibula, and you have no doubt the disease is sarcoma. Now if, in these two cases, you pursue your diagnosis no further, you will in all probability treat both of them wrongly, and will materially injure both your patients. In the one case you will act in ignorance of the fact that the boy has sustained a fracture involving his elbow-joint; in the other you will mistake a large periosteal gumma for a sarcoma, and you will fail to prescribe potassium iodide, which would quickly remove the swelling; nay, you may even amputate a limb that ought not to have been removed. If, on the other hand, you proceed to complete your diagnosis when circumstances have become more favorable—when, in the first case, swelling has subsided after the limb has been placed in a favourable position, and when the patient is, if necessary, under an anesthetic; when, in the second case, the swelling has by rest, warmth, and position been reduced, so to say, to its simplest terms, and when you have learned by going into his history that the patient is affected with tertiary syphilis—you will have no difficulty in arriving at a correct conclusion.

4. *You don't revise your diagnosis.* You forget that a case, as it goes on, may undergo a radical change—that some entirely new element may be introduced. Forgetting this, and as your mind is settled as to the diagnosis, you allow the change that has occurred completely to escape your notice. You are, for instance, attending a patient for gonorrhoeal orchitis, or a young adult for a severe sprain of the wrist. Now in both cases—and I have myself seen examples of the occurrence—the parts concerned may become tuberculous. But unless you are in the habit of revising your diagnosis, the development of this new element, this radical change in the nature of the affection, may totally escape your observation. It is only when much valuable time has been lost, and when the condition at length forces itself upon your notice, or when perhaps your diagnosis is revised by some one else, that your oversight is detected. This engraving of a new and widely different element upon a case in which the original diagnosis was quite obvious may very easily entrap you. I have seen the following among many illustrations of it. A woman had an ordinary abscess in the breast after her infant was weaned. The abscess was opened in due course, and a drainage-tube was inserted. A sinus remained, discharging a small quantity of pus. At the end of two months, when the patient first came to the hospital, it was quite obvious that, occupying the situation of the deeper part of the abscess, was a large mass of scirrhous. This I removed, and microscopic examination left no doubt as to the nature of the growth. A man, with stricture of long standing, had several urinary fistule traversing his scrotum. He had been many months in this condition. At length, however, swelling of the scrotum rapidly increased, and it became plain that a malignant growth was in process of development. Sir James Paget tells that "a boy fell and struck his knee. It had been perfectly healthy, but the inflammatory swelling (as it was supposed) that followed the fall did not subside—rather it constantly increased, and in a few weeks it became

* Surg. Pathol., 1870, p. 685.

probably that a large medullary tumour" (doubtless the growth was really a periosteal sarcoma) "was growing round the lower end of the femur. Amputation proved this to be the case." He also relates that "a sturdy man, at his work, slipped, and strained, or perhaps broke, his fibula. Three days afterwards he had increased pain in the injured part, and at the end of a week, swelling . . . constantly increased. Eight weeks after the injury the swelling was found to be a large medullary growth" (periosteal sarcoma?) "around and within the shaft of the fibula, and the limb was amputated." I have myself seen a sarcoma develop at the site of a recent fracture of the humerus.

5. *You overlook some possibility which you ought to have taken into account, and you can only say "I never thought of that," or "That never occurred to me."* Thus, in a case in which the patient has angular curvature of the spine, you think only of Pott's disease; you forget that either primary sarcoma, or carcinoma secondary to carcinoma of the breast or some other part may also produce angular curvature. Two examples of this oversight, and in which angular curvature was due to malignant disease, have recently come under observation. Or in a case of abscess in the floor of the mouth you overlook a salivary calculus. Or you overlook the fact that acute cystitis may be due to gout, or that pruritus vulvæ may be caused by diabetes. An amusing illustration of this kind of oversight is afforded by the following anecdote. A patient, many years ago, presented symptoms which it was found hard to account for. Amongst them was a contracted and fixed pupil of one eye. The old family butler having heard this symptom extremely noticed on two occasions, said to one of the learned doctors while a third consultation was going on, "Please, sir, I don't know if it makes any difference, but master has got a glass eye."

6. *The governing facts of the case are not as you suppose.* In other words, your premises are wrong. A sufficiently good example of this is found in an incident which came under the notice of Mr. Thomas Smith. An individual who had more money than either good manners or self control, was assisted from his dining-room to his bedroom, where he fell heavily asleep. Shortly afterwards he greatly alarmed his wife by the difficulty of his breathing, which seemed to her usually, on going to bed, left in his dressing-room, were nowhere to be found, his wife feared that he had slipped down his throat; she therefore sent off the groom post-haste for the doctor, who, when he came, made immediate preparations for extracting the foreign body. At this juncture, however, the butler came into the room with the teeth on a silver salver, and said he had found them stuck in the pine-apple. Some years ago a man was brought to one of the London hospitals, having met with a severe accident. As it was found on examination that there was a dorsal dislocation of the femur, the patient, who was somewhat intoxicated, was placed carefully under an anesthetic, and an attempt to reduce the displacement was made; but this failed, and further treatment was postponed. Next morning, however, it transpired that the dislocation had occurred many years before. One other case. A man, thrown in the hunting-field, lay on the ground insensible. A sporting bone-setter, who happened to be at hand, finding the man's neck all awry, jumped off his horse, raised the patient's shoulders, and, placing his knee at the nape of his neck, began pulling at his head to "put his neck in." This energetic usage brought the patient sharply to his senses; and on thus recovering him self and realising what the bone-setter was doing, he shouted "Born so, born so!" In fact he had had a wryneck all his life. Gentlemen, I sincerely hope these incidents may not seem to you to be related in any spirit of unbecoming levity, or in any sense idly. I use them in the hope that they may impress upon you the very serious importance of being careful that the facts of the case you are about to treat are really as you suppose them to be.

7. *You overlook collateral evidence, e.g. of syphilis, or tuberculosis.* Thus in a case of chronic inflammation of the bladder—although you examine other parts fully—you may overlook a small swelling in the globus major of the epididymis, which, had you noticed it, would have strongly suggested that the cystitis was tuberculous.

8. *Diagnosis may be impossible because the disease is unknown.* Anyone who met with a case of Charcot's disease in, let us say, 1865, must have failed to recognise it, for the affection was first described in 1863; while until recently such conditions as syphilis of the joints, and osteitic deformans, anthrax, actinomycosis, infantile scurvy, and syringomyelia were unknown. At present, no doubt, there are many diseases that have yet to be found out.

9. *In some cases a correct diagnosis may be impracticable.* Thus a child twelve months old, who had previously appeared perfectly well, was, while in its mother's arms, suddenly seized with urgent dyspnoea. It had nothing in its hand just before, and had not been recently fed. The symptoms, however, pointed strongly to a foreign body in the

air-passages. Tracheotomy was performed, but, though a little relieved at first, the child died within an hour and three quarters of the onset of the attack. Post-mortem examination showed that a casuous bronchial gland had passed through a circular clean-cut opening into the trachea, and had completely obstructed the right and partially occluded the left bronchus. This remarkable case is related by Mr. R. W. Parker in the twenty-fourth volume of the *Clinical Society's Transactions*.

10. *Characteristic or conclusive symptoms are absent.* A patient has, you suspect, stone in the bladder, but although your suspicion is correct, on sounding you cannot detect it. This may be either because it is lodged behind the prostate, where an ordinary sound cannot be made to strike it, or because it is encysted—for there are such things as encysted stones, although they are very rare. You will agree with me that the conclusive symptoms of fracture of a bone are deformity, preternatural mobility, and crepitus. Yet there are many fractures in which these symptoms are absent, or inappreciable; they are often absent in fracture of the clavicle in children, and they may be inappreciable in impacted fracture of the neck of the femur, in fracture of the pelvis, and, of course, in fracture of the skull.

11. *The same symptoms may be common to two quite different conditions.* To illustrate this, take the case of an enlargement of the head of the tibia, which you believe is either inflammatory or a sarcoma. How will you decide which condition is present? (a) A history of injury would suggest inflammation; yet cases have been given above in which sarcoma followed rapidly upon an injury of the part. (b) As to the shape of the enlargement—a fusiform contour, symmetrical and free from lobes, or irregular bulging, would point rather to inflammatory swelling than to a new growth. Yet a new growth may be smooth, fusiform, and symmetrical, and an inflammatory swelling may involve one side of the bone only, and present a quite irregular outline. (c) An inflammatory swelling may be, as to consistence, quite firm; or, on the other hand, more or less soft, when the superficial tissues have become infiltrated and either firm like bone, or broken down and so elastic that the sense of fluctuation is very closely imitated. (d) As to rate of increase. An inflammatory swelling may increase either quickly or very slowly; and precisely the same may be said of new growths. (e) Myeloid sarcoma may grow slowly, a periosteal sarcoma rapidly. (f) Enlarged and tortuous veins and a dusky appearance of the surface indicate obstruction to the venous return; and although they are no doubt more common and more pronounced in cases of new growths, yet they are without doubt met with also over inflammatory enlargements. (g) Pain may be either well marked or trivial, or even entirely absent, both in inflammatory swellings and in new growths. (h) As to the patient's temperature. This in inflammation of the tibia may be quite normal, or it may be considerably raised. And exactly the same is true when the affection is a new growth. In a case of myeloid sarcoma, slowly increasing, the temperature is usually normal; but I have met with several cases of periosteal sarcoma in which the temperature in the patient's axilla, was between 101° and 102°. Here, then, are seven symptoms which are common to two such radically different conditions as inflammation and new growth; and the result of this circumstance has been that the two affections have been frequently confounded. Inflammatory swelling has been taken for a new growth, and a new growth has been taken for an inflammatory swelling; and, so, grave errors of treatment have occurred. Such errors can only be avoided by most thorough study of the case from every point of view, and by abstaining from radical treatment until an exploratory operation has been resorted to.

12. *You attribute the symptoms you observe to one cause, when they are really due to some other.* Last year my attention was drawn to a boy of twelve, who three days before had fallen upon his tubercle ischii while he was sliding on some ice. He had complained of severe pain, and the part was somewhat swollen and very tender on pressure. His general condition appeared to be very grave. He had severe headache, and was delirious, his temperature was 102°, his pulse 120, and he looked flushed, heavy and dull. The boy's high fever, delirium, rapid pulse, &c., made me afraid that he had as the result of his injury acute infective peritonitis and septicæmia. I do not see how this suspicion could have failed to arise in the mind of anyone familiar with that formidable condition. I had chloroform given at once, and I carefully examined the injured part, expecting, I own, to find evidences of mischief that would require a free incision through the periosteum; mischief that I could make out nothing beyond some swelling, such as might follow an ordinary bruise. The tubercle ischii seemed quite normal. Boracic fomentations were therefore applied, and we were all interested to see what course the case would take. Well, in two days the boy had perfectly recovered, and then it seemed clear that he had merely

had a sharp attack of influenza, an epidemic of which was raging at the time.

A man of twenty-three was some few years ago admitted into the old Lazarus ward with "acute gonorrhoea and orchitis." He had a copious urethral discharge, and there was a swelling in the right side of the scrotum just as if he had very acute orchitis. The skin was dusky, and the part extremely tender. When I saw the patient an hour later I was struck with his general appearance and his symptoms. He was pale, and his forehead was bedewed with beads of perspiration. His pulse was rapid and small, he was sick, and in very great pain and very restless. On further examination I found that his abdominal muscles were rigid, that his abdomen was tympanitic and tender on even slight pressure, and that the swelling in the scrotum was distinctly resonant on light percussion; in short, that the man was evidently not suffering from orchitis, but from acute strangulated hernia, and he was at once submitted to operation.

13. *You forget that the case may be neuromimetic.* A girl of fourteen was admitted into the hospital presenting all the appearances of old hip disease with loss of movement, and long-standing flexion and adduction—showing themselves in the compensatory postures of lordosis, and apparent shortening. I contest I was completely deceived, as others had been; and I made preparations for the treatment of the case by weight-extension in the long axis of the femur. The girl's position, however, was so bad that I had her placed under ether in the hope that I might be able, without using any force,* to "unfold" the limb and bring it into a somewhat more manageable position to start with. When she was asleep we were much surprised to find that the limb had passed into a normal position, and was perfectly movable in every direction. As soon, however, as she recovered consciousness, the full amount of previous distortion and of muscular rigidity forthwith returned. This girl ultimately recovered perfectly under massage, and Sister Stanley's judicious management.

All are familiar with these neuromimetic cases of joints, spines, talipes, &c. Yet you will not find it easy in dealing with them to avoid mistakes and oversights which may have a tragic effect on your reputation in the early years of practice, especially if you have a bono-actor in the neighbourhood.

14. *You forget that your patient may be shamming.* Many of you will recall the case of a young woman lately in one of the wards who had a strange-looking œdema of her upper extremity. I was asked by Mr. Gay, of Putney, to take her in, so that, if possible, we might bring her to the mind of discontinuing the trick of producing this œdema by tying something tightly round the upper part of the limb. When she found that the dressers, sister, and nurses all knew about her, and that she produced the swelling herself, she discontinued the trick, and she was discharged with the limb in a normal condition. Three or four days ago, however, she came, looking the picture of innocence, with her arm again swollen, and with several sores on the forearm, which, there could be no reasonable doubt, she had herself produced. Some of you will also remember that in the course of the summer Mr. Willott showed, at one of the Thursday consultations, a young woman who had a very extraordinary condition of her left lower limb. The limb was in a state of tense œdema nearly up to the groin. Her opposite limb had been amputated for elephantiasis some years previously, and she now wished this limb also to be removed. On investigation it was conclusively proved that she produced the œdema by tying something round the top of the thigh. The remarkable point about this case was that the patient came into the Hospital for the express and declared purpose of having the limb amputated. A girl of fourteen had an odd-looking ulcer on the back of her hand. Was it lupus, or an aggravated chancin, or what? We found out that she produced and maintained it by constantly picking it and irritating it in various ways. We put her hand on a splint, and covered the ulcer with a shield which she could not remove. The ulcer healed. We twice discontinued the splint and shield, and the ulcer on both occasions returned; but it soon healed when they were reapplied. Dr. Savage told me lately of a young lady whose mother was horrified by a terrible sore on her wrist. The girl made light of it, and seemed—in order to save her mother's feelings—to bear the distressing condition with great fortitude. Dr. Savage, however, found that the sore was of her own production. He saw her, when she thought she was not observed, tear off the strapping and liberate the granulations till they dripped with blood, and all this without betraying herself by even a look of discomfort. Many other cases of shamming could be mentioned; but I will here refer to only one, that I have lately seen. A girl of eleven was said to have a very strange condition of her fingers, consisting of free perspiration around the roots of the nails, with the further peculiarity that the axillary fluid was mixed with a large number of fine

air-bubbles. In a few days her parents were distressed to find that a similar condition involved many of the toes. The wonder still grew, and it was noticed that oozing had begun also at the umbilicus, which was occupied by a frothy fluid. It was very early strongly suspected that the appearances were produced by the child herself—by some trick, and on examination the fluid was ascertained to be saliva: in fact, she had been spitting into her finger and toe nails, and into her umbilicus. Her feet, therefore, were enclosed in splints, and covered up so that her plans thus far were defeated; but when the coverings a day or two later were removed, the deeper layers were found quite wet and soaking, and the fluid turned out to be urine which she had dribbled in between her skin and the splints.

The subject of shamming is one of much clinical importance, and one that will call for all the sharpness, discrimination, and judicial temper you may possess. Some imposters have had so much practice, and have learnt so much about the symptoms of the complaint they pretend to be suffering from, that they are very likely to deceive you. When I was house surgeon a woman on one or two occasions obtained admission into the medical wards by shamming intestinal obstruction. She said she had severe pain and abdominal tenderness, and declared she had been very sick, and on examination it was found that her abdomen was tensely distended and tympanitic. When her fraud was detected she made a full confession—and then departed, no doubt, "to fresh fields and pastures new." On the other hand, you may believe a patient is shamming when in reality he is suffering from some serious illness, or the results of a serious accident. Many years ago a house surgeon felt convinced that a highly loquacious and picturesque Irishman who had fallen down was not really hurt, but was shamming in order that he might be taken into the hospital. He therefore made him get out of bed and attempt to walk. After a couple of steps, however, the man gave a sudden cry of pain, and would have fallen had he not been supported. He was then found to have all the symptoms of an extra-capsular fracture of the neck of the femur, which, until he was made to throw his weight upon the limb, had been faintly impacted. In cases in which you suspect shamming it is advisable not to say anything to wound the patient's feelings, and not to use any test that may possibly do harm, for your suspicion may be completely unfounded.

Much more might be added under the title of this lecture, but I hope I have said enough to induce you to study the principles of diagnosis very carefully for yourself.

The Causes and Treatment of Nasal Obstruction in Children.*

By ANTHONY A. BOWLEY, F.R.C.S.,
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MAY I commence by asking you to consider for a few minutes the functions of the nasal cavities themselves? Before we can appreciate the effects of diseased conditions it is evidently advisable to have clear views of the uses of the parts when healthy.

Sense of smell.—The most obvious use of the nose is to smell with, and for the proper exercise of this function it is primarily necessary that the odorous substance shall be drawn through the nostrils with a current of air; for, in the absence of this ability to respire through the nostrils, the latter may be plugged with the most pungent substances without their presence being perceived. It follows, therefore, that any hindrance to nasal respiration will result in partial or complete loss of ability to smell, so that nasal polypi, swollen turbinate bodies, a deviated septum, adenoid growth, &c., may cause impairment of this sense.

Next, the perception of an odour is dependent on a healthy state of the mucous membrane of the nose itself, and consequently of the terminal distribution of the branches of the olfactory nerve, so that in various abnormal conditions of the nasal mucous membrane the sense of smell may be deficient, and even when the sickening smell of œzema is present the patient is unable to perceive that which annoys every one in his neighbourhood.

Thirdly, a healthy condition of the olfactory nerve, and the corresponding part of the brain is necessary for the perception of smell. The most important function of the nose, however, is as an organ of respiration, and it would be well if it were more fully appreciated by mankind at large that the nose, and not the mouth, is the natural

* A paper read before a meeting of the North-Eastern Division of the Metropolitan Counties Branch of the British Medical Association.

passage for the air. The most obvious benefit of nasal respiration is the warming and moistening of the respired air, so that by the time the latter has reached the pharynx it is saturated with moisture, and is warmed to about 80°–86° Fahrenheit. This heating and moistening is mainly due to the turbinate bodies, which, being composed of a very vascular erectile tissue, and controlled by the most delicate vaso-motor nerves, dilate or contract according as the air passing over them is either cold and dry, or warm and moist. It thus results that the mucous membrane of the pharynx and larynx are not dried or chilled by the impact of dry and cold air, and that when they are not so protected by nasal respiration they sooner or later suffer in consequence, and pharyngeal catarrh and recurrent attacks of laryngitis result.

Voice.—The extent to which the character of the voice is dependent on the free passage of air through the nose is a matter of such common knowledge that it only needs very brief mention, for, apart from the fact that the upper or "head notes" of the singing voice cannot be produced with blocked nares, the air in the nasal cavities is thrown into vibrations with every oral sound, and the character of the voice depends largely on this resonance of the air in the nasal cavities.

Finally, the freedom of nasal respiration is essential to the sense of hearing, although this is so frequently overlooked that I must ask you to allow me to dilate a little on this point, and to, at any rate, raise the question as to how the sense of hearing is affected.

It may, first of all, be assumed as a fact that the free admission of air to the Eustachian tube and consequently to the tympanum, is necessary for the proper perception of sound. This air obtains admission through the nares under ordinary circumstances, and is passed into the Eustachian tube when the latter is opened by the action of the tensor or levator palati muscles; but even when the anterior nares are blocked, air may pass from the mouth into the naso-pharynx, and thus reach the tympanum, so that the mere stoppage of the nostrils is not sufficient to close the Eustachian tube. The latter is occasionally, though rarely, blocked by nasal tumours, but is much more frequently closed by catarrh; and I cannot doubt that in most cases of deafness arising from disease of the nose or naso-pharynx it is the catarrh of the Eustachian tube, and not the mechanical blocking of it by growth, that causes the difficulty of hearing. Such a catarrhal inflammation may result from extension of a catarrh from either the nares or the naso-pharynx; and whilst temporary deafness is common enough in the simple "cold in the head," the more chronic forms of Eustachian catarrh are only indirectly dependent on obstruction to nasal respiration.

I think myself that adenoid growths of the naso-pharynx are the most common cause of deafness in childhood, but I feel quite certain that they seldom mechanically block the Eustachian tube. It is a fact, of which I can have no doubt, that the size of these growths bears no direct proportion to the deafness resulting from them; and I attribute the latter to the catarrh which is originated and maintained by the fact that when air does not freely pass through the nares the action of the muscles of respiration, and the suction action of the thorax must make a definite impression on all the yielding structures which lie within their influence, and consequently we should anticipate that a condition of congestion and œdema would supervene in the soft structures of the nose and naso-pharynx. The mucous membrane of the orifice of the Eustachian tube and of the surrounding nares would share in this abnormal condition, and the result would be an obstruction to the free passage of air to the tympanum. Finally, in the more chronic cases, where nasal obstruction has been of long standing, there may result a chronic catarrh of the Eustachian tube itself, and of the lining membrane of the tympanum, and the swelling of these membranes may not only prevent the due entry of air, but may also impede the passage of the mucus. If these conditions have become established a very little mucus may set up a more acute catarrh of the tympanum, resulting in muco-purulent catarrh, and ultimately in perforation of the membrana tympani. When matters have gone as far as this the road is open to a variety of complications, which I will not endeavour to enumerate.

Discharge from the nose.—And now, having thus briefly passed in review the functions of the nose in respiration, and the results to be expected when its functions are in abeyance, I will next ask you to consider a symptom for the relief of which patients are very commonly brought to us, but which is only of importance as an indication of some affection of the nasal mucous membranes: I allude to "discharge from the nose."

Let us first put on one side the common acute nasal catarrh resulting from exposure to cold or wet, and having done so, let us consider the importance to be attached to the character of the discharge

in cases of sufficiently long standing to deserve the name of "chronic."

First, in some cases the discharge is bloody, and slight bleeding is easily provoked; in many such cases little portions of blood-clot come away, and most often the discharge is from one nostril alone. The cause of such a condition as this is almost always a foreign body in the nose, and this is especially likely to be the case if the patient be a very young child, who can give no definite history, and on being questioned, for, the introduction of foreign bodies into the nose is not nearly so likely to be done by children over the age of five or six, and if anything is introduced by such children, they usually at once complain, and become alarmed if unable to extract the body themselves. Further, it should be remembered that various substances may be pushed up the nares of infants by children older than themselves, and that in such cases the parents are always inclined to say, on being questioned, that the child has never been known to place anything in its nose, and that the discharge cannot be due to such a cause. As an illustration of this I may mention that some few months ago a child aged three years was brought to me at St. Bartholomew's Hospital with blood-stained discharge from each nostril which had been going on for nearly a year. I pointed out to the students that such a discharge was usually caused by a foreign body, but that it was, of course, generally limited to one side. It was, however, quite possible that the child had a foreign body in each nostril; and such proved to be the case, for, from one side I subsequently removed a button, and from the other nostril a piece of india-rubber. The mother then told me at a later visit that some of the other children had told her since the removal of these materials that they had stuffed them up baby's nose a long time before for fun. But nothing appears to be in great favour, but I may remark that almost anything which is not too big may be introduced. With regard to treatment, I would only say that, I think it is wise always to examine the patient under chloroform, for the nasal mucous membrane is very sensitive in such cases, and it is impossible to keep the child quiet enough to permit of the introduction of instruments.

Secondly, the discharge may be purulent. In such cases the discharge is usually of many months' standing, and probably commenced as a mucous discharge. The patients are generally as old as five or six, and may be older. There is generally neither pain nor swelling of the nose, and nasal respiration is only partially obstructed. There is not usually deafness, and the voice is not altered in tone. On account of the comparative absence of troublesome symptoms such cases are often brought to the surgeon for many months or years. When the nose of these patients is examined there is comparatively little to be seen beyond some congestion and swelling of the mucous membrane. If treated by attention to the general health, by washing out, and by antiseptic powders, especially by a mixture of equal parts of iodol or iodoform and borax, improvement is soon observed, although many months may be required to complete the cure. In all these cases also the general health is often at fault, and the stomach and the digestive functions require special care and attention.

It remains to be mentioned that in some few cases blood-stained discharge, mixed with muco-purulent secretion, is due to syphilitic ulceration; but this, though common in older people with acquired disease, is rarer in children with congenital syphilis. It should also be noticed that in such cases in childhood there is almost always some thickening and swelling of the whole nose, and especially of its bony parts, the result of inflammation of the bone and the periosteum; whereas in other cases of syphilis also there is frequently ulceration of the palate or fauces, and in some of them œzema is present.

Thirdly, the discharge may be very slight in quantity, but thick, tenacious, and difficult to remove; it tends to form crusts and scabs, which are dark and often blood-stained. There is loss of sense of smell, but the breath of the patient is offensive, and characterised by the sickly, nauseous odour which is only smelt in cases of œzema. Nasal respiration is often free, but may be obstructed by the crust formation in the nostrils. Hearing is not affected until after the lapse of many years, and naso-pharyngeal catarrh is common. This affection does not occur in very young children, is hardly ever seen before the age of about ten or twelve years, and is now commonly named "atrophic rhinitis." An inspection of the nares justifies this term, for, here, instead of finding swelling and congestion of the nasal mucous membrane, it is found that the turbinate bodies are much shrunken and flattened, and the mucous membrane is thin and stretched; the whole nasal cavities appear more large and roomy than natural, but on various parts of the walls are attached the thick blackish or brown crusts already mentioned.

which tend to reduce the patient's resistance,—as, for example, loss of blood, suddenly or slowly brought about, and the severity and length of the operation. And these, when present, have to be taken into account, and the chloroform still further regulated to meet the depression they cause.

III. To these chief principles—graduated system of induction, contracted pupil, and diminishing resistance—is to be added the regulation of the amount of chloroform to the state of the respiration whenever this undergoes any variation. Thus the breathing becomes shallow (cause, stomachic disturbance)—the quantity is at once reduced proportionately; or almost imperceptible (cause, shock from section of the spermatic cord)—the administration is suspended.

By means of this system, the details of which are taught in the practical classes, a constant and uniform anaesthesia is attained, as expressed in the contracted pupil. And the pupil in relation to anaesthesia is the safest sign for our guidance, and must always be frequently observed during its course,—once during every minute with ether, and every half-minute with chloroform. A recent example proves the soundness of this precept, and its practice is rewarded with the first appearance of dangerous conditions, which counteracted at their earliest inception cause no anxiety, but if allowed to ingratiate might terminate fatally. An infant, six months, was chloroformed. Records of the pupil, taken every half-minute up to ten minutes, indicated normal anaesthesia. Within thirty seconds from the last observation the pupil suddenly dilated—the child had previously been rolled on to the left side. The breathing was shallow and the lips slightly livid. The lint was immediately removed, the jaw drawn forward. The complexion at once lost its livid hue, and the breathing improved. But though the pupil became less dilated, it did not reach contraction, nor did the breathing become free. Hence partial mechanical obstruction is not the sole cause of the danger. Vomiting took place; and immediately after the removal of the second disturbing cause the pupil contracted, the respiration became normal, and the operation was completed. Had not this condition been detected at its beginning, and chloroform still continued, it is evident the condition would have been rendered more grave, for the presence of a relative excess of chloroform in the lungs (same amount of chloroform with diminished breathing resulting in overdose) impedes the act of vomiting, which during the interval is inhibiting respiration. And it is by this action of chloroform at a critical juncture that I believe many fatalities are caused. The same amount is given, and the wonder is that what before had been innocuous should now be dangerous. A false impression is cherished, and the notion of chloroform is supposed to be irregular. And, indeed, there is some slender basis for this conclusion, in the fact that at the moment of danger, and previous to it, the amount was not sufficient to kill. But this is not a complete survey of the problem. One factor, and the chief, in bringing about the grave condition is overlooked. Observation of phenomena antecedent to embarrassed or arrested breathing is wanting, or at best imperfect. Perhaps the patient is said to have become pale, ascribed erroneously to cardiac syncope, just before respiration stopped. But the presence of an "undue" amount of chloroform in the lungs, not in itself capable of producing death under normal conditions, but sufficient to still further labour or even arrest respiration, already seriously affected by the inhibiting influence of the stomach, is not taken into consideration. The operation of two forces acting concurrently to produce the same result—the stomach first inhibiting normal respiration, and then chloroform, as a mechanical barrier under the new conditions, tending to increase the already existing burden of respiration—is, however, the true explanation of what, in many instances, becomes a crisis. Neither of these factors (always supposing chloroform not to have been irregularly increasing in amount) is of itself sufficient to kill; but both together may, and it depends upon the relative concentration of chloroform in the lungs whether they will. It becomes, therefore, of paramount importance to keep a watchful eye on the pupil, so that as soon as dilatation is observed the quantity of chloroform may be regulated at once, or its use suspended if necessary.

The pupil not only indicates by its contraction the state of anaesthesia, but also by variations in its size heralds the onset of danger. And during the progress of normal anaesthesia (the pupil being contracted up to the time when the intercurrent cause begins to act), as there are several causes of dilatation, so its conduct varies. There is the gradual dilatation, associated with sluggish reaction to light, of a gradually increasing, overdose. There is the widening pupil of returning consciousness, very readily reacting to light. Both these forms belong to errors in administration. Next is the gradual dilatation of the pupil belonging to increased and increasing CO₂ in the blood from partial mechanical obstruction to respiration. It also is sluggish to light, but is separated from the pupil of overdose by

the help of the following phenomena. When due to CO₂, the complexion becomes dusky before pupil dilates; when due to anaesthetic the duskyness of the complexion and the dilatation of the pupil proceed *pari passu*. Again, the breathing is perceptibly affected as soon as the mechanical cause begins to act, and proportionately to its degree of action; on the other hand, with anaesthetic, the breathing is not perceptibly influenced until the pupil is partially dilated. The remedy in this instance is to support the lower jaw, or, if necessary, to press forward the tongue. The effects of this cause vary in either and in chloroform anaesthesia. In short operations, supposing a normal subject with healthy heart, the least harm is done; this becomes greater in patients whose vitality is reduced or whose hearts are diseased through the deteriorated state of the blood, leading to impaired nutrition of the tissues. When this impairment of nutrition is continued for some while, as in long operations extending over an hour, the ultimate result must become evident even in the most vigorous constitutions; and if the heart be initially enfeebled, it is quite possible that this organ, unable to repair the waste effected in attempting to overcome a constant, or it may be increasing obstacle to the circulation, and burdened also by distension of its right cavities, may prove unequal to its task. The heart stops, respiration proceeds, and the result is ascribed, falsely if the above succession of phenomena be the true one, to some peculiar action of chloroform.

It is in the influence of stomachic disturbance, the last cause of the dilated pupil in normal anaesthesia, that this paper has its origin. I have set forth the dangers that may attend it, isolated the secondary part which chloroform plays to it, and formulated the line of practice requisite to obviate the transition of danger into death. But the action of the stomach is not uniform, at least so far as its results are concerned. Thus, though it is common enough to observe the gradual ingravescence of the signs which are our guide, the gradual impairment of respiration till it become scarcely perceptible, and the deepening pallor (of vaso-motor production), though these may continue for a period extending even beyond half an hour (and I have known several instances where vomiting was delayed until consciousness was nearly restored), yet they may appear and grow with such surprising rapidity that only the most careful attention will detect their completed course. I have observed in some instances that where the onset has been rapid, the vomited matter was large in quantity. And perhaps the varying distension of the stomach is the cause of the differences in the quickness with which the disturbed stomach acts. But however that may be, this maxim should always be followed,—never to attempt to check the action of the disturbed stomach by an increase of chloroform. On the other hand, our aim is always to regulate the amount of chloroform to the new condition of respiration, still reducing the former as the latter becomes more shallow, with the object of anticipating the temporary arrest antecedent to vomiting, and thus leaving the abnormal course of the respiratory mechanism untrammelled by the presence of (under the new conditions) too much chloroform.

Pathological Laboratory.

The next course of Bacteriology (Elementary as well as D.P.H.) begins on Wednesday, January 15th, at 2.30 p.m. The class will meet on Mondays, Wednesdays, and Thursdays at 2.30 p.m. Gentlemen wishing to attend are requested to communicate with Dr. Kanthack at once.

The demonstrations on Morbid Histology will begin on Friday, January 17th, at 4.15 p.m. The subject for this term is Medical Morbid Histology.

Gentlemen wishing to act as clerks in the Pathological Laboratory from February to April, 1896, are requested to communicate with Dr. Kanthack at once. Clerks are required also to assist Mr. J. Berry (Surgical Pathology), and Drs. Garrod and Calvert (Medical Pathology).

PATHOLOGIST'S REPORT.

From April 1st to December 31st, 1895, 432 specimens have been sent up to the Pathological Laboratory for investigation. The number of specimens sent up is gradually increasing, as shown by following table:

April 25 specimens.	Sept. 41 specimens.
May 34 "	Oct. 41 "
June 31 "	Nov. 79 "
July 45 "	Dec. 94 "
Aug. 35 "	No date given, 7

Specimens were sent up by the following physicians and surgeons:			
Sir Dyce Duckworth	55	Mr. Willett	8
Dr. Gee	43	Dr. West	6
Dr. Champneys	39	Mr. Bruce Clark	4
Mr. Butlin	32	Mr. Lockwood	4
Dr. Hensley	28	Mr. Walsham	3
Mr. Bowly	28	Mr. Vernon	3
Dr. Brunton	23	Mr. H. Cripps	3
Dr. Griffith	18	Dr. Moore	1
Dr. Church	17	Dr. Andrewes	1
Mr. Langton	16	Dr. Drysdale	1
Mr. Jessop	16	No physician or surgeon	
Mr. Marsh	14	mentioned	64
Mr. Smith	8		

These specimens are distributed amongst the various wards and departments as follows:

Radelife	99	Coborn	6
Martha	52	Kenton	5
John	28	Rahere	5
Hope	20	Wardmaids	5
Matthew	18	Pituitary	4
Throat Department	17	Surgery	4
Siwell	15	Harley	4
Nurses' Home	14	Isolation	4
Elizabeth	12	Lawrence	4
Luke	11	Henry	4
Colston	11	Abernethy	3
Ophthalmic	10	Paget	3
Darker	10	President	3
Casualty	8	Surgical P.M.	2
Out-patients	8	Fidh	2
Stanley	7	Mary	2
Lucas	7	Skin Department	1
Charity	6	No ward mentioned	11
Mark	6		

As to the nature of investigation most frequently required, the following table gives some information:

Diphtheria diagnosis	105	Urine examinations	23
Blood examinations	40	Histological examinations	102
Sputum examinations	19		

Notes.

THE Lord Chancellor has ordered that the name of Hubert Nicholls, M.A., M.B. Cantab., be added to the Commission of Peace for the Borough of Longton.

THE new Steward is Mr. Arthur Watkins. He was appointed to the Counting House in 1879 and made Senior Assistant to the Steward in 1889.

MR. E. C. CRIPPS, one of the late Sir Wm. Savory's House Surgeons (1878), is giving courses of lectures on "Domestic and Personal Hygiene" in the villages in the neighbourhood of Cirencester during the present winter. Mr. Cripps gave a course of lectures on the same subject last winter in Cirencester under the auspices of the Gloucestershire County Council.

DR. CLAYE SHAW'S Class in Mental Physiology was well attended not only by Bart's men, but also by students of other Hospitals. Amongst those from other Schools who attended, the following have passed the M.D.:—C. J. Woollett of Charing Cross, R. M. Smyth of St. Mary's, R. H. Castellote, P. S. Eves, J. Le M. Bunch, and S. Williams of University College, E. R. P. Taylor of Westminster, and V. W. Low of St. Mary's.

It has been decided to again arrange a cricket match between "Past and Present" Bart's men. It will take place on the Club ground at Winchmore Hill about the middle of June. The occasion affords a good opportunity for old Bart's men to see the new ground and pavilion which the Amalgamated Clubs have at last obtained, and which was opened last June.

For those who wish to live "on the premises," and who cannot get rooms in college, a very good substitute has been supplied by Miss Cross, of "bun-shop" fame. The rooms look exceedingly comfortable, and our long acquaintance with Miss Cross, extending far back into the days when she ruled the Smithfield "A.R.C." assures us that their occupants will be well looked after.

We understand also that Miss Cross has "bed and breakfast" accommodation for those who stay up for late operations, and who have in days of yore spent their nights either on a college floor or a house surgeon's sofa.

DR. F. H. CARTER (Putney) has for the second time won the Wemyss Silver Challenge Cup, with a dozen golf-balls, in the recent autumn meeting of the London Scottish Golf Club on Wimbledon Common, with the score of 87—10=77.

IT MUST be very gratifying that the Gold Medal at the M.D. London Examination has again been carried off by a Bart's man. This is the third time in four years that it has been awarded to a student in our School.

1892	C. Coles.
1893	H. G. Cook.
1895	C. H. Roberts.

OUR SUCCESSORS in the past M.D. London are also satisfactory. There were thirteen candidates, ten of whom were successful.

WE SEE in the *Strand Magazine* (Christmas Number) a very interesting paper on "Street Toys," by Mr. E. C. Fincham, one of our most successful amateur photographers. The paper is interesting from its nature, but Mr. Fincham has illustrated it with a large series of admirable photographs taken by himself. The photographs reflect very great credit on Mr. Fincham.

Amalgamated Clubs.

NEW MEMBERS.

J. Valerie.	G. H. Orton.
K. R. Kay.	W. S. Darby.
M. H. Gordon.	C. Dix.
C. F. Bluett.	

RUGBY FOOTBALL CLUB.

The results of the matches have been on the whole very satisfactory. Out of 12 played 6 have been won, 2 drawn, and 4 lost. The matches won were against Streatham, Ealing, Marlborough Nomads,

R.N.C., Upper Clapton, and Rugby, while those drawn were with Civil Service and Lennox. Defeats were suffered at the hands of Wickham Park, Cooper's Hill, Portsmouth, and Harlequins; Wickham Park and Portsmouth winning by the narrow margins of a penalty goal and a try respectively. Ten goals and 14 tries, or 90 points, have been scored for, while 3 goals and 7 tries, or 35 points, against us, so that there is still a good balance of points to our credit. We were very unfortunate in placing a weak team in the field against Wickham Park, there being no less than eight of the regular XV absent. There can be little doubt that with a full team we should have won. Against Portsmouth, too, we played below our full strength, and were defeated by a try to *nil*. The team fell off rather towards the end of the term, chiefly owing to the inability of some members to play regularly, so that we rarely had the same team playing on two consecutive Saturdays. We badly want another three-quarter, as Randolph has again hurt his knee, and is doubtful of playing again. It is to be hoped that some talent will be discovered this term, as the Cup ties are near at hand. The 2nd XV has played 11 matches, of which 4 have been won, 6 lost, and 1 drawn. The wins have been against Civil Service, Maidstone, Wickham Park, and West London, while the matches with Mill Hill School, U.C.S. Old Boys, Upper Clapton, St. Thomas's Hospital, Guy's Hospital, and Marlborough Nomads have been lost, and the match with University College School drawn.

ST. BART'S v. HARLEQUINS.

Played at Chiswick on December 21st, and resulted in a win for the Harlequins by 2 goals and 2 tries to *nil*, although the game was not so one-sided as the score would indicate. The Harlequins put a very strong side into the field, including C. M. Wells, the international half-back. The forwards were fairly evenly matched, but outside we were altogether outclassed. The scrums at first were very stubborn, but gradually we were forced back, and C. Wells scored the first try after a good bout of passing. Shortly afterwards Thornton scored the second try. Up to half time nothing more was scored, and we crossed over with 2 goals against us. In the second half play was of a fairly even character. Bennett made a good run for us and was near scoring. The Harlequins scored 2 tries—Clarke and Edward—neither of which was converted. Bond played a good game for the Hospital, his tackling being especially fine.
Team.—H. Bond (back); A. J. W. Wells, T. M. Body, A. E. Hodgkins, S. Mason (three-quarters); A. Hawkins, G. C. Marrack (halves); P. O. Andrews, H. M. Cruddas, W. F. Bennett, J. K. S. Fleming, C. H. D. Robbs, F. G. Richards, H. Weeks, J. G. Forbes (forwards).

ST. BART'S v. PORTSMOUTH.

Played at Portsmouth on Saturday, December 14th, in unpleasant weather, rain falling heavily during the whole game. Bond lost the toss, and Andrew started the game. At first the Hospital pressed hard, but were gradually pushed back to the centre, where some hard scrummages took place. Bennett and Marrack then dribbled up to the Portsmouth goal line, and had hard luck in not scoring. Just before half time the ball was kicked over Bond's head, and following up hard Portsmouth scored a try. The kick at goal failed.

The second half was played in semi-darkness. Play was of a given-and-take character at first, but for the last ten minutes it was entirely confined to the Portsmouth 25. Many exciting scrums took place on the goal line, but owing to the slippery state of the ball it was almost impossible to hold it. Bart's certainly had hard luck in not scoring once or twice.

Team.—H. Bond (back); S. Mason, T. M. Body, A. E. Hodgkins, S. F. Smith (three-quarter backs); A. Hawkins, G. C. Marrack (half-backs); P. O. Andrew, H. M. Cruddas, W. F. Bennett, C. H. D. Robbs, F. G. Richards, P. J. Wood, H. Weeks, H. C. Adams (forwards).

ST. BART'S v. LENNOX.

Played at Dulwich on December 7th, and resulted in a draw, 1 try each. In the first half the Hospital pressed hard, but were unable to score. One of the opposite three-quarters intercepted a pass, and, running the whole length of the ground, scored a try.
In the second half the Hospital still kept up the pressure, and at length Bond scored after a good run, and took the kick. By many it was thought that the ball went over the cross-bar, but the touch judge ruled otherwise. Nothing further was scored, and the game ended in a draw.

Team.—H. Bond (back); A. J. W. Wells, T. M. Body, W. H. Randolph, and S. Mason (three-quarter backs); G. C. Marrack, T. Martin (half-backs); P. O. Andrew, W. F. Bennett, J. K. S. Fleming, C. H. D. Robbs, W. M. James, H. C. Adams, F. G. Richards, F. J. Wood (forwards).

ASSOCIATION FOOTBALL CLUB.

This month we have only played three matches owing to the Christmas vacation, and the result is not very encouraging, being: won one, lost one, drawn one. Sittingbourne we ought not to have lost; Usbridge we did very well to draw, and St. Alban's we beat easily. Against the latter, Willett as centre forward was in quite good form, and if he would put as much go in his ordinary play, we should not lose many matches, remembering that a centre forward makes or mars the whole line of forwards. Hay and Woodbridge are getting along well, and Robinson and Talbot are as good as ever on the right. The halves are much improved, notably Bostock. The backs, especially Brown, are also in good form. Fox in goal is quite as good as ever. We have a good many matches to get through next month, and if we keep up our present form we should be well able to judge our chance of the Hospital Cup at the end of the year. J. F. Fernie, captain of last year's team, who has been playing in splendid form this season, has gone on tour with the Corinthians.

Wednesday, Dec. 4th.—ST. BARTHOLOMEW'S HOSPITAL v. SITTINGBOURNE.

This match was played at Sittingbourne before a large number of spectators, and resulted in a defeat for us by two goals to one. There was a strong wind blowing down the ground, and it being downhill, kicking against the wind became a matter of no small difficulty. Bart's kicked off with the wind, and getting down to the opponent's goal the ball was sent behind. Shortly after this, after a run down by Waterhouse, Robinson sent in a shot which was going into the net when one of the Sittingbourne backs hit the ball away with his hands. For this at least unsportsmanlike proceeding, Bart's were given a penalty kick, but Pickering failed to convert. The opposing forwards then made strenuous efforts to reach our goal, but the ball was returned by the Bart's backs, and Waterhouse gaining possession and passing to Robinson, the latter put in a shot which was saved, but from a rush in goal the ball rebounded off one of our men and went into the net.

At half time the score was one to *nil* in our favour. On changing ends the wind seemed to increase, and the Bart's backs had plenty to do. From a centre by their inside right Sittingbourne headed the ball into the net, thus scoring their first point. Bart's then pressed hard, and we had the best of the game until the last five minutes. Time after time shots were sent in only to be saved by the excellence of their custodian. Then Sittingbourne getting the ball ran down, and obtaining a "hands" about thirty yards from our goal, kicked right into the mouth of it, and one of their forwards heading, the ball went into the net, Fox being prevented from scoring by another forward, who, though palpably offside, charged him, otherwise he would have easily cleared. Just before time Sittingbourne sent in an excellent shot, which was saved by Fox in good style. Waterhouse was remarkably good in the centre, playing excellently with his insides Robinson and Woodbridge.

Team.—E. H. B. Fox, goal; R. P. Brown and L. E. Whitaker, backs; A. H. Bostock, W. H. Joy, and H. J. Pickering, half-backs; T. H. Talbot, C. A. Robinson, R. Waterhouse, E. W. Woodbridge, and A. Hay, forwards.

Saturday, Dec. 7th.—ST. BARTHOLOMEW'S HOSPITAL v. UXBRIDGE.

Marlow having been compelled to scratch owing to a cup tie, the above match was arranged and took place at Uxbridge before a great number of spectators. There was a very high wind blowing during the match, which somewhat marred the security of the kicking.

Uxbridge kicked off against the wind and brought the ball down, but were stopped by Joy, who, passing to Woodbridge, took the ball towards the opponent's goal, only, however, resulting in a goal-kick. During the next few minutes Uxbridge pressed very hard, and the outside right centre, and the ball was put into the net by the inside left. Bart's then started off, and several futile shots were put in by Robinson and Willett. Fox also had several shots to save, none of which were very deadly; and it was chiefly owing to the inaccuracy of the backs that Uxbridge had the opportunities for shooting which they did have. At half time the score was *nil* to one. Bart's then restarting played up very vigorously and had very much the best of the game. Several runs were made by Hay which ended in the ball being sent to the wind, which effectually spoilt his going behind, chiefly owing to Talbot, Woodbridge, and Joy, but centres. Shots were sent in by Woodbridge hitting the goal-post with great force and rebounding into play. The ball was kept well in the Uxbridge half in spite of praiseworthy runs by the opponents' outside right, and a little later Woodbridge sending the ball into the centre,

Robinson, aided by Willett, rushed the goal-keeper through the posts with the ball, thus scoring the only point for the Hospital. At the call of time the score ran one to one, thus making a draw after a not very exciting game.

The forwards, though opposed by very strong backs, played very well together, and if only they would shoot straighter, harder, and more often, would be very good. Pickering was the best of the halves, though Joy and Bostock played a very good game. Fox was excellent in goal, retrieving time after time the otherwise fatal mistakes made by the backs.
Team.—E. H. B. Fox, goal; J. S. Macintosh and L. E. Whitaker, backs; H. J. Pickering, W. H. Joy, and A. H. Bostock, half-backs; A. Hay, F. W. Woodbridge, J. A. Willett, C. A. Robinson, and T. H. Talbot, forwards.

Saturday, Dec. 14th.—ST. BARTHOLOMEW'S HOSPITAL v. ST. ALBANS.

This match was played at St. Albans before a great number of spectators. Bart's were not quite in full strength, Robinson and Joy being away, but their places were very ably taken by Hartley and Dawson. St. Albans kicked off, and their forwards by several good runs kept the ball constantly up our end, and looked very dangerous though no actual result followed; this pressure they maintained for about twenty minutes, but from thence onwards Bart's had the best of the game. From a *metéé* in front of goal, Woodbridge rushing on to the back as he kicked, received the ball on his face, and from thence it rebounded into the net; this was Bart's first point. Until thence it rebounded into the net; this was Bart's first point. Until thence the St. Albans goal was frequently assaulted, but no goals were scored. After half time Bart's kicked off, and attacks were constantly made on the opponents' goal. The St. Albans men in this period used very questionable tactics, and fouls were frequently given against them. It is not too much to say that if the match had been anything else than a friendly (so-called), at least two of their men must have been turned off the field. The Bart's forwards playing well together got away, and Willett securing sent the ball into the net. This made St. Albans press still more and use still more questionable tactics, even thereby disgusting their own followers, yet failing to pass the Bart's defence, notably of Fox, who let nothing go past him. We then took the ball up, and Willett getting the ball ran right through the opponents' backs, and the goal-keeper coming out, the two met, Willett however coming out victorious, dribbling the ball through the net. Shortly after this time was called with the score at three to *nil* in our favour. For the Hospital, Willett was in great form. Hay also doing useful work. Bostock was good as centre half.

Team.—E. H. B. Fox, goal; K. P. Brown and L. E. Whitaker, backs; W. H. Pope, A. H. Bostock, and T. D. Dawson, half-backs; T. H. Talbot, J. D. Hartley, J. A. Willett, E. W. Woodbridge, and A. Hay, forwards.

The draw for the first round of the London Senior Cup Competition, to be played on January 25th, is as follows.

- Old Harrovians v. Old Foresters.
- Ilford v. Old Carthusians.
- Clapton v. Old Westminsters.
- Falling v. City Ramblers.
- Queen's Park Rangers v. Casuals.
- London Welsh v. Crouch End.
- Olympians v. St. Bartholomew's Hospital.
- Vampires have a bye, owing to the withdrawal of Tottenham Hotspur, they having turned professionals. We feel very satisfied with the result of the draw, and ordinary form should certainly beat Olympians.

UNITED HOSPITALS v. SURREY.

This match was to have been played on Wednesday, January 8th, at Surbiton, but owing to the great number of playing men being away for the Christmas vacation or else on tour, the match had to be reluctantly scratched by the United Hospitals' Secretary.

Abernethian Society.

The Mid-Sessional Address will be delivered by Mr. Henry Power, F.R.C.S., on "Music and Medicine," at 8 p.m. on Thursday, January 16th, in the Anatomical Theatre.

St. Bartholomew's Hospital Photographic Society.

THE third annual Exhibition of Photographs of the above Society was held in the Smoking Room on Monday evening, December 16th, and was well patronised. The visitors included Dr. Russell (President of the Society), Drs. West and Herringham, Mr. Cross, and eighteen members of the resident junior staff. The exhibition was the largest ever held by the society, there being over 300 pictures exhibited, as well as 110 photos of hospital cases taken by the society during the past year. These last constituted a special feature of the show, and the collection, which was kindly lent for the occasion by Dr. Kanthack, Curator of the Museum, surprised many by their number and the success with which the various ghastly abnormalities they represented were depicted. To enumerate the anomalies they represented would be to recapitulate the more striking of the cases seen in the wards recently, permanent representations of which are now in the hands of the museum authorities.

Most members of the society showed prints, the general standard of which, perhaps, fell a little below that of the last exhibition. Probably the last being the occasion of the *Conversazione*, members made special efforts to excel. Several of the exhibits, however, deserve special mention. Mr. E. C. Fincham, of wider photographic fame than is indicated by calling him a member of our own society, showed a copy of his "Mail-boat approaching Jersey, 6.30 a.m.," a lovely purple print in the carbon process; also a copy of the now famous "Rabere's Bust." Mr. Mawer was to the front again, and a general favourite, with two fine platinum prints of sunrise and sunset upon the Norfolk coast, and a couple of prints in sepia, "The Tide came in," and "The Tide went out." A large picture, "The Chess Players," was also shown by the same exhibitor.

Dr. Elwyn Harris exhibited some "Types of Female Beauty," which were deservedly admired in a double sense. More humorous was his portrait of the skeleton reclining in an arm-chair, surrounded by the usual accompaniments of the volume of "Gray's Anatomy," which it was intent on studying, with Plato's immortal maxim for its motto. Mr. Philipps showed some fine architectural studies in platinumotype, those of Rochester Cathedral and King's College, Cambridge, being exceptionally good. Mr. Whitte made the best of some excellent material supplied by old English abbots, and a silver print—nowadays so often despised—of the crypt of Fountains Abbey (York) stamps him as one of the Society's best workers in this branch of photography. Mr. Pounce had a very fine bromide enlargement, "Marshy Ground," which with a little attention to the sky would have stood a good chance in a much keener competition. Messrs. Calvert and Harvey exhibited similarly treated enlargements, and Mr. Hussey was to the fore with a collection of photos of frontispieces and title-pages of old medical books, the interest of which would doubtless have increased had more details been provided of the subjects, &c. Mr. Druitt struck a fresh vein with his three studies, wassa's nests; and Mr. Heath's stereoscopic views were much appreciated, and of good quality. Dr. Russell showed some first-rate pictures, all beautifully finished. His "Norman Porch," a half plate platinumotype, was exceedingly delicate, and well treated.

The society is to be congratulated upon so successfully maintaining the reputation gained by previous exhibitions. Doubtless the section devoted to "shop" photos achieved its object in bringing this, the primary object of the Society's existence, before the notice of the staff. Certainly, if as good a show in this branch be held next year, the patronage of many other members of the staff will be well deserved.

A special word of praise is due to the energetic Secretary, Mr. T. J. Herder, and to Mr. G. C. Calvert, who acted for his colleague, Mr. M. Pearson, during the latter's absence, who had practically the whole of the arrangements in their hands, and carried them out with great satisfaction to all.

The Christmas Entertainment.

THOSE who shared in the arrangement and production of the recent Christmas entertainment have every right to feel proud of the result. Several of the parts were played with a style and reality that could with difficulty be imitated. A dress rehearsal, to which all moveable patients were admitted, was given in the Great Hall on January 1st,

and on the two succeeding nights the usual crowded houses of visitors, nurses, and students were entertained.

Proceedings commenced with the overture from "Don Juan," played by the orchestra conducted by Mr. R. W. Metcalfe, Mus. Bac. This was followed by the one-act farce "Cool as a Cucumber," Mr. Boyan, taking the part of Plumper, a favourite character of the late Charles Mathews, was excellent throughout, especially on the third night. Mr. Boyan carried the play along from first to last, assisted in no small degree by Mr. T. Hobday, who was sound as the old gentleman. The Dramatic Club is to be congratulated upon its acquisition in Mr. Hobday of another type of old man. Mr. S. P. Cornish in his small part of Jessie Houton was as good as ever and exceedingly well dressed and made up. Mr. Bice's part as the servant was conscientiously played. Mr. Provis, as Frederick Barkins, was a little too stiff, and rarely seemed altogether at his ease.

Part II opened with the "Washington Post March," very well played by the orchestra; then followed two solos—the first by Nurse Polden, who gave "For Ever and for Ever" with the French words, and the second by Mr. A. Ward, who sang well in the "St. Anthony" of Stephen Adams.

The interval of fifteen minutes was occupied with refreshments, many of our visitors being piloted round to groaning tables in the College and House Surgeons' quarters.

After an overture there came the farcical comedy, "Woodcock's Little Game," and it may be said at once that the whole company fully sustained the reputation of the Amateur Dramatic Club.

Mr. Hobday as Woodcock was indeed sublime. Every point told, and he was the mainstay of the piece. His wonderful control of facial expression stood him in good stead. Mr. Boyan in the small part of Larkings was most humorous, it was a finished performance throughout, and the best character sketch he has done for the Club. It was all but impossible to realise that Larkings and Boyan were identical. The epey and afterwards irate Swainsdown as played by Mr. Boulton was capital. His anger prior to the duel, and his "You be my second, I'm going to shoot Larkings" were perfect.

Mr. C. G. Watson's clever impersonation of the old servant David was distinctly worthy of praise.

The female parts showed a marked improvement on last year. Mr. Powell's Mrs. Colonel Carver was really well studied and very amusing. Mr. Cornish worked hard in his difficult part as Mrs. Larkings, and by no means failed to make it a success. Mr. Collyer lent valuable aid as Mrs. Woodcock, though his part was unsympathetic.

The fit-up and scenery were now, and an improvement on former years. The dresses this year were made for the club, and not a little aided the success of the plays, the last set of "Woodcock's Little Game" calling forth especial applause. They were by far the best dresses that have been seen in the A.D.C. for years.

On every hand unqualified commendation was heard among the visitors, and there is not the slightest doubt that the performance of 1896 not only afforded amusement, but was an exhibition of sound histrionic talent.

The female parts naturally attracted especial attention, owing to the recent correspondence in our columns in regard to the vexed question of the admission of ladies to the club. One member of the staff was heard to say, "They've rather given themselves away this time, the ladies' parts were done better than they have ever been done before." Still, in fairness to the club we must point out that their object in agitating for the inclusion of ladies in the casts is not that they may play these parts better, but that they may put plays on the stage that include female parts which no male could play with the smallest chance of success. We must not conclude our report without first congratulating the orchestra and its able conductor, Mr. Metcalfe, upon their very creditable performance.

Christmas in the Eldards.

CHRISTMAS Day was celebrated in the Hospital in the usual manner. Most of the wards were decorated with evergreens, fairy lamps, and Chinese lanterns; Martha, Stanley, President, and Luke achieving perhaps the prettiest effects. The customary unwholesome fare was consumed by the patients, who were

subsequently visited by their friends. After the departure of these, several members of the Staff and other visitors began to arrive, and the festivities of the evening commenced. In many of the female wards presents were distributed from Christmas trees and clothes-horses. Hope was distinguished by the possession of an immense hollow wedding cake, said to consist externally entirely of sugar; while various useful articles, more or less appropriate, could be extracted from the interior. A special feature in Martha was a recently born infant, whose cradle was mounted on a large pedestal of absorbent wool designed to represent snow. Various members of the Junior Staff with the assistance of the students gave entertainments; Messrs. Belben and Collings showed lantern slides; Mr. Phillips conducted a troupe of living waxworks round the Hospital; Mr. Paterson gave a display of conjuring, which was repeated in other wards on one or two subsequent evenings. Carol-singing was indulged in in Mark Ward, but on the whole there was less music than is usual on this occasion.

The Cambridge Graduates Club of St. Bartholomew's Hospital.*

THE Twentieth Annual Dinner of this Club was held on November 13th at Frascati's Restaurant. Mr. W. H. Jessop was in the chair. The attendance was the best on record in the annals of this club, the number present being fifty-eight, of whom fifteen were guests. After the usual loyal toast, the Chairman proposed the health of the Club.

Dr. Tooth proposed the toast of the visitors, and pointed out that this was the first dinner to which guests had been invited, and that the innovation was greatly to the advantage of the club. Mr. Marsh replied to this toast. Mr. F. C. Wallis proposed the health of the Chairman, and Dr. Drysdale that of the Secretaries, Dr. Fletcher and Mr. Blagden. During the evening various musical selections were contributed by Messrs. Paterson, Myers, Forman, Donaldson, and Sandilands.

Wdhy Not?

An unrehearsed scene, suggested by some recent correspondence in the Hospital JOURNAL, and dedicated, without permission, to the St. B. H. Amateur Dramatic Club.

By the late LORD DUBERLEY.

Time.—The Present

Scene.—Room of a High Official of St. Barnabas' Hospital.

Dramatis personæ.—High Official, in state chair; Captain and members of the St. Barnabas' Hospital Football Club, seated round the table.

High Official.—Well, gentlemen, I have read your largely-signed petition, and I understand that you wish me to permit you in the future to play with a real leather football instead of kicking about the bundle of old bandages which you have hitherto been permitted to use since your club was formed?

Captain of F.C.—That is our desire, sir.

H. Off.—May I ask why you desire such a great innovation?

Captain. Because, sir, under present conditions we are quite unable to make any progress in our play, nor are we able to devote ourselves properly to the game, for the greater part of our time has to be devoted to preventing the bundle coming to pieces.

* Received too late for publication in the December number.—ED.

H. Off.—Dear, dear! that certainly does seem a very stupid arrangement. Yet, in spite of your difficulties, there seems to be no lack of enthusiasm among your members.

Captain.—No, sir, we certainly do not lack enthusiasm although we play at so great a disadvantage, but it seems to us that it is a pity to waste so much energy on our present unsatisfactory and childish method of playing, when we might so easily be placed on an equality with other clubs.

H. Off.—I sympathise deeply with you, gentlemen, but tell me this: is it true, as I read in a somewhat tedious letter in your valuable JOURNAL a month or two ago, signed "Duke of Paddington," or some such silly title, that by abolishing the old roll of bandages a great part of the spectators' amusement will be lost?

Captain.—Surely not, sir! The kind of amusement which they obtain from the antics of the roll of bandages, which often comes unfastened, only appeals to the very lowest kind of intellect, and quite prevents us from playing in such a way as to give real pleasure to the onlookers, which we venture to think we could do.

H. Off.—I appreciate your point, gentlemen, and you must excuse me if I am a little persistent, but in that letter I alluded to before, I read that on one occasion you were allowed a real football to play with, and on that occasion the spectators did not enjoy themselves as much as usual, and, worse still, one of your team sprained his ankle!

Captain.—Quite true, sir; but may we humbly suggest that the presence of the real football was not directly answerable for either of these misfortunes. The spectators of course missed the old familiar "bundle of rags," but owing to some of our best men being absent, the play was not up to the mark that day, and a gale was blowing at the time. We would add that the member of the team sprained his ankle on his way home!

H. Off.—Well, gentlemen, I am very pleased to hear your explanations, and, as you know, my motto has always been, "If a thing is worth doing at all it is worth doing well." I certainly think your request is most reasonable and fair, and your present position a most humiliating one for energetic young fellows to occupy, but you know we old Tories move very slowly, so you must excuse me if I say that this season you must go on as you are. I may tell you, privately, that if you come and ask me again in a year or two you will probably gain your point, and have a real football. Good afternoon, gentlemen!

[They go out, sad but still hopeful. And we all hope they will get what they want and deserve.]

Cases of Special Interest.

Medical.

Mark, bed 10.—Spastic paraplegia.

Luke, bed 4.—Lymphadenoma.

Luke, bed 15.—Exophthalmic goitre in a boy of 16.

Matthew, bed 24.—Neuritis in a man recently returned from Sierra Leone.

Colston, beds 5 and 7.—Hepatic enlargement, ? cirrhosis.

Rahere, bed 18.—Aortic and mitral disease.

Hope, bed 5 (set. 20).—Multiple sclerosis.

Hope, bed 22 (set. 9).—Kaposi's disease.

John, bed 2 (set. 21).—Morbus cordis.

John, bed 17 (set. 1 year 10 months).—Recovery from meningitis.

Mary, bed 1 (set. 30).—Peripheral neuritis.

Martha.—Caesarean section.

Appointments.

ADDISON, CHRISTOPHER, M.D., B.S.Lond., F.R.C.S., has been appointed Lecturer in Anatomy to the Sheffield School of Medicine.

STANLEY, H., M.B.Cantab., appointed Medical Officer for the 5th District of the East Ashford Union.

THOMPSON, H. E., M.R.C.S., I.R.C.P., appointed Assistant House Surgeon to the General Infirmary at Gloucester and the Gloucestershire Eye Infirmary.

REIDING, D. T., M.R.C.S., I.R.C.P., appointed Medical Officer of Health to the East Derham Urban District Council.

SURGEON-CAPTAIN F. P. MAYNARD, at present employed in the Gaoi Department, is appointed to do supernumerary duty at the Presidency, and is attached to the Presidency General Hospital.

GARSTANG, T. W. H., M.A.Oxon., M.R.C.S., appointed Medical Officer of Health to the Bucklow Rural District Council.

MANTON, J. A., M.R.C.S., I.R.C.P., appointed Medical Officer to the Sheffield Post Office.

RACKHAM, A. R., L.R.C.P. Edin., M.R.C.S. Eng., appointed Medical Officer to the Workhouse of the Milford and Launditch Union.

SADLER, F. J., M.B., B.Ch., D.P.H.Oxon., appointed Assistant Medical Officer of Health by the Barnsley Town Council.

Examinations.

M.D.LONDON.—L. W. Bathurst, B. Collyer, R. H. Crawley, R. G. Gully, H. B. Meakin, F. A. Perram, C. H. Roberts (Gold Medal), W. N. Sothen, A. C. To Bois, and J. Williamson (State Medicine).

R.S.—J. S. Sloane (1st Division); J. H. Bodman, C. S. de Segundo, J. W. Haines, F. A. Smith, E. H. Sowry (2nd Division).

B.S. HONOURS.—J. S. Sloane (First Class).

FIRST M.B. CAMBRIDGE (Part I, Chemistry and Physics).—E. J. Buttar.

THIRD M.B. CAMBRIDGE, Part I.—G. A. Auden, L. Falkener, L. K. Harrison, H. Holmes, F. H. Maturin, H. B. Misonne, A. G. Penny, L. B. Rawling, W. G. Richards, C. A. Robinson, H. C. Selby, R. de S. Stawell, A. B. Ward, G. Wedd.

THIRD M.B. CAMBRIDGE, Part II.—L. B. Burnett, E. L. Evans, L. Giles, J. Hobday, J. Woolley.

Notes from the Eldards.

H. P.—This is Mr. Cornwall's case. Physician.—Come here, Cornwall; what do you think is the matter with this patient?

Student.—I should think she has phthisis.

Phys.—But stay! Cornwall, have you found the tubercle bacillus?

Stud.—No, but I expect to.

Phys.—We can hardly base our diagnosis on your expectations.

Stud.—No, but we will on her expectorations.

Correspondence.

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

DEAR SIR.—There have been several suggestions made lately by various members of Bart's as to the advisability of forming a Hockey Club in connection with the Hospital. This can only be done if there be a sufficient number of men who are ready to take it up, and ensure a reasonable amount of promise for its future success. There is plenty of room for a Hockey Club in the Hospital without any fear of interfering with the Football Club, for few men who can play football will take up hockey, and, on the other hand, there are a great many men who are doing nothing in the winter, either through injuries from football or other causes, which though they prevent them from playing football, would not abate them from taking part in the winter game of hockey. The expenses would be small. The ground is there, for the "Sooker" ground could easily be shared with that club with very little alteration or expense.

As the clubs in London are somewhat limited at present, a good fixture card would be very easily obtained.

A correspondence in the JOURNAL would do something towards the

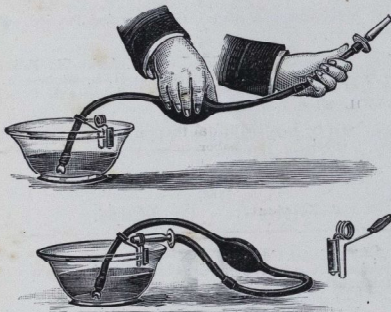
formation of the club, but experience teaches that no definite result can be obtained until men have discussed it well amongst themselves, so that there is a unanimous opinion on the point before any meeting is called.

If such a club be decided upon, I don't think there will be any difficulty in obtaining a place for it in the Amalgamated Clubs, which would greatly diminish the difficulties in its formation, besides supplying the members with an additional club for the winter months. There is no doubt that hockey is rapidly becoming a most popular game, and has no superior as a winter game at the present time, with the exception, of course, of both codes of football.—I remain, yours sincerely,

FRANK H. NIMMO.

New Productions.

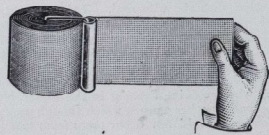
MESSRS. BURROUGHS, WELLCOME & Co. have sent us a copy of their "ABC Medical Diary and Visiting List for 1896." This is indeed a wonderful *vade-mecum*, and is, we understand, being sent free of charge to every medical man in Great Britain, India, and Australia. The diary and visiting list are now well known, but the letterpress part of the book contains a host of useful information, including notes on recent drugs, posological, solubility, and obstetrical data, medico-legal information, &c., in spite of all which the book is kept well within the limits as regards size of a book for the pocket.



BASIN ENEMA CLIP.

This simple and ingenious device has for its object the control of the tail of an enema syringe, holding it securely beneath the liquid, and thus lessening the risk of air entry.

The ring seen in the illustration acts as a rest for the rectal or vaginal tube while not in use, and so prevents wetting of the bed-linen. It is made by Messrs. REYNOLDS and BRANSON, of 13, Briggate, Leeds, for the small cost of sixpence.



THE NON-RUNAWAY BANDAGE.

The makers of the enema clip have also exercised their ingenuity in supply a mechanism for preventing the escape and unrolling of a bandage. The illustration fully explains the method.

Review.

DENTAL MATERIA MEDICA and THERAPEUTICS, by James Stocken, I.D.S.; fourth edition, revised by Leslie M. Stocken, L.R.C.P., M.R.C.S., L.D.S., and J. O. Butcher, L.D.S. (H. K. Lewis, 1895), price 4s.—The production of books condensing general principles to suit the ordinary needs of the specialist has always been looked upon with disfavour by those who take a wide view of their speciality, but in the subject under consideration there would appear to be more than usual excuse, inasmuch as the technical applications of drugs by the dental surgeon are probably unknown to general writers, and are almost entirely ignored in the usual text-books. The first edition was written in 1877 in response to a widely felt want. The present edition is brought fairly up to date, and may be found useful by those for whom it was compiled. The alphabetical arrangement of the drugs is open to improvement, and the index is so incomplete as to be almost useless. The only two preparations of Iron mentioned come under "Liquor" in the text, and under the same heading *only* in the index. *Guaiaecol*, *Zinci oxid*, Gum benzoin, Gum Tragacanth, and Ammonia are not mentioned, and Gallic acid, which does not appear in the index, finds only a brief notice under "Acidum tannicum," and no reference is made to the value of internal administration of the former drug prior to operation on hæmorrhagic subjects. The different strengths of Linimentum and Tinctura Iodi are not indicated. The anæsthetic properties and administration of nitrous oxide, ether, and chloroform are pretty fully treated, but no caution is given as to the special dangers attending the use of the latter drug as it is too often administered in dental practice.

Warning.—Old Bart.'s men are cautioned against begging letters purporting to be signed by F. J. Dixon, recently on the Junior Staff.

Births.

- RENDEL.—On Dec. 4th, at 7, Buckland Terrace, Plymouth, the wife of C. E. Russel Rendle, M.R.C.S., L.R.C.P., of a son.
- TRINDER.—On Christmas Eve, at West Lulworth, Dorset, the wife of A. F. Trinder, M.R.C.S., L.R.C.P., of a son.
- ECCLES.—3rd Jan., at 63, Sackville Road, Hove, the wife of G. Tolcher Eccles, M.A., M.B.Cantab., of a son.
- SKELDING.—8th Dec., at St. Lyses, Bedford, the wife of Henry Skelding, Esq., M.B., of a daughter.
- TAIT.—11th Dec., at 48, Highbury Park, the wife of Edward Sabine Tait, M.D., of a son.
- ANDREWS.—10th inst., at 3, Chelsea Embankment, the widow of Launcelot Andrews, M.D. Lond., late of 22, Cheyne Gardens, Chelsea, of a daughter, who survived its birth only a short time.

Deaths.

- HUNT.—On Dec. 27th, suddenly, at Christchurch, Hants, Debitant Hunt, M.B. Oxon., M.R.C.S., aged 39.
- JACKSON.—On Dec. 29th, at 53, Wilkinson Street, Sheffield, Arthur Jackson, M.R.C.S., in his fifty-second year.

ACKNOWLEDGMENTS.—*Guy's Hospital Gazette*, *St. Thomas's Hospital Gazette*, *St. George's Hospital Gazette*, *London Hospital Gazette*, *The Student (Edinburgh)*, *St. Mary's Hospital Gazette*, *The Nursing Record*, *Manual of Physiology*, by G. N. STEWART, M.A., B.Sc., M.D. Edin., D.P.H. Camb. (London, Ballière, Tindall, & Cox); *The Medical Digest*, Appendix, including years 1891-4 to August, 1895, by RICHARD NEALE, M.D. Lond. (London, Ledger Smith & Co.); *The Year-book of Treatment for 1896* (Cassell & Co.), *The Treatment of Pulmonary Consumption*, by V. D. HARRIS, M.D. Lond., F.R.C.P.; and E. C. BEALE, M.B. Cantab., F.R.C.P. (London, H. K. Lewis); *Public Health in European Capitals*, by T. M. Legge, M.D. Oxon., D.P.H. Cantab. (London, Swan Sonnenschein & Co.); *Prophylactic Clothing of the Body*, by W. F. CLEVELAND, M.D. (H. K. Lewis).

St. Bartholomew's Hospital



JOURNAL.

VOL. III.—No. 29.]

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[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, W. E. SARGANT, M.R.C.S., at the Hospital.

All communications, financial or otherwise, relative to Advertisements ONLY, should be addressed to J. H. BOOTY, Advertisement Cassaver and Collector, 29, Wand Lane, Oxbridge Road, W.

A Cover for binding (black boards with lettering and King Henry VIII Gateway in gilt) can be obtained (price 9d. post free) from MESSRS. ADLARD AND SON, Bartholomew Close. MESSRS. ADLARD have arranged to do the binding, with cut and sprinkled edges, at a cost of 1s. 6d.—cover included.

St. Bartholomew's Hospital Journal,

FEBRUARY 14th, 1896.

"Æquum memento rebus in arduis
Servare mentem."—Horace, Book II, Ode III.

IN response to the many requests from old Bart.'s men that we should establish a Pathological Department in connection with the JOURNAL, we have at last completed the necessary arrangements and now formally declare the Department open.

The question of a Pathological Department was far from being so simple as it appeared at first sight, and adverse criticisms on the project were not wanting from those who make it their practice to "let well alone," and who consider the sentence, "We've done very well without it up to the present" a sufficient answer to any suggestion of a new departure.

From the outset it was decided that the enterprise should not take the form of a financial speculation, and therefore that the charges should be just sufficient to cover expenses.

Men had frequently complained that in the absence of

a fixed charge they could not make use of the Pathological Department of the Hospital, much as they wanted to, and on the other hand, complaints came from the Pathological Laboratory that specimens were continually sent to them for report by old Bart.'s men who had never done anything for the Laboratory and whose names even were not familiar to the men who did the work.

The "Pathological Department of the Journal" is intended to meet both these difficulties. Specimens sent by subscribers of the JOURNAL will be examined and reported upon, at a charge which makes it just worth the while of the men engaged in the Laboratory to do the work. The amount paid for the report goes straight to the man who actually does the work, and neither the JOURNAL nor the Laboratory make any profit from the transaction.

Dr. Kanthack has most kindly promised to superintend the work and ensure the accuracy of the reports, but it must be understood that he is not in any way officially responsible for the working of the scheme. Needless to say, he has no connection with the financial arrangements.

The Department is open to anyone whose name is on the JOURNAL List, but *not* to non-subscribers. There is no intention of rivalling kindred organisations who have for their aim commercial advantage, but it is intended solely to aid old Bart.'s men in practice, whose interest in their cases makes them anxious for pathological reports, even though they hold out no prospect of advantage to the patient.

It need hardly be said that the practitioner is not expected to make any profit out of the examination, or to use the Pathological Department for the purpose of a cheap consultation, and when the examination is made with a view to the patient's advantage, and a fee is charged, it will of course be considered a point of honour that the whole of the fee paid for the work shall be forwarded to the Pathological Department.

The fees charged will be as follows: For reporting upon a tissue, and making an ordinary bacteriological examination, such as that of sputum or membrane—half-a-crown. Where a telegraphic report is required the extra cost of telegraphing will be charged.

An ordinary report upon a urine—qualitative—will be charged half-a-crown, but any further examination will be made if required and a special charge in proportion to the amount of work required will be charged. When a mounted section is wished for it will be supplied with the charge of one shilling.

It is hoped that those who intend to avail themselves of the Pathological Department of the Journal will read the foregoing remarks carefully, so that they may understand the principles upon which the Department works and the objects of its existence.

In another part of this issue the notice of the Department which will permanently appear in the JOURNAL will be seen. Reports of pathological examinations will not be published in the JOURNAL, but forwarded by post to the sender of the specimen; for this purpose a stamped and addressed envelope must accompany the specimen.

Clinical Lecture on Diabetes.

Delivered at St. Bartholomew's Hospital on Friday,
November 15th, 1895.

By T. LAUDER BRUNTON, M.D., F.R.S.

GENTLEMEN,—It is said that if a man loses himself in a snowstorm, or in the primeval forest, he goes wandering round until he finds himself at the point from which he started. We find very much the same thing in the life of a man, and probably it is this tendency that has led me to choose the subject of "Diabetes" for my first clinical lecture here as full physician of the hospital, as it was the subject that I first took up when I began clinical work in the hospital a great many years ago. The results of my first work were published in the *British Medical Journal* of January and February, 1874, and I have had these lectures reprinted so that each of you may have a copy and consult them, because I have dealt with the subject a good deal more fully there than I could do in the short time at my disposal now.

We find the same kind of tendency not only in individual men, but in numbers of men; and we notice that fashions in dress and in manners come round again and again after the lapse of a number of years. We find the same thing in ideas. The wise man has said, "There is no new thing under the sun. Is there any thing wherewith it may be said, See this is new? it hath been of old time, which was before us."^{*}

Now the newest thing in medicine is the administration of tissues and organs in a raw state, either by the stomach or by subcutaneous injection. In place of the raw tissues themselves, extracts of those tissues are frequently employed. This method of treatment is, to a great extent, a new one, and is effecting to a considerable extent a revolution in medicine; yet it is not a new plan. From time immemorial savages have been accustomed to eat parts of the bodies of their slain enemies, especially when those enemies were distinguished by special bravery, or by eating the hearts of the lions or other beasts of prey which they might have overcome, with the idea that by consuming the hearts or other parts of the bodies, either of their enemies or beasts of prey, they would acquire the bravery and power which distinguished their foes.

The plan of treatment by the administration of raw organs was tried by me in this hospital just about twenty-three years ago in cases of diabetes. It seemed to me that some cases of diabetes were due to imperfect utilisation of sugar in the muscles, and that therefore the proper method of treatment would be to supply a substance contained in the muscles which would enable the patient again to utilise the sugar which was present in his blood. This substance I believed to be a ferment which would have the power of splitting up the sugar into the more easily combustible form of lactic acid. I accordingly administered raw meat. I got a certain amount of benefit in some of

^{*} Eccles. i, 9, 10.

the cases, but I obtained no very definite cure. Not finding that I was able to give raw meat in sufficient quantity to gain the effect I desired, I made an attempt to extract from the raw meat a ferment by the method which was then usually employed, viz. solution in glycerine. I noticed, however, that this also was insufficient to effect my purpose, and accordingly the treatment was given up. The method has again been revived of recent years on account of the success that has attended the administration either of thyroid gland or of its glycerine extract in cases of myxedema. Attention has also been much directed to the subject lately by the researches of Brown-Séquard, who has found that extract of testicles seems to have a tonic effect upon the body generally. In consequence of the results obtained by the extract of testicles and by thyroid gland, researches have been made upon the effect of various other glandular organs. For example, parts of kidney, extract of kidney, extract of suprarenal capsules, extract of brain, and so on, have been given in such cases as seemed appropriate. The results have, however, been rather disappointing, and in none of the other diseases have we obtained any such definite and successful results as in the case of myxedema.

It is sad in one way, but satisfactory in another, to find that the attempts I made so long ago have even yet been unsurpassed; that the researches that have been made upon the treatment of glycosuria by the administration of various organs have hitherto not been successful, any more than the attempts I made by the administration of raw meat. I find, too, that in my attempt to extract ferment from the muscles I was not successful; but even now physiologists have been no more successful, and in a book on physiological chemistry, which is probably the best and most recent work on the subject, I find the following passage:—"Endlich lässt sich—die Gegenwart eines Nüchtern- und Nüchtern-Enzymes annehmen. Aber der exakte Beweis für die Existenz dieser Fermente ist vorläufig noch zu liefern" (Neumeister, "Lehrbuch der physiologischen Chemie," 2ter Theil, p. 7; Jena, Gustav Fischer, 1895). So that although one is obliged to assume the presence of the ferment, which I believe to be present in muscle, physiologists even now have not been able to show any more than I could the absolute existence of this ferment.

Now, at the time when I wrote those papers upon the pathology and treatment of diabetes, attention was chiefly directed to the nervous system as the origin of the disease, because every one's mind was filled with the striking results of Claude Bernard's experiments on glycosuria consequent upon puncture of the fourth ventricle of the brain. During the time that has elapsed since my lectures were published but very little work has been done in relation to the effects of nervous lesions upon glycosuria, but a good deal has recently been done in relation to the effect of other organs upon the liver and upon glycogenesis. Not only have the experiments of Brown-Séquard, of Horsley, and others upon the testicles and upon the thyroid gland led to the introduction of the system of administering extracts of organs, but they have also drawn attention to a very important function of organs, viz. the internal secretion. The first example of internal secretion which we know of as being regularly recognised by physiologists was the internal secretion of the liver. Until Claude Bernard's time people looked upon the excretion of biliary matters as the chief function of the liver, and when they began to investigate the function of the bile, and found that it had very little or no action in digestion, they began to say that the liver was a fraud, a huge organ, the biggest gland in the body; and all that it could do was simply to excrete a little bile, which was not much good for any purpose whatever. It had, perhaps, a slightly laxative influence upon the bowel, but was not really half so good as a little aloes. So that practically here was the biggest gland in the body, apparently placed in the most prominent position, and that it could act as a regulator of tissue change, people began to alter their ideas regarding the value of the organ. He showed that the liver was really what we may term the coal bunker of the body; it gathered up within itself the soluble products of intestinal digestion, it stored them in itself during the periods of fasting, and gave them out gradually to the tissues as they were wanted.

Now this function of the liver is one of the very greatest importance, as you can readily see, because the soluble products of digestion are more or less injurious when poured into the blood in large quantities. It was imagined before that the peptones coming from the breaking up of albuminous tissues were transformed in the liver. We now know that this transformation chiefly occurs in the walls of the intestine; that peptones formed by the splitting up of albuminous tissues during digestion are built up again into some form of albumen in the intestinal walls, but they probably reach the liver in such a condition that they are there also to a great extent

stored up and partially split up. Peptones will also yield a certain amount of glycogen, and an animal that is fed exclusively upon meat will, after a large meal of meat, be found to have stored up a good deal of glycogen in its liver. But the chief function of the liver is to act rather upon the products of the digestion of carbo-hydrates. As you know, starch is transformed in the intestine into sugar, which is soluble and easily absorbed; but this sugar, if poured into the blood in too great a quantity, would be excreted by the kidneys. It is therefore converted in the liver itself into insoluble glycogen, stays there in this form for a certain length of time, and is afterwards gradually changed back again into sugar and poured gently and gradually into the blood, according to the requisites of the various tissues to which the sugar serves as nutriment. Now we find that usually the organs of a man are able to do a good deal more than is required of them. We have two kidneys, although only one would do, as we know from the way in which people get on after excision of a kidney. We have two lungs, but we know that people get along fairly well with one lung, and only a remnant of another. We have only one heart, and we cannot do without it: but the organs which are single, although their presence may be necessary, are rarely worked up to their full extent; and the heart, although its presence is absolutely indispensable to life, is rarely acting to its full extent, and the same thing is the case with the liver. As a rule, the liver is capable of dealing with a great deal more sugar than is sent into it from the intestine; so that if any one of us were to take a very full meal of starch, or even if we were to consume a great deal of cane-sugar, we would probably find very little sugar in the urine, because our livers would be capable of dealing with it. There is, however, a limit to the powers of all organs—to the heart, to the lungs, and of the liver. And if you pour in too much soluble sugar into the stomach and intestines, either of a healthy animal or healthy man, you will be almost sure to find a certain amount of sugar present in the urine, because you have overstepped the limits within which the liver can deal with the sugar. You find the same thing in relation to albumen. Most of us can take a raw egg without any disadvantages, because we are able to digest it, and none of the egg-albumen finds its way through the kidneys. Some years ago Mr. D'Arcy Power and I made a number of experiments on our powers of assimilation. We wanted to get artificial albuminuria in healthy men. I managed to swallow six eggs one after the other. The first was not at all bad—in fact, rather nice; the second was doubtful, the third I did not care about, and you can hardly fancy how abominable the sixth seemed to be; but Mr. D'Arcy Power managed to swallow twelve. I found that my appetite stopped my taking more than six, and my internal organs were capable of dealing with six eggs, so that I got no albumen in my urine. Mr. D'Arcy Power, having been able to take twelve, overstepped the powers of his intestines and liver, and he got albumen in his urine; you may find that what holds true with egg-albumen holds true also with other forms of albumen: and although I was quite unable to take enough egg-albumen to get it to appear in my urine, I managed to get albumoses appearing in my urine by swallowing a large quantity of beef-tea made from Brand's Extract. My intestine and liver were incapable of dealing with this soluble albumen just as Power's were with white of egg, and so it appeared in the urine. Now the limits of the powers, even of healthy men, vary very considerably in regard to sugar and to albumen, but there are certain cases in which they seem to be lessened. The lessening of the power of dealing with the sugar which is poured into the blood from the intestine tends to produce a form of glycosuria by increasing the amount of sugar in the blood. For if the amount of sugar in the blood exceeds about one-third per cent.—that is to say, 3 per cent.—it passes out into the urine, and gives rise to glycosuria. This imperfect action of the liver in converting the sugar, which is poured into the blood, into insoluble glycogen seems to be the cause of one form of glycosuria.

I would like to point out that just as we formerly included all cases of albuminuria under one general term, "Bright's disease," so we are apt now to include all forms of glycosuria under one general head, that of "diabetes." But you know perfectly well that there are very different forms of albuminuria, some of which are of comparatively little importance, others of which are deadly diseases. And there are very different forms indeed of glycosuria. Some forms are comparatively unimportant, others lead to rapid emaciation and speedy death. You will find that generally glycosuria or diabetes has been divided into two classes according to its causes.

1. Cases of increased formation.
 2. Cases of lessened assimilation.
- But I think we might divide the glycosuria first of all into two distinct classes. This division has been made already by Harley, who separated cases of glycosuria into the fat and the lean. The fat, how-

ever, may again be subdivided into two distinct classes. I would be inclined to limit the term glycosuria to the fat cases, diabetes to the lean ones. Lancercaux has mentioned that amongst the fat cases you will find glycosuria occurring early in life, about twenty-one in women and twenty-five in men, and the patients suffering from it are often excessively stout. I dare say that in coming up Ludgate Hill you have looked at the picture of Daniel Lambert. Now one does not know—at least, I do not know, but I have very little doubt that Daniel Lambert had glycosuria. You very rarely come across a man so stout as that who has not got sugar in his urine. Now diabetes is generally looked upon as a wasting disease, but Daniel Lambert and men like him have not wasted; also one begins to think what would they have been like if they had not had some sort of safety-valve like glycosuria. If we think of the amount of carbo-hydrates they took, it must have been fabulous. So that in these cases we may call the disease glycosuria, and not diabetes.

These cases of fat people having sugar in their urine at an early age sometimes go on for a considerable length of time. As a rule, they run on for many years, and not infrequently they may go on past middle age, and occasionally you may find them getting on even to old age. There is another class of the fat kind of diabetes, which I think is perhaps even more markedly to be reckoned as glycosuria, and not diabetes. This class occurs in people about middle age, about forty-five years of age. Sometimes they may be stout; they generally are well nourished and in them we find the symptoms associated with symptoms of gout, and more especially discharge of uric acid. We have not had in the wards a typical specimen of the fat kind at least, but we have had two specimens of what I think was not diabetes, but gouty glycosuria. There was one man especially, who was not staying in the wards, but came up occasionally, a gardener from Swanley. He was a tall man, well built, about fifty years of age, and when I first saw him in the out-patient room he had a large quantity of sugar in his urine. He had begun specially to notice that he was weak, and then became very thirsty; had a very greatly increased appetite, and still became weaker notwithstanding his increased appetite, and the increased amount of food he was able to digest. In him we had no external sign of diabetes at all. He remained well nourished and rather red in colour. In him we found that treatment was very successful, the only treatment that was necessary being to diminish the quantity of carbo-hydrates that he took. We simply cut him off starch and sugar, and in a very short time the urine became perfectly normal, and I hear it remains perfectly normal, no sugar being present in it whatever. There was another man in the wards who was also a specimen of this sort, only he was a good deal younger, and we had hoped to be able to try in his case some of the newer plans of treatment; but our hopes were frustrated, because when the carbo-hydrates were cut off he at once got well, and no more sugar was to be found. There was one point, however, to which I would like to draw your attention in his case, and that is that after the sugar disappeared from the urine there was still a high specific gravity. We were not able to ascertain the exact cause of this high specific gravity, but it reminded me of a case that I examined many years ago, in which after the sugar had gone from the urine inosite was found. It may be that inosite was present in this man, but we do not know because we were not able to get the chemical analysis made, but I would draw your attention to the possible occurrence of inosite in a case where you get a high specific gravity, but where you do not get any increased amount of sugar.

We have, then, in these cases two fairly typical specimens of what we may term "gouty glycosuria" rapidly recovering. In another case we had a different result. A man was admitted with a large quantity of sugar in his urine, with a sore upon his back, and the physical signs of pneumonia in his lungs. Owing to his weak condition a very careful examination of the abdomen was made. After a short time—in fact, one day after his admission—the sugar disappeared from the urine. In the two former cases the disappearance of the sugar from the urine was a good sign, and they got well forthwith. In this case, where the man was so severely ill, we did not look upon the disappearance of the sugar as a good sign, but, on the contrary, as a sign of probable approaching death, and this turned out to be right, because in two or three days more he died, and we then had an opportunity of making a post-mortem. Both lungs were found to be affected with abscess, more especially the right lung, and the characters more of a large sloughing carbuncle, and having the characters more of a large sloughing carbuncle. The pancreas was looked at with especial care, because pancreatic changes have recently come to be recognised as very important factors in the production of cases of obstinate diabetes. It seemed a little firm, but there was nothing very definite found to be the matter with it. Sections of it will, however, be made, and we will pay

special attention to the microscopic structure of it, and see whether any alteration can be found. To the naked eye, however, the pancreas appeared to be normal. In this man we had what really seemed to be gouty glycosuria in its beginning running to a very unsuccessful result. Instead of clearing up, as the other two had done, he became worse and died, and yet there did not seem to be anything in the disease itself that was going to carry him off; but wherever you get glycosuria you are always more or less liable to certain complications. The presence of sugar in the tissues seems to lead them to become a more favorable nidus for the presence and growth of various organisms. You know that in cultivating any microbes the addition of a little sugar to the medium frequently makes it a much more favorable ground for the cultivation, so that microbes which would not grow upon peptone broth alone may grow readily by the addition of a little sugar. Now something like this appears to occur in the body, and patients who have got glycosuria are liable first of all to boils and carbuncles, so that the appearance of boils and carbuncles very often leads you to examine the urine and see whether any sugar is present. It would appear that the microbes make their way through the sweat-glands or through the sebaceous follicles into the skin and subcutaneous tissue, and there they grow and multiply, giving rise to boils or carbuncles. You can readily see what that happens in the case of the skin will happen also in other organs,—for example, the lungs. In healthy people if the tubercle bacilli stick to the diet as you restrict it, and they are able to get expected by a healthy man before they are able to get a footing; but if they are inhaled by a man suffering from glycosuria they may find a nidus, grow more quickly, and lead to phthisis, and probably that was what occurred in the patient that we had in the hospital. Therefore in cases of glycosuria you are always afraid of any infective diseases, whatever they may be, and one is afraid of performing operations on persons suffering from glycosuria because, as it is said, the wounds are apt to go wrong. Consequently it is an advantage to your patients and lessens their risks to remove the sugar from the blood and from the urine as quickly as you can, even although the presence of the sugar may not appear to do the patient much harm.

In most of these cases all that is necessary is to prohibit sugar absolutely, and to lessen the starch in the food. A great deal of discussion has arisen as to whether it is advisable to prohibit starch entirely, or to give it in limited quantities. In my opinion it is not advisable to remove carbo-hydrates entirely from the diet; if you do this you find that the patients, as a rule, suffer very much, and that they practically get such an intense craving for carbo-hydrates that they will have them in spite of your prohibition; whereas, if you allow them in a limited form, you may get your patients to stick to the diet as you restrict it, and it is much better that they should take the diet which you have laid down than take the diet which they have laid down for themselves. Generally, you will find that the ordinary diet table for diabetes is this: proteids of all kinds, fish, flesh, fowl, and eggs are allowed in all forms, whether they be fresh or salted or potted, the only prohibition being that the meats or fish should not be taken with sauces containing flour. All green vegetables should be allowed. Frequently such things as Brussels sprouts are prohibited, but if you forbid vegetables of any kind you lessen your patient's dietary very much, and, as a rule, I am inclined to allow fish, flesh, fowl, eggs, all green vegetables,—and, in fact, vegetables of any kind with one or two exceptions. These exceptions practically are carrots, beet, and potatoes. Carrots and beet contain a good deal of sugar, and potatoes contain so much starch that it practically comes to be almost the same as if the patients were taking sugar. Then, again, potatoes may, I think, be sometimes allowed if they are given in one particular way. Diabetics, as a rule, complain very bitterly of their diet, and say that it becomes so distasteful to them. "If you could only give them a little bit of potato they would be so happy." You may allow a little potato if it is given in the form of the potato chips. A single potato taken in that way may be made to fill almost a whole dish. It must be cooked, however, in one particular way, and this is the way. I think it is known to all the cooks on the Continent, but is not known to all the cooks in this country,—indeed, to very few. You must have a large deep pan, not a frying pan, but a pan six inches deep, and this should be nearly full of oil or grease; dripping is as good as any other kind. You put this on the fire, and it comes as you think to the boil, but this boiling is quite delusive. You let it go on boiling, and all the water that is mixed with the dripping boils away, and finally in place of the apparently boiling liquid you get a liquid with a perfectly smooth still surface, which is not boiling at all, and then is the time you are able to cook your potatoes. They should be cut in very thin shavings indeed, and should be then thrown into this practically boiling fat. When I say boiling I mean this very hot fat which does not appear to boil. They are then quickly taken out, and they become under the

influence of the great heat firm and crisp upon the surface, and the fluid that they contain is boiled within these crisp surfaces by the fat, so that they are blown out, and each little shaving of potato, which was originally about as thick as a bit of cardboard, is now about three quarters of an inch thick. These potato chips may be used in cases of diabetes, and you will find that the patients are very fond of them as a rule, and they are enabled to get down a quantity of food that they could not otherwise take.

Of the two classes that we have just been describing, we have seen one class at least and one sub-class, the so-called "fatty" class, and the sub-class "gouty" glycosuria. There is another class which we have not had any opportunity of seeing yet, and that is the thin patients—the true diabetics. These thin patients become rapidly ill; they quickly lose their strength, they become much emaciated, and generally get a very great thirst. Their cases appear to be entirely different from those of gouty glycosuria, because they run a much more rapid course. Gouty glycosuria cases run a very slow course, so much so that I have seen one case, a lady who was over eighty, who had been suffering from gouty glycosuria for over thirty years. She was a well-nourished old lady, and she suffered apparently no discomfort whatever from the disease; and really I was asked to see her not so much because there was anything the matter with her, but because the old lady insisted that she was suffering from a serious disease which lessened her strength, and her strength must be kept up by stimulant, of which she took rather more than her friends thought good for her. She lived on for some years after I saw her, and, I think, died at eighty-eight, although the glycosuria had lasted for thirty or forty years. So that when a patient comes to you with sugar in his urine, you must not at once tell him that he has got diabetes, because diabetes in the minds of your patients means that they have got a mortal disease, and that they are going to die in a few years. True diabetes is a mortal and rapidly fatal disease, killing them off in about three to six years; but the gouty glycosuria cannot be called a mortal disease, because if an old lady dies at eighty-eight you can hardly say it was that which carried her off. Moreover in these cases of gouty glycosuria you will find it is not the glycosuria that is the cause of death except where it leads to complications, as in the case we had in the wards where it led to inflammation of the lungs with tubercle, or where it may lead to any other infective disease, from the readiness with which those germs grow in the tissues containing sugar.

It is well, then, when you get a case of gouty glycosuria to tell your patients that they are having gouty glycosuria and not true diabetes. You should draw a sharp distinction between gouty glycosuria and true diabetes. It is possible that glycosuria may pass into true diabetes, but very often it does not do so, and there is time to warn your patient when the danger really threatens. In the cases of true diabetes we find that we are obliged to be even more strict in regard to diet than we are in the case of those who are suffering from gouty glycosuria. Even then, although the diet is strictly laid down and strictly adhered to, sugar will continue to appear in the urine, and one must do one's best to try and get it utilised.

The remedies that have been used in cases of diabetes are exceedingly numerous, and yet out of the whole of them there appear to be very few which are of any real service. Practically I think we may say that there is only one which is of very great utility, and that is opium and its alkaloids. The alkaloids are codeine and morphine. Codeine is, perhaps, rather more successful than morphine in one respect, viz. that you can push it further without giving your patient so much constipation, or without giving rise to that excessive drowsiness which morphine causes. But morphine has more power than codeine in stopping the sugar. It is not only capable of stopping the sugar when administered in smaller doses, but it will also tend to stop the sugar after you have reached the limit where codeine seems to have lost its effect. It has seemed to me as a rule that patients are able to stand more morphine, or more codeine, when they are suffering from diabetes than when they are suffering from most other diseases, or than ordinary healthy people can stand. In one case I saw codeine pushed up to the dose of 15 grains daily—a large dose,—and this large dose was sufficient to stop the sugar; smaller doses were insufficient.

I have mentioned to you the chief remedy, but there are some other remedies which may be useful, and one of these is salicylate of soda, which I believe to be useful not so much in cases of true diabetes as in cases of gouty glycosuria, and the use of it is rather as a general remedy for gout than as a special one for sugar. I ought to mention here, perhaps, one caution in regard to the diagnosis of diabetes, or rather, I should say, of gouty glycosuria. An old clinical clerk of mine went into practice in the country a number of years ago, and after he had been in practice for about two years he came back to me and said that he was dying. He thought he had got diabetes. He had put himself on a rigid meat diet, and the more rigid he was the

worse he became. I examined the urine, and I mixed it with some Baking's solution, and sure enough I got down at once a copious precipitate of yellow oxide of copper. I tested it, however, with a bit of litmus paper, and found it to be intensely acid. I then mixed it with its own volume of liquor potassa and heated it, but instead of getting a dark brown coloration as had there been much sugar in the urine, I would have done, I got no coloration at all. Clearly, then, we had to deal here with a reducing body, but not with grape-sugar. I put a single drop of the urine under the microscope, and it simply crystallised into an almost solid mass of uric acid. The reducing body in the urine was simply an enormous excess of uric acid, and this caused so much reduction of the copper that my pupil believed that he was suffering from diabetes, and, of course, the more meat he ate the more uric acid he got. I told him to put himself on a vegetable diet, and he very soon became well, and has remained so for at least fifteen years. We must, therefore, be cautious in dealing with cases of gouty glycosuria, and not fall into the mistake of confounding them with cases of true diabetes.

There seems to be a loss of power to utilise sugar in all cases of glycosuria, both in those who are stout and those who are thin, and one of the things that we desire most to bring about is the utilisation of sugar in the organisation.

Now although I was unable years ago to cure cases of diabetes either by giving raw meat or by glycerine extract of raw meat, yet it has been abundantly shown that sugar appears to be used up in the muscles; and therefore, if we want to get it utilised, we have to get the sugar circulated freely through the muscles. Dr. Richardson suffered from diabetes himself, and he expresses very strongly the view that exercise is of the utmost utility in glycosuria. He said that at first when you begin to take exercise you will find that it is very tiring, and that you wish to lie quiet; but if you go on in spite of your languor you will find that the languor will pass off, and after a while you will be able to walk with considerable freedom, and to take pleasure in the exercise, and at the same time feel very much better for it. But in all cases there is a difficulty about taking active exercise. In the case of remarkably fat people, they cannot take exercise because their bodies are too heavy. You will sometimes see this at Marienbad or at Carlsbad, where a lot of those very fat patients travel in the luggage van because they are absolutely unable to get into any of the carriages. I saw one at Marienbad towards the end of the season who was able to walk about, but when he arrived at Marienbad he was in a very bad case, because there was not a single vehicle at the station that would take him for fear of breaking the springs, and he had to get some sort of heavy cart to convey him to his hotel, and then he had a special one built, in which he was carried about. In cases like this it is absolutely impossible for our patients to walk. In the case of the very thin, nervous patients, they are unable to walk because the exhaustion is so great. So that in all cases what we wish to do is to bring the blood freely into contact with the muscles, to allow it to circulate freely through them, and this we are able to do by the plan which has been advocated so largely by Wei Mitchell, viz. by massage. It was found by Ludwig and some of his scholars that if you stimulate a muscle you increase the blood-flow through that muscle. It seemed to me likely that the same result would be got from massage, so Dr. Tannicillie and I made some experiments, and we found that after the massage of a muscle the blood rushes through it three times as quickly as before. It may not seem very much to you to hear that the blood travels through the muscle three times as quickly as before, but when you see the blood travelling along two inches only in a glass tube in one minute before massage, and after massage six inches in the same time, it then strikes you as a very remarkable increase. In consequence of this effect on the circulation, in cases where patients are unfit, either because they are too fat, or because they are too weak to take exercise, you may substitute massage in bed for the exercise. There are many other points I should like to bring before you about this disease, but the time is nearly up, and I would only reiterate those things that I want you especially to notice.

I want you first of all to notice that there are really two distinct diseases in which you find sugar in the urine. There is glycosuria, generally gouty; and there is true diabetes. Glycosuria is associated with a well-nourished body, sometimes with a tendency to great deposit of fat; it runs a slow course; it may not kill the patient at all, although it does render him more liable to death from infective diseases. Then there is true diabetes, in which you have the patient thin and weak, generally with greatly increased appetite and with very great thirst. Both of these symptoms may be completely absent in cases of gouty glycosuria, although you generally find them thirst, but still there may be no greatly increased thirst and no greatly increased appetite. In the case of true diabetes you find the patients

are subject to great wasting. The course of the disease in true diabetes is a short one. It does not, as a rule, run for more than three to six years; although gouty glycosuria may run on for thirty or forty years, as happened in the case of the lady I referred to.

The next point is that I think it is not advisable to be too strict in the regulation of diet. You ought to be strict in cutting off all sugar, and in reducing the carbo-hydrates, such as starch, almost to a minimum; but if you cut them off entirely you run the risk of getting your patients taking more than you would allow, whereas if you let them have a certain amount you may manage to keep them to the restricted diet.

The next thing is that the best remedy in gouty glycosuria is exercise, and if the patients cannot take exercise they can have massage, and you may give them salicylate of soda; but in cases of true diabetes almost the only remedy we can trust to at all is the administration either of opium or one of its alkaloids.


The Causes and Treatment of Nasal Obstruction in Children.*

By ANTHONY A. BOWLEY, F.R.C.S.,

Assistant Surgeon to the Hospital.

(Continued from page 56.)

ADENOID GROWTHS AND ENLARGED TONSILS.

 NOW come to those cases where there is nasal obstruction due to adenoid growths in the naso-pharynx, and in many of these cases there is also nasal discharge due to some hypertrophic rhinitis and chronic nasal catarrh. The symptoms of adenoid growths are now so well recognised that I need do little more than enumerate them. The child, in a typical case, breathes heavily, and usually keeps the mouth open; there is inability to breathe through the nostrils, and constant snuffing; the voice is deepened and thick; the facial expression is stupid; the child snores loudly, sleeps restlessly, and wakes frequently, and occasionally a little blood is found on the pillow-case in the morning; some degree of deafness is present, and is much worse if the child catches a cold, whilst in many cases of long standing there is discharge from the ear and perforation of the tympanic membrane; the child is undersized, and the general health is not good. It is seen on examination that the nostrils are small and collapsed, and do not dilate on respiration.

But, whilst all these conditions may be present in a severe and typical case, it is not to be supposed that they are always found in every case, and it is certainly true that many patients with adenoid growths are quite as well grown and robust as other children of their own age, and that, whilst other symptoms are present, deafness may be absent. Too much stress must, therefore, not be laid on the concurrence of all these symptoms enumerated.

It seems to me, however, that whilst there is now not much danger of adenoid growths being overlooked, there is a tendency to diagnose them when they are not present, and to advise operations when none are necessary. You may, perhaps, think that this is a strange assertion to make, but I wish particularly to point out that in a large number of cases of nasal obstruction, with many of the symptoms of adenoids, the obstruction is due to hypertrophic rhinitis, to chronic nasal catarrh, or even to purulent rhinitis. I have frequently seen such cases, and have on various occasions declined to operate upon patients who have been sent to me for operation with the diagnosis of adenoid growths, and it is because of the liability to overlook these conditions, and to consider every case of nasal obstruction as one of adenoids that I ventured to first of all place before you a few details of the varieties of nasal catarrh.

I would next point out that errors also arise from an examination of the pharynx with the finger, and the discovery of some swelling of the posterior wall of the naso-pharynx. Adenoid growths are, after all, merely an increase of the normal lymphatic glandular tissue of this region, and a certain amount of swelling is quite a natural thing in this situation. It is only when this is excessive and is associated with swelling and congestion of the neighbouring mucous membrane that an abnormal condition can be said to exist. It follows, therefore, that no question of operation is to be considered merely because

* A paper read before a meeting of the North Eastern Division of the Metropolitan Counties Branch of the British Medical Association.

there is some perceptible swelling in the naso-pharynx, and that unless there are associated symptoms certainly no operation is to be performed. I mention this particularly because there seems to me at present to be a decided tendency to advise an "operation for adenoids" in many cases where none is needed, and the error seems to be due to either overlooking some other cause of nasal obstruction, or to putting too serious an interpretation on the discovery in the pharynx of a collection of adenoid tissue which is a natural constituent of the mucous membrane in this region.

The next matter deserving of attention in deciding whether or no an operation is to be advised is that the size of the adenoid growth bears no direct relation to the severity of the symptoms. Quite a considerable growth may cause but few symptoms if no catarrh of the mucous membrane accompanies it, whilst quite small growths may cause severe symptoms if they set up and maintain catarrh. I should say, therefore, that if there are definite symptoms of nasal obstruction in association with even small adenoid growths, especially if these symptoms are associated with increasing deafness, it is certainly advisable to operate, supposing no other cause of the trouble be discovered on examination. I should, myself, lay especial stress on the presence of deafness, and in any case of doubt would operate for this alone if it could not be improved by other treatment. I have come to this conclusion gradually, because I have noticed that in several cases where I had removed but very little growth the deafness and other symptoms have rapidly disappeared, and in some of the cases where I have operated solely because of the deafness and in the absence of almost all other symptoms I have found definite abnormal growth, and the deafness has at once improved. I am, indeed, quite sure that in many cases deafness may be the only material symptom resulting from adenoid growth, but by itself it is quite sufficient to warrant the removal by operation of any growth that is present, so as to save the patient from a lifelong affliction.

With regard to the operation itself, it seems to me that there is a tendency on the one hand to greatly exaggerate its difficulties and dangers, and on the other to assert that the operation is so trivial as to be of no importance. I think the truth is midway between these extremes. No operation can be said to be absolutely trivial when fatalities have occurred in the practice of the best surgeons, and to approach any operation in such a spirit is to court disaster. On the other hand, the operation is not at all a serious or dangerous one if all proper precautions are taken, and it does not present any serious mechanical difficulties, and is quite as easy with a little practice as a great many other minor operations.

Perhaps the next question to consider is that of an anæsthetic, and I have no hesitation at all in expressing the opinion that chloroform, or a mixture of chloroform and ether, is the best. I have tried both gas and ether, and do not like either as well as chloroform; my reasons being that both of them cause great venous turgescence and increase in the hæmorrhage, and that the patient is liable to recover from the anæsthesia too soon if the case be a troublesome one or complicated by enlarged tonsils. It is, however, quite unnecessary to produce deep anæsthesia with chloroform, and further, it is certainly unsafe to do so. The operation should be commenced as soon as the child is quiet enough to admit of the finger being passed into the pharynx without struggling, and this is long before deep anæsthesia is induced. If there is much tendency to vomit, it is best to encourage it by tickling the throat, so as to get rid of any mucus before commencing the operation. Particular care should, however, always be taken that the stomach is empty, and that no solid food has been taken for three or four hours prior to the removal of the growths, though in all children in whom the operation is not done early in the morning a cup of strong soup or beef tea may be given with advantage an hour or two previously.

As to the mode of operating, I would first of all say that mere scraping with the finger-nail is quite inefficient except in a few trifling cases, and is never sufficient for the satisfactory removal of growths of any size. For the same reason I object also to the artificial steel nail introduced by Sir William Dalby which is further impossible to use in the pharynx of a small child, when sometimes even an unnumbered finger may find difficulty in passing. The other methods which may be adopted are the use of some form of curette or forceps. The growths may be satisfactorily removed with either, but I do not myself like curettes, for when the growth has been scraped away by them it is left in the throat, and may possibly enter the larynx, especially if it be left partially attached and hanging by a strip of mucous membrane.

Forceps, on the other hand, remove the growth clear of the mouth, and are in all ways suitable for the extirpation of the growths. I have for some time used a slightly modified Lowenberg's forceps, made so that the blades cross one another like scissors, and do not

meet edge to edge, the result being a much improved cutting instrument.

The position I prefer is a recumbent one with the head a little thrown back—but not hanging back—and turned to one side, as this position enables the operator to see clearly the back of the throat, whilst at the same time it facilitates the introduction of the forceps, allows the blood to flow into the cheek, and prevents its collection in the pharynx. In seizing the growth the back of the forceps should be kept closely applied to the pharyngeal wall, and at the same time care should be taken not to tilt the blades so as to cause them to point towards the posterior nares. Three or four introductions of the forceps is usually quite sufficient, and as two minutes is an ample time for the removal of the growths, no chloroform need be given during the operation itself.

In my opinion there is never any growth except in the posterior wall of the pharynx that requires removal by forceps, but after the latter have done their work the naso-pharynx and the posterior nares should be thoroughly scraped with the finger nail, so as to remove any thickening that has escaped the cutting blades. Many operators speak of the necessity of scraping growths from the neighbourhood of the Eustachian tube, and various instruments have been invented for this purpose. I am quite convinced myself that such operations are not only needless, but are harmful, for the thickening around the tube, which only sometimes exists, is due merely to congestion and œdema, and not to adenoid growth, and will all subside when the latter has been removed. Scraping the mucous membrane around the orifice of the tube with sharp instruments is in my opinion both an unnecessary and dangerous treatment.

The amount of bleeding that complicates this operation varies very greatly, but it never continues for more than a few very minutes, and then rapidly and spontaneously ceases. No treatment is ever required to arrest it in my experience. It is, however, of great importance to mop up the blood that flows into the pharynx, and occasionally, though rarely, it is necessary to stop the operation for a few moments to clear it away. When the operation is completed care should be taken to keep the patient on the side, so that if any blood which has been swallowed be vomited, it may be at once got rid of. The subsequent treatment consists practically in leaving well alone, and keeping the child in bed for two or three days and in the house for a week, so as to avoid all chance of catching cold. On no account should the nose be syringed, as this is more likely than anything else to cause an attack of aural catarrh with possibly suppuration. It is sometimes important to mention this to parents, for many of these children have previously been treated by syringing, and this is likely to be resorted to if there are complaints of the nose being blocked up.

I fear I may have wearied you with the details I have described, but my excuse must be that success depends upon details, and can only be ensured by constantly keeping this in mind. But tolerably uniform success can be attained, even in out-patients' hospital practice, is sufficiently demonstrated by the fact that during the past three years more than 600 patients have been operated upon by myself or under my supervision in the Department for Diseases of the Throat at St. Bartholomew's Hospital, without serious complication of any kind occurring during operation or convalescence. And when it is remembered that many of these children are placed in very insanitary surroundings at home, I think we may well be surprised at such a result. It is, further, evident that if patients can do so well under these circumstances, we may feel sure of obtaining equally good results at least in private practice.

With regard to the effect of operations upon the symptoms that have been produced by the adenoid growths, I think it may be said that when the patients are children the prognosis is very good. Parents must, however, be warned that the deafness, the nasal intonation of voice, and the habitual open-mouthed expression will not all disappear at once, and that in older children the last two generally require careful training for their eradication. If deafness continue for more than a few weeks it should be treated by the occasional use of a Politzer's bag.

May I now turn for a very short time to the subject of chronic enlargement of the tonsils? for it so much associated with the growth of adenoid tissue in the naso-pharynx that I find it difficult not to mention it in this association.

With regard to the enlargement itself, it is often, in my opinion, a true hypertrophy, a genuine increase and enlargement of tonsillar tissue; in other cases the enlargement is inflammatory, and results in part at least from frequent attacks of tonsillitis of very various intensity. Now I feel sure that there are very vague ideas as to the natural size of the tonsils in young children, and should like to point out here what I find it advisable to demonstrate at the Hospital,

that in little children under the age of three or four quite normal tonsils can be made to project so as to appear very greatly enlarged, — and even almost to meet — if the child strains, as it so often does, as soon as a spatula is put into its mouth.

If an inspection be made whilst the child strains or retches, a diagnosis of enlarged tonsils may easily be made when no enlargement exists. This is all the more likely to be the case because the tonsils are normally much larger in proportion to other parts of the mouth in children of tender years, and what would be relatively a large tonsil in a boy of ten is a normal structure in a child of three.

I mention this because I find that some students seem to me to find enlarged tonsils in most of the children they examine, and I think what I have mentioned may possibly be a source of error. But, keeping such facts in mind, it is generally easy enough to say whether tonsils are unusually large or not, and when they are very greatly enlarged, so as to block the pharynx, there can, I think, be no doubt that they should be removed.

I do not myself advise operation unless, first, symptoms of obstruction to respiration exist; or, secondly, the patient is the subject of recurring attacks of tonsillitis. Without one or other of these troubles, operation is not necessary.

Let me next say that in the first of these classes, namely, where there is obstruction to respiration, I feel sure that there is practically always in young children some adenoid growth as well, and, as that growth is often present in the second class also, I always arrange to operate on the tonsils under an anæsthetic, and to remove any adenoids at the same time. I should, nevertheless, like to make it clear that in older patients enlarged tonsils requiring removal are often unassociated with naso-pharyngeal growth, and that although when enlarged tonsils in young children require removal there are also, as a rule, adenoids to remove as well, it is not true that in all or nearly all cases of adenoids the tonsils are enlarged. I think also that in operations under an anæsthetic the tonsils are really more satisfactorily removed than when a young or frightened child is screaming and struggling. The operation of tonsillectomy in young children is, thus, as a rule, to be associated with removal of adenoid growths, and in general terms the same precautions as those already described should be taken. My own practice is to remove the tonsils first, and to allow the escape of any freely flowing blood for a minute or so before going on with the adenoids; but if there be no material hæmorrhage there is no need for any such delay. As to the mode of removal, I suppose that each surgeon will do best the operation he is most accustomed to perform, but I may say that I prefer the tonsillectomy that goes by Mackenzie's name.

The subject of hæmorrhage after tonsillectomy is not of quite so simple a nature as that of the bleeding which occurs after the removal of adenoids, and it is a matter on which both surgeons and the public feel some little anxiety. I always console myself with the consideration that up to the present time there are no recorded cases of death from hæmorrhage after tonsillectomy in a child, so that when I see a good deal of bleeding I consider that after all this is not likely to be the first fatal case. I think, however, it may be said that the older the patient, the more likely is there to be hæmorrhage, and in adults the child is to puberty, the more likely is this bleeding to be smart.

May I next say that I consider some of the routine treatment of these cases quite erroneous, and that I have not yet personally had to do with any case in which bleeding has not spontaneously ceased in children? The erroneous treatment I allude to is putting the patient in the sitting or even standing position, and encouraging him to gargle with cold water, to suck ice, and to spit out the blood. If you watch a patient acting thus you will see that the bleeding parts are never kept quiet for a moment, and in his efforts to get rid of the blood from the pharynx the raw surfaces are squeezed by the contraction of the pharyngeal muscles, and are made to bleed the more. I believe that if there is considerable hæmorrhage it can be made to continue for an almost unlimited time if the patient is only supplied with a basin to spit into and something to gargle.

You will gather from what I have said that I prefer the patient kept quiet, and whether an anæsthetic has been administered or not, I should always insist on the recumbent position and perfect quiet as the first essential for the arrest of the bleeding. I can further say that I have never in children required to adopt any other treatment when rest and quiet have been insisted upon, although some oozing may continue for half an hour or more. In hospital practice I never send a child away until the bleeding has definitely ceased; if it continue I take it in for the night and put it to bed. In private practice I always prefer to operate on children in their own homes, because it is not convenient to put them to bed in my own house; but I would especially insist on the fact that bleeding will almost invariably cease

spontaneously if the patient be kept at rest in the recumbent position, and is not encouraged to gargle or to spit. If you send a patient walking home for some distance after tonsillectomy he may lose a great deal of blood *en route*, and I have had to treat on several occasions children whose tonsils have been removed outside St. Bartholomew's, and who have come there blanched from loss of blood. Here, again, the first thing is to put the patient to bed. To further prevent secondary hæmorrhage I think it wise to insist that no hard food of any kind should be taken for a full week.

But although I am of opinion that in children bleeding may almost always be arrested by such simple treatment, I am of course aware of recorded cases where there has been difficulty in stopping the hæmorrhage, and I have myself had to do with older patients where other means have had to be adopted. The first and most efficient of these is, in my opinion, direct pressure; and often during an operation, when the bleeding seems likely to cause delay, I compress the bleeding surface with a small sponge or piece of wool applied to the bleeding surface with the tip of the index finger, and generally with some immediate improvement. The same treatment may be continued, with a gag to protect the operator, if bleeding continue in spite of rest, or the pressure may be applied with a sponge on a pair of forceps. I am glad to say that beyond this my personal experience does not extend, for I have not yet had to employ any other means. If, however, I were pressed as to what I should do in case this proved inefficient, I think I should either apply some dry sulphate of iron to the bleeding part with a small piece of sponge, or should touch the bleeding point with a cautery at a dull red or black heat. I should suppose also that in such cases the use internally of such drugs as ergot, gallic acid, opium, or hamamelis might prove beneficial, and I should certainly try them. As to tying any vessels in the neck, it is scarcely necessary to discuss that matter at present, for ligation of the external carotid has not yet been required in any case in a child, and I do not think it ever will be if ordinary precautions are taken.

And here I will leave the tonsils, for I think I have nothing to add with regard to tonsillitis in its more acute forms than is already well known. But before I bring this paper to a conclusion altogether I should like to say a very few words on the subject of tumours of the nose and naso-pharynx in childhood. They are fortunately very rare, for even the common nasal polyp does not usually commence till childhood is nearly passed and the period of puberty reached, although in cases of watery discharge and apparently simple chronic catarrh it must always be remembered that these symptoms may be due to the presence of polyps. Again, when the naso-pharynx is blocked, it must not be forgotten that the fibro-sarcomatous and fibro-angiomatous growths of this region usually develop in children, and generally in boys of from ten years and upwards. They may in their earlier stages closely simulate the symptoms of adenoid growths, but they are fortunately much more rare, and usually require considerable operations for their removal. There are practically no other tumours of the nose or naso-pharynx that require mention, and I have merely alluded to these two classes because it is well to remember that they may simulate other and less serious conditions.

Case of Acute Tubercular (?) Peritonitis with Alarming Symptoms; Recovery after Paracentesis only.

By SAMUEL WEST, M.D.

On August 15th, William R., æt. 15, was admitted into the hospital in an almost moribund state, with a temperature of 104°, and great distension of the abdomen. The history that the patient gave was as follows. It appeared that he had been in his usual health until the 12th of August, when he had a little diarrhoea. On the 14th his abdomen suddenly swelled, and he had a great deal of pain in it. On the 15th (the day of admission) the abdominal distension was considerable, and the bowels had not been open for twenty-four hours, though there had been no vomiting.

The patient appeared to have been a fairly strong lad, and there was nothing at all worthy of note in his family history. One month previously he had had a fall on the back of his head, which had stunned him, and he had been unable to see clearly for some hours, but there seemed to be no ground for connecting this fall in any way with his present illness.

The lad was well nourished and developed, and looked as if he had been in fairly good health previously. He now looked extremely ill, face very pale, his pulse 110, of low tension, his temperature between 103° and 104°, and his skin slightly sallow but not dry. His general appearance was rather that of collapse than of acute pain. He preferred to lie upon his back, and his legs were often not drawn up. The tongue was dry, the abdomen very large, tense, and measured twenty-eight inches in circumference. The subcutaneous veins were enlarged all over its surface, especially in the flanks, but the blood ran equally in either direction. The abdomen was only slightly tender on palpation, but there was no marked pain. It was resonant all over except in the right flank, where the percussion was somewhat impaired, and this impairment disappeared when the patient was turned on to the opposite side. An indistinct thrill was also thought to be felt, so that it was probable there was fluid present in the peritoneal cavity. The respiratory movements, although diminished, were not completely absent. Examination of the rectum showed nothing, but some scybala were found. The distension of the abdomen had displaced the organs somewhat upwards into the thorax, but otherwise there were no symptoms or physical signs in the chest. The patient was desperately ill and evidently in a very critical condition, and it was thought desirable to send for me in the middle of the night.

I thought it evident that the case was one of acute peritonitis, but I could not satisfy myself as to its cause. The question I had to decide was whether the abdomen should be opened or not, and after careful consideration I decided against operation, because the patient was so desperately ill that I hardly thought an operation could be successful in his then condition, and because it seemed to me that the case could safely be left for a few hours, that is to the next day, when the question might be reconsidered, and when possibly the patient might be in a somewhat better state, for worse he could hardly be. On the whole the case presented the appearance most of perforative peritonitis, but with what organ it was originally to be connected it was impossible to say, for there was nothing in the previous history or in the physical examination to assist us in the diagnosis.

The patient was ordered to be fed with small quantities of milk and brandy at a time. As the patient was suffering no particular pain no opium was given or other drugs.

The next day the temperature had fallen in the morning to 99.8°, and the patient was certainly no worse, but rather better. He had taken three ounces of essence and an ounce and a half of brandy during the night; his pulse was rather stronger, and his general strength maintained.

In the afternoon physical examination showed that there had evidently been a considerable increase in the amount of fluid, although the girth of the abdomen was not very much increased. This rapid increase in fluid was thought to be against the notion of its being purulent.

The patient passed a natural motion in the evening, and two more motions the next morning. On the following day, August 17th, the fluid had still further increased, and paracentesis was now performed, with the result of removing four pints of serous fluid. The intra-abdominal pressure was high, viz. eight inches of water, and there was a respiratory oscillation of half an inch. The temperature oscillated during the twenty-four hours between 100° and 101°. The operation gave great relief.

The further history of the case is one of gradual recovery. The fluid gradually disappeared from the abdomen. The temperature continued hectic for three weeks, oscillating daily between normal and 102°, after which time it became normal. The abdomen presented no marked abnormality, except that it was a little pulpy and boggy to the touch on leaving the hospital. The case would probably have been diagnosed as one of chronic tubercular peritonitis, but only if attention had been specially directed to the abdomen. No history of any previous illness was obtainable, and the abdomen had not been observed to be getting larger before the present attack.

In the end there could be no doubt as to the diagnosis, viz. tubercular peritonitis; but the case was one of great interest at the time, and I think unusual. Effusion as a rule develops slowly and gradually in chronic tubercular peritonitis; and although it is not uncommon to see an effusion form in a few days so as to require paracentesis, still it is, I believe, quite rare to see an acute onset as in this case with all the signs of acute general peritonitis, attended with such urgent symptoms in two days' time as to place the patient in immediate danger to life.

It is difficult in verbal description to say why I thought operation undesirable when summoned to do so on the night of his admission. Every one agreed that the patient's life was in imminent danger. Some argued—the patient is bound to die if left alone; operation may relieve, therefore an operation should be performed. I felt that the

patient was so ill that operation would probably kill him, and that it would take away any chance he had of fighting through. The child was greatly collapsed from the result of his removal to the hospital, and I thought that, desirable as it is if an operation is to be done at all to do it without unnecessary delay, still in this case a few hours longer could hardly make him worse, and might make him better. The operation then, if it proved necessary, would be performed under more favorable conditions. The result fully justified the view I took, for the patient got well without operation. Yet every one agreed at the time that opening the abdomen in his then condition was in all probability be fatal.

Physicians naturally look on these cases from a different point of view, and with somewhat different experience to guide them than surgeons; and though approving heartily of the general rule of operating early in all cases which require it, and accepting the general statement that as a rule more harm is done by delay than by operation, still these are only general rules, and there are exceptions to each of them. Yet in the right kinds of cases as much wisdom may be shown in refusing to operate as in advising operation, perhaps more, and this was emphatically a case in point.

The Mechanism of Phagocytosis.

A Paper read before the Abernethian Society on

November 14th, 1895.

By W. LANGDON BROWN, M.A.,

Assistant Demonstrator of Biology.

(Continued from page 42.)

III. The degrees of excitability of the Sporadic Mesoblast; the functions served thereby.

In Richet's* definition of irritability we find the following generalisation:—"The movement in response to irritation is, for equal irritations, stronger in proportion as the equilibrium of the cell is less stable; in other words, stronger as the cell is more excitable."

The wide differences of stability found among the cells of the sporadic mesoblast afford many illustrations of the truth of this deduction. (i) The most unstable wandering cell of all is that originally described by Hardy† in the cray-fish, and appropriately termed by him the "explosive cell." To see such cells the blood must be examined within a few seconds from the time of its removal from the animal. A large number of pale oval corpuscles are seen to shoot out extremely fine pseudopodia, along which blebs of cell substance travel rapidly, expand into a vesicle and burst. Or vesicles may develop directly from the surface of the cell, and expand until they burst. Normally these cells are actively motile and ingestive. If a quantity of Indian ink or milk be injected into the animal they will rapidly take up the particles; and their avidity for ingestion is on a level with their explosiveness, for they will include a particle so large that the cell can form but a fine film around it. After ingestion they will be found to have lost much of their explosive power. Apparently their stability is increased. Applying the results obtained in the previous section, we may see that the cell explodes chiefly from the stimulus of contact with foreign bodies, to which it attempts to offer the greatest amount of surface, its irritability is such that the expansion takes place almost instantaneously. But if the cell has already "imploded," as it were, around a particle of milk, it cannot react nearly so violently to the stimulus of another foreign surface, as it is already reacting to the included particle; hence explosions occur more rarely and slowly. The best method of preserving these cells is by the immediate application of a drop of iodine solution. It is of interest to note that the "fibrin-ferment" appears to be stored in these explosive cells, for crayfish's blood ordinarily becomes solid immediately after shedding; it clots just as rapidly as the explosions occur. Now iodine solution 25 per cent. will delay the explosions, and clotting is deferred by just the same length of time.

It is probable that explosive cells might be found in many forms of life if only search were made. When working on the blood of Molluscs I found that the Lamellicorn Unio would yield admirable instances of explosive cells; in fact, explosions occurred so rapidly that the only way to make satisfactory preparations was to draw the blood direct into a pipette containing the iodine solution, so that as

* *Essai de Psychologie générale.*

† *Journ. Phys.*, vol. XIII.

soon as the cells came into contact with any foreign matter they encountered the preservative agent.

An explosive cell with coarse basophilic granules has also been recently found by Karbach and Hardy (loc. cit.) in the guinea-pig and rabbit. The specially rapid modes of preparation necessary to see such cells has naturally led to their being overlooked. Thus Geddes* describes in the perivisceral fluid of sea-urchins forms which strongly suggest that he was looking at explosive cells which had burst before he began his observation.

(ii) The next most irritable wandering cell we meet with is the one assisting in the formation of a plasmodium. A plasmodium, we may say at once, seems in invertebrate blood to take the place occupied by the clot in vertebrate blood. When the blood for instance in Molluscs and Echinoderms is shed the ordinary non-granular cells, throwing out pseudopodia and thin sarcofilar plates, soon meet the corresponding processes of neighbouring cells. By this time these processes have begun to form a continuous zone or stellate crown around each cell, and as they unite together the individual cell-outlines become progressively less distinct. Thus a plasmodium is formed into which the granular cells never enter except by passive inclusion.

(iii) Thirdly, we come to the ordinary phagocyte, which stands next in order of irritability; it is more sluggish than the two types just described, but, as we know, is normally amoeboid. In fact its method of inclusion is precisely that of the amoeba, which has been carefully described by Miss Greenwood,‡ as taking place in two stages: (a) Two pseudopodia spreading round the foreign body meet on its further side and join together; (b) the foreign body is then closed in above and below by the ectosome being drawn over it like the rim of a funnel. Thus the prey lies completely enclosed in a vacuole. Whatever be the exact nature of the stimulus, it is of interest to see that the reaction will continue after the apparent cessation of that stimulus. Thus an active infusorian may escape while the encircling pseudopodia are half advanced. Yet the advance of the pseudopodia is continued, despite the fact that the prey has fled, and ultimately they meet round a space containing only fluid.

(iv) All the foregoing types are normally mobile. But there are some cells which, belonging to the sporadic mesoderm, need abnormal stimuli to call their amoeboid nature into play. Such a one is the clasmatoocyte of Ranvier already described, which having settled down and inserted its long ramifying processes into the crevices of areolar tissue will not stir until stimulated by inflammation, when it rapidly buds off wandering cells. Another example is the large phagocyte described by Heidenhain in the intestine of the guinea-pig, which, normally stationary, will, if the animal be starved, pass from the parenchyma of the villus into the epithelium, which it proceeds to devour.

We have seen that no hard-and-fast line can be drawn between such sluggish forms as these on the one hand and the explosive cell on the other. By increasing the stimulus one type will imitate the ordinary properties of another more irritable type. Thus the blood-corpuscles of *Daphnia*, not ordinarily explosive, become so at once if brought into contact with the poisons produced by the *Torula* occasionally parasitic in its blood (Metschnikoff). And the white blood-cells of a frog require, as we have said, gentle heat before they will throw out the long pseudopodia and delicate plates normally seen in shedding invertebrate blood.

(v) Just in the same way we find cells which are normally definitely fixed becoming contractile and even amoeboid on being stimulated to an unaccustomed degree. Thus Metschnikoff‡ has shown that in the caudal fin of Triton or the tail of a tadpole the fixed connective-tissue cells in the neighbourhood of an inflammation become vacuolated, while their processes become shorter and lose many of their branches. Ranvier,§ too, has recently described how during inflammation of the great omentum long processes develop from the cells of the connective tissue; these grow along the threads of the fibrinous cobweb formed by a blood-clot; they meet corresponding processes from neighbouring cells, and fuse with them. In this way protoplasmic bars are rapidly formed. Ranvier believes this plays an important part in union "by first intention," where the first steps take place too soon to be accounted for by proliferation of connective tissue, which does not occur till towards the close of the third day following the injury.

Some of the most striking instances of fixed mesoblastic cells becoming mobile again are to be found in the behaviour of the

capillary endothelium in inflammation. Embryologically formed from mobile cells, under abnormal stimuli, it may show this ancestral trait again. Severini* even claims that this characteristic normally plays a part in regulating the calibre of capillaries. According to him oxygen causes them to adopt a more spherical condition, so that they bulge into the lumen of the capillary and constrict it, while carbon dioxide causes them to flatten, thus leading to dilatation of the capillary. This seems somewhat doubtful, but it appears probable that the stigmata through which the leucocytes escape in inflammation originate from contraction of the endothelial cells. Even these have been referred, however, to the passive expansion of the vessel, resulting in a series of leaks, as it were, between the cells.

A good example of the vicarious phagocytic action of the endothelium is seen on intravascular injection of bacilli. This may be followed by proliferation of the endothelial cells, leaving the adventitia bare; such proliferated cells even enclosing pigment and granules. Another example is seen after death from malaria, when the endothelium of the hepatic vessels is found filled with the characteristic parasite. Pathology yields suggestions of a similar process affecting epithelial cells in many cutaneous inflammations.

The question naturally arises next—Do amoeboid cells ever become elements of the fixed connective tissue? Round this point controversy has raged fiercely, and we must deal with it very briefly. Cohnheim and Ziegler both attributed an important part in the repair of tissues to the migrated white blood-corpuscle. In 1875 this was the generally accepted view, but each subsequent observer has more pronouncedly tended to deny to leucocytes an exclusive share in the replacing of coagulated or cicatricial tissue. The method adopted for the study of this question has been to introduce into the peritoneal cavity or subcutaneous tissue of an animal a little glass chamber formed of two circular cover-slips between which a strip of tinfoil is cemented round the circumference. Thus the tiny cell has an eleven-twelfths of the circumference. Between the two ends opening into which wandering corpuscles enter between the two ends of the tinfoil strip. At varying intervals the cells can be removed and examined microscopically. Sherrington and Ballance,‡ in carefully repeating these experiments, could not satisfy themselves that leucocytes which immigrated into the cell ever gave rise to connective tissue. The leucocytes appeared to fall a prey to the plasma cell of the connective tissue, which in its turn gave rise to the "fibroblasts," forming the new connective tissue. They pointed out that "it is quite in accord with the laws of natural descent for the cells of connective tissue, when thrown into renewed and extraordinary genetic activity . . . to produce a progeny of cells possessed of the same tendencies as themselves." So that warm-blooded animals at least the leucocyte does not appear to settle down as an element of fixed connective tissue. Putting it in general terms, a fixed mesoblastic cell becomes sporadic for a time under an abnormal stimulus, but soon reverts to its fixed life again. So far as such a view becomes current in that at the International Congress of Physiologists held in Berlin in 1890 Ziegler publicly recanted from his former position. Metschnikoff (op. cit.) still holds the contrary view, and it may be that in cold-blooded animals the leucocyte takes part in the processes of repair. He states that in the tadpole's tail in which an injury is being repaired (as we should say now more accurately) by a condensation of its nucleus, and then settles down into a typical branched connective-tissue cell. If the wound be inflicted with an instrument powdered with carmine the leucocytes ingest the coloured particles, which are afterwards found in the interior of the connective-tissue cells. And he maintains that a cell once fixed never ingests foreign matter. A negative is notoriously difficult to prove; remnants of intracellular digestion are fourfold difficult to find, and this may be an instance, where such authorities differ who shall decide? We can only say that in warm-blooded animals the part played by leucocytes in the formation of new tissue is not proven, and in cold-blooded vertebrates such is not the usual agency employed in repair.

We have traced then a series of cells, some always wandering, some, though naturally amoeboid, adopting a fixed position for the major part of the time, and others usually fixed but becoming amoeboid with specially strong stimuli. It is a scale showing increasing stability in the cell; and we have seen that "the response to irritation is . . . stronger in proportion as the equilibrium of the cell is less stable."

The irritability of the cell having manifested itself in one way, it naturally tends to react much more sluggishly to any further stimulus. Thus we saw that in the crayfish if the explosive cells have previously ingested milk or particles of Indian ink, they are much less prone

* *Arch. de Zool. Exp.*, viii.

† *Journ. Phys.*, vii and viii.

‡ *The Comparative Pathology of Inflammation.*

§ *Comptes Rendus*, tom. cxli, p. 842.

* *La Contrattilità dei Capillari*, 1881.

† *Journ. Physiol.*, vol. x.

to explode when the blood is shed. Similarly, Burdach found that the dog, which is naturally immune to anthrax, becomes susceptible after the injection of a quantity of fine sterile powder, for now the phagocytes can absorb no more, and the bacilli remaining outside the cells can develop freely.

Ruffer has also shown very neatly that the chemiotactic influence existing between the leucocytes and bacillary products may be annulled by the simultaneous injection of their toxins, preventing the great migration of leucocytes into the anterior chamber of the eye which normally follows the introduction of a drop of a culture of *Bacillus pyocyaneus*. Or the irritability of the sporadic mesoblast may be lowered in other ways, as by anaesthetics. Massart and Bordet* found in the frog that the migration of leucocytes towards tubes of living or sterilised cultures of bacilli was greatly diminished when the animal was anaesthetised. According to them, anaesthetics facilitate or aggravate infection by suppressing the irritability of the phagocyte. I imagine that for this purpose the drug must be pushed to a narcotic or poisonous degree.

In this connection it may be noted that frogs, which are normally immune to anthrax, become susceptible on being warmed. Kantaack and Hardy found in this case that the cells became completely paralysed, and showed no movement for five hours.

In fact, everything which lowers the irritability of the sporadic mesoblast increases the susceptibility of the organism to foreign invasion.

As to the functions served by this irritability, two stand out prominently—the arrest of hemorrhage and the removal of matter harmful or useless to the organism; for Hofmeister's† contention that one of the main functions of leucocytes is the absorption of peptone from the intestine is definitely set aside by the criticisms of Heidenhain and the observations of Metschnikoff (op. cit., p. 124) and of Shore.‡ This by no means excludes other activities; recent physiology has impressed on us the close interdependence of the bodily tissues. Hardy and Westbrook§ have quite lately described changes in distribution of intestinal wandering cells during starvation and digestion, which suggest that they play a part in maintaining the "normality" of the blood plasma; of these, inflammatory changes are but a gross exaggeration.

(i) *The arrest of hemorrhage.* It is agreed by all writers on the clotting of blood, except Woodridge, that the disintegration of the white blood corpuscle plays an important part in the process. In the crayfish we have seen that the disintegration of the explosive cell and the clotting of blood go hand in hand. But among invertebrates coagulable blood is the exception the Arthropoda being the only group in which fibrin formation occurs and here it is exceedingly rapid. This is probably connected with the rigid unyielding cuticle possessed by Arthropods, which renders strong contraction round the injured spot impossible. In the majority of invertebrates this contraction of the part instantaneously follows the infliction of a wound, so that the amount of blood lost is often very slight.

But in addition the process of plasmodium formation greatly assists the arrest of hemorrhage. Geddes¶ was the first to show that the non-granular cells of invertebrate blood rapidly coalesce on shedding to form a plasmodium, which acts as an efficacious plug to further bleeding; and that this process normally takes the place of clotting among invertebrates. Its details we have already considered. It is obvious that in aquatic animals the arrest of hemorrhage must be promptly effected, as the medium in which they live tends to favour its continuance just as a bath at the temperature of the body would favour it in man.

The Echinoderms are less well provided in this matter, for though they possess rigid exo-skeletons there is no fibrin formation, and if a considerable portion of the skeleton be broken, they infallibly bleed to death.¶ For smaller wounds, however, the rapid formation of a plasmodial plug appears to operate satisfactorily.

(ii) *The removal of matter harmful or useless to the organism.* We have seen that matter naturally inert, such as carmine particles or fine sterile sand, is rapidly ingested, and we know that in town dwellers the bronchial glands may be black with soot ingested by phagocytes and removed from the lungs.

Moreover, they will ingest other leucocytes which have been injured in the conflict with micro-organisms,** or by the action of a poison such

as urari, which is known to cause a degeneration of leucocytes accompanied by extraordinary modifications in their shape.

Further, they will ingest micro-organisms which have previously been rendered inert. The mechanism by which the micro-organisms are actually killed we will consider shortly.

What is the ultimate fate of these ingested matters? The inefficient leucocytes and dead micro-organisms appear to be digested by the cells—that digestion taking place in an alkaline or neutral medium (Metschnikoff). But as to the inimitable foreign matter they ingest? Among the vertebrates the common mechanism appears for them to be removed from the general economy, still surrounded by cells, stored in the lymphatic glands, even ultimately invested by fibrous tissue. But among several classes of the invertebrates, at least, we meet with an interesting mechanism by which the cells actually migrate to the exterior, carrying the foreign matter with them. The cell sacrifices itself for the organism of which it forms part, and I am unaware of any chemiotactic reason on which such altruism can be explained at present.

Durham* found that insoluble granules introduced into the body-cavity of the starfish undergo ingestion by wandering cells, which then become adherent to the coelomic epithelium of the dermal branchiae. Next by amoeboid movements they force their way through the branchial wall to the exterior, where they disintegrate. If the process is going on actively, one may see theumps of colour at the summits of the branchiae due to this emigration. These cells are termed "out-wandering cells," and by their agency the organism is rid of foreign matter. Green oysters show another interesting example of the same process. Their colour is due to the ingestion of a coloured diatom—*Nauiculularia aestrearia*. If the oysters be removed to tanks from which this diatom is absent, they soon lose their colour, and colourless oysters soon acquire the characteristic hue if brought into the presence of the diatom. Apparently the insoluble pigment passes into the blood when the diatoms are digested, and by its continued accumulation would form a harmful element in the blood.

In accordance with their ordinary activities wandering cells ingest the pigment grains, and then pass, loaded with pigment, to the gills and palps. Ray Lankester† to whom we chiefly owe our knowledge of this subject, believed that the pigment when it arrived at the gills was excreted by a number of "secretion cells" embedded in the superficial epithelium, these cells being green while the rest of the filament was colourless. He believed this in face of his own observation that these "secretion cells" could be noticed in a free amoeboid condition crawling over the surface of the gill. Of course this at once suggests that the "secretion cells" are nothing more nor less than wandering cells pushing their way to the exterior. And lately Pelouze‡ has traced the whole process more thoroughly, and has seen the amoeboid blood-corpuscles loaded with pigment pushing their way to the exterior.

In fact this process may be followed with any insoluble pigment. While working at this subject I repeatedly had occasion to observe in Anodonta and Unio that within twenty hours of injection of carmine into the foot, a copious number of out-wandering cells were to be found on the gills, palps, and mantle, each cell loaded with carmine. At the same time active phagocytosis was proceeding in the foot, the blood from the heart showed many beautiful examples of ingested particles, and the lacunar spaces of the gills, &c., were loaded with carmine containing cells pressing against the epithelium. All the stages in the history of an out-wandering cell could be traced.

Another point which seemed to be of interest, and which I have never seen referred to, was that the next necrotic layer of the shell to be formed was distinctly pink in colour, and on microscopic examination was found to be impregnated with carmine. Now, from the frequency with which excretory substances have been found in cuticular structures, it is believed by some that cuticle has a definite excretory value. I must not detain you longer on this point, but will refer you to the discussion by Harmer in his paper on "Excretory Processes in Polyzoa." It seems to me, however, that the formation of a pigmented shell-layer during the active excretion of pigment is an additional tact pointing in the same direction.

Still more lately Lim Boon Keng§ has described the cells of the coelomic fluid in the earthworm out-wandering through the dorsal pores, and showing active phagocytosis in response to stimuli. And among the vertebrates Stohr¶ has found that the tonsils and Peyer's patches are sites for constant out-wandering. We do not know,

although it seems plausible, whether these cells remove noxious products also. At any rate Ruffer has observed that some ingested leucocytes in the alimentary canal contain more or less digested microbes.

Taking the simpler cases among the invertebrates, it is noticeable that the cells which wander towards free surfaces usually contain pigment. Why they should out-wander we cannot say; it may be due in part to the stimulus afforded by the contents of the cell, in part duo to light, possibly by the absorption of light by the pigment. But in this as in many other matters "the time is not yet ripe for dogmatism."

IV. Specialisation of the Structure and Functions of Sporadic Mesoblast.

We have hitherto spoken of the sporadic mesoblast as granular or non-granular. We have now to see that this corresponds with a very important difference in function. Just as the cells of other tissues have undergone differentiation in the more complex forms of life, so have the cells of the sporadic mesoblast.

The first to notice that some white blood-corpuscles were granular and others not, was Wharton Jones in 1840. Max Schultze in 1865 carried the analysis further in describing four types:—(a) Small round, clear, non-amoeboid, little clear protoplasm. (b) Larger cell, amoeboid, more clear protoplasm. (c) Cells with finely granular protoplasm. (d) Cells with coarse granules in the protoplasm. *

In a series of papers extending from 1878 to 1887, Ehrlich made a great advance by determining that these granulations had different specific reactions with aniline dyes, some having an affinity for acid dyes such as eosin, and others for alkaline dyes; some for both. The first were termed eosinophile granules, the second basophile, and the last amphiphile. He also described neutrophile granules, but these have since been found by Kantaack and Hardy to really show an affinity for acid dyes, though less markedly than the first set.

The ordinary coarsely granular cells take the eosin stain to their granules with great avidity, while the most abundant leucocytes are "neutrophile" in his classification. But there is also in the blood a finely granular basophile cell of which the characteristic reaction is a rose colour stain with methylene blue, only properly seen by artificial light. Certain other plasma cells of the connective tissue, which he termed Mastzellen, have coarse granulations, also basophilic in reaction.

I will not deal with his work in greater detail, valuable pioneering though it was, because he did not attempt to determine the functions of the cell of which we have more particularly to treat, and because his classification bids fair to be completely superseded by that of Kantaack and Hardy, which is at once simpler, more comprehensive, and more accurate.

The first suggestion as to the function of the eosinophile cells was due to Hankin,* of this hospital, who isolated *in vitro* a proteid substance from lymphatic glands which had a destructive action on bacteria. To such substances he believed the resistance of animals towards the growth of microbes to be due, and so he termed them "defensive proteids;" subsequently the name "alexines" was adopted. He associated the bactericidal powers of the body with the wandering cells by showing, in conjunction with Kantaack,† that "outside the animal body during fever a rise in the bactericidal power of the blood occurs *pari passu* with the increase of the number of leucocytes present." He then linked this increased bactericidal power of the blood with the eosinophile, or, to adopt the latter and more convenient term, oxiphile granules, by showing that it is apparently associated with the discharge of these granules, coarse or fine, into the blood-plasma.

Ehrlich's ingenious theories of the conflict between the organism and the microbe have not stood the test of time, but his suggestion that the oxiphile granules of the sporadic mesoblast have a bactericidal function has recently received support from the admirable researches of Kantaack and Hardy,‡ to which we will now turn. They started from the observation that the leucocytosis induced by the injection of pathogenic microbes was of a different character from that following injection of inert matter, such as finely divided coagulated proteid or Indian ink. While the latter is followed by a large increase of the non-granular phagocytes, or, as they termed them, "hyaline" cells, it is the oxiphile cells, especially those with coarse granulations, that accumulate when pathogenic microbes are introduced.

Now the frog is normally immune to anthrax; the stages in the

conflict can be watched in a hanging drop of lymph under the microscope, the same cells being followed throughout.

Stage i.—The first cells to enter the field of action are the oxiphile cells, which, strongly attracted towards anthrax, come into contact with the chains of bacilli. The oxiphile cell is ordinarily very sluggish, but under these circumstances it is profoundly stimulated, and exhibits quick streaming movements of the cell substance; and then the oxiphile granules are discharged, those nearest the bacillus fading and dissolving first. The victory at this stage appears to rest with the army numerically greatest; if the oxiphile cells are unharmful by the bacilli, they bud off daughter-cells at first free from granules. These creep away from the field of battle till their granules are formed, when they seek the same or another focus of conflict.

Towards the end of this stage the oxiphile cells form a plasmodium around the bacilli, though their endosarc and granules remain distinct. The bacillus is only injured near the oxiphile cell, where the contents become rapidly curdled and irregular, or may be completely dissolved; but the mere vicinity of this cell may profoundly arrest its development. It may be noted that the reaction by greatest area of contact still holds here, for if the oxiphile cells be in the minority they will extend themselves to the most attenuated lengths in order to attack as great a length of the bacillary chain as possible.

While all these manoeuvres are progressing the phagocytes or hyaline cells are not attracted towards the bacilli, though they can still take up indiffent matter, such as Indian ink; but in the vicinity of an active bacillus they seem to be paralysed.

Stage ii.—The hyaline cells have now increased in number, and fuse with the oxiphile cell surrounding a bacillus, at the same time rolling the long-drawn-out mass of cells and bacilli up into a ball. This fusion into a lobed plasmodium may last for one or two hours.

Stage iii.—The cells begin to shed off and regain their individuality. We then find that during the second stage a manoeuvre has occurred which may be compared to the "ladies to the centre" movement in the third figure of the Lancers—that is, the hyaline cells, originally outside, have taken up their position in the centre of the plasmodium, while the oxiphile cells are now at the periphery, and are the first to separate off. The central hyaline mass is now seen to contain the bacillary remains enclosed in food-vacuoles.

Stage iv.—The hyaline mass now separates into its original constituent elements. By this time the basophile rose-colouring cells have increased in number and also in size, so that their cell-substance becomes completely filled with granules showing the characteristic reaction. Kantaack and Hardy sum up the conflict as follows:

1. The maiming of the bacilli by the oxiphile cells.
2. The removal of the remains of the bacilli by means of the ingestive and digestive activity of the hyaline cells.
3. The probable removal of dissolved foreign substances by the rose-staining cells. The accumulation of bacterial toxins beyond a certain point paralyses the oxiphile cells and destroys the hyaline. They suggest that the increase of the amount of rose-staining substance is correlated with the removal of bacterial products.

Hardy and Keng* followed the subsequent fate of the oxiphile cells that had taken part in the conflict, and found that though they apparently were loaded with normal granules, they were below that standard of efficiency demanded by the body, and were in consequence attacked and ingested by the hyaline cells. Maimed and weakened cells are, therefore, prevented by this cannibalism from again entering the conflict. It is highly probable that all the descriptions of supposed phagocytosis by oxiphile cells are really instances of hyaline cells containing remains of such oxiphile cells.

More recently Kantaack and Hardy have extended their results to Mammalia, and have classified the granular cells into—

I. Oxiphile: (a) Finely granular ("neutrophile" of Ehrlich), typically found in the blood. (b) Coarsely granular, typically found in the coelomic and lymphatic spaces.

II. Basophile: (a) Finely granular, in the blood. (b) Coarsely granular, in connective-tissue spaces ("explosive" in guinea-pig and rabbit).

Thus we find they can be divided into a hamal group—typically finely granular and into a group found in the coelomic and interstitial spaces, typically coarsely granular. An irritant near the blood-vessels of a vascular membrane will provoke a reaction of cells of the hamal type; while a Ziegler chamber or capillary tube, filled with bacilli or their products, introduced into the peritoneal cavity induces a reaction solely of the coelomic cells. But under all such circumstances the coarsely granular oxiphile cell, the eosinophile cell *par excellence*, is the first to enter the field of conflict, and to suffer loss of granulation, while phagocytosis follows, being accomplished by the hyaline cells.

* Loc. cit.

* Ann. Inst. Pasteur, tom. v, p. 417.

† Arch. f. exp. Path. und Pharm., Bd. xxiii.

‡ Journ. Physiol., vol. xl.

§ Ibid., vol. xviii.

¶ Proc. Roy. Soc., 1880.

** Cuénot, Arch. Zool. Exp., 2nd series, tom. ix.

*** Hardy and Lim Boon Keng, Journ. Physiol., vol. xv.

* Quart. Journ. Micr. Sci., vol. xxxiii.

† Ray Lankester, Quart. Journ. Micr. Sci., vol. xxvi.

‡ Ann. Soc. Roy. Malacol. de Belgique, tom. xxvii, p. 62.

§ Quart. Journ. Micr. Sci., vol. xxxiii.

¶ Phil. Trans., vol. clxxvi, p. 122, 1895.

* Hankin, Brit. Med. Journ., July, 1890; Centralblatt f. Bakt. u. Par., 1892-3.

† Proc. Camb. Phil. Soc., vol. vii.

‡ Phil. Trans., 1893.

In connection with the solvent action of the oxyphile granules it is noteworthy that a small strip of copper introduced into the anterior chamber of the eye is dissolved, and that of the cells present during the process 95 per cent. are coarsely granular oxyphile cells.

The proof of the different functions of these cells has by Kanthack and Hardy's last paper been made well-nigh complete. We find, in fact, that the method of extra-cellular digestion, found among comparatively primitive forms of life to be the most effectual means for nutritive purposes, has even been adopted by the sporadic mesoblast, the last remnant faithful to the old intra-cellular method.

We find, for instance, "within the limits of a single group of animals that the simplest forms possess only one kind of wandering cell, while those of greater structural complexity have all three typical forms. Thus the leucocyte in a primitive Arthropod like *Daphnia* is granular, protective, digestive, absorptive, and constructive (for it contributes to the formation of fat and scar tissue), and its granulation is amphiphile and rose-staining." Now in the crayfish, a much more highly differentiated Arthropod, we find the three types of cells—oxyphile, basophile, and hyaline—differentiation is well marked. The oxyphile cell has accentuated the glandular and protective character of the primitive cell. Just so extra-cellular methods of slaying the prey obtain among the more specialised Protozoa, as *Vampyrella*. Rath in the specialised Protozoon and the specialised leucocyte three stages are seen.

1. The contact with the prey stimulates the captor to excrete a poison. 2. The now inert body is ingested. 3. There is a secretion of a digestive fluid, which dissolves the ingested prey (Kanthack and Hardy). These last two stages are, of course, performed by the hyaline cell. Then the absorptive powers of the primitive cell are represented by the rose-staining cell of the more differentiated animal forms. The constructive function in higher forms is relegated to the connective-tissue cells.

It is interesting, further, to note that a fetal mammal has only one type of wandering cell, differentiation occurring subsequently, reminding us again, in Marshall's terse phrase, that every animal climbs up its own genealogical tree.

Hence we may say that the granular cells have adopted the more specialised method of extra-cellular digestion, while the hyaline cells retain intracellular digestion as their method. And these processes exist side by side, just as they do, for instance, in the intestinal digestion of the earthworm, where, as Miss Greenwood* has shown, ingestive cells with retractile cilia and digestive cells with granulations are both to be found.

Metschnikoff has adopted a much narrower view of the process, and

in referring all questions of resistance and immunity to phagocytosis, has lost sight of this more general and more potent method of extra-cellular digestion.

All the recent advances in serum-therapy, however, point in the direction of this extra-cellular process. Pfeiffer has recently noted that under certain circumstances, when guinea-pigs had been rendered highly refractory to the spiroillum of cholera, these microbes became swollen and spherical on injection into the peritoneal cavity before any phagocytosis had time to come into play. Here, then, is another example of extra-cellular digestion by mesoblast.

It is true that instances of the ingestion of living microbes have been witnessed. The *Vibrio Metschnikoffi*, if inoculated into the anterior chamber of the eye, are soon included in phagocytosis. And these phagocytes, if placed in broth, perish, while the vibrios emerge and develop, apparently none the worse for their temporary interment. Nevertheless, speaking generally, it appears that the more virulent the microbe, the less the proportion of them taken up by the cells, and the longer time the phagocytes take to come into action. In these cases extra-cellular destruction is usually a preliminary measure.

The view of this differentiation of functions in the sporadic mesoblast has been attacked from another standpoint, and it is urged that these cells are simply varieties of a single type. Martin Heidenhain has urged that the coarsely granular oxyphile cell is an over-ripe leucocyte undergoing degeneration, which is highly improbable in face of its robust reactions and high resistance.* Gulland† has pointed out that oxyphile material is abundant in foetal lymphatic glands where there is scant need for protection from microbial invasion and great need for nutrition. He agrees with Metschnikoff that they probably represent reserve material resembling yolk or aleuron grains, which are also eosinophile. Whether all oxyphile material is one and the same I should hesitate to say, but I cannot consider the fact that eosinophile cells are abundant in the fetuses sets aside the many examples in which Kanthack and Hardy have followed the reaction of these cells to microbes step by step.

And against these varieties of sporadic mesoblast being simply pleomorphism of a single type we may urge (a) the existence of immature examples of the different forms; (b) the fact that in highly differentiated animals the same cell never contains at one and the same time two different kinds of granules (Sherrington). Moreover it would be strange were the sporadic mesoblast exempt from that increasing differentiation which is true for all other tissues.

* See Sherrington, *Science Progress*, February, 1895.
† Gulland, Reports from Lab. of R.C.P.Edin., vol. iii, *Journ. of Pathology*, May, 1894.

CLASSIFICATIONS OF THE CELLS OF THE SPORADIC MESOBLAST.

Wharton Jones, 1846.	Schultze, 1865.	Ehrlich and pupils, 1878-87.	Metschnikoff, 1892.	Kanthack and Hardy, 1894.
Nucleated cells	(i) Small; non-amœboid (ii) Large; amœboid	(i) Lymphocyte	(i) Lymphocyte	(i) Lymphocyte.
Granule cells (i) Finely granular (ii) Coarsely granular	Granular cells (iii) Finely granular (iv) Coarsely granular	(iii) Neutrophile cell—ε (amphiphile in rabbits and guinea-pigs) (iv) Eosinophile cell—α (v) Basophile cell—δ (vi) Mastzellen (connective tissue). Coarsely granular basophile cell—γ	(iii) Polynuclear leucocyte (neutrophile) (iv) Eosinophile leucocyte	(ii) Hyaline cell. (iii) Oxyphile cells. (α) Finely granular (hæmal). (β) Coarsely granular. (iv) Basophile cells. (α) Finely granular (hæmal). (β) Coarsely granular.

Notes.

WE ARE glad to see that Mr. A. W. R. Cochrane, who passed second into the Indian Medical Service in August, has improved his position at Netley. He is at the head of the list with 100 marks to spare. Mr. R. P. Wilson, for some time a post-graduate student here, was fifth.

C. H. R. PENTREATH, having completed his examinations and read his thesis, has taken the degrees of M.B. and B.C. at Cambridge. L. B. Burnett has also taken the M.B. degree.

AT THE University of London, the question of the reconstruction of the University on the lines of the report of the Cowper Commission has again been before Convocation. This time the majority in favour of the Scheme was larger than ever, and the following resolution was carried by 466 votes against 240, viz. "That this House desires the early introduction into Parliament of a Bill for the reconstruction of the University similar to that introduced last year by Lord Playfair, but with an inserted clause securing to the Senate, to Convocation, and to other bodies affected, the right of appeal to the Privy Council, on any of the provisions which may hereafter be settled by the Statutory Commission."

DR. DONALD MACALISTER has been added to the Commission of Peace for the county of Cambridge.

J. W. HAINES, M.B., B.S., has been admitted a Fellow of the Royal College of Surgeons.

BART's men who have recently started in general practice are—A. J. H. Boyton at Ilford; W. G. H. Bradford at Debenham, Suffolk; R. E. Crosse at Dereham, Norfolk; B. W. Gowring at Newport, Mon.; C. W. Grant at Portsmouth; P. Lambert at Newmarket; W. L. Pethybridge at Plymouth; G. P. Shuter at Chiswick; C. S. de Segundo in Bentinck Street; B. B. Thorne-Thorne at Woking; L. C. Thorne-Thorne at Inverness Terrace; B. P. Viret at Bradford; C. H. Whitford at Plymouth; N. O. Wilson at Dover.

MR. D'ARCY POWER gave a most interesting lecture on February 10th, at the London Institution, Finsbury Circus, on the "Meals of our Ancestors." His lecture included many historic details in the development of our present habits and manners at table, and the many changes in the time and arrangement of the various daily meals.

Correspondence.

To the Editor of *St. Bartholomew's Hospital Journal*.
SIR, In connection with your note of warning last month, may I ask old Bart's men through your columns who have received any such letters to communicate with me? In doing so they will be doing a public service, and personally oblige—Yours, &c., F. J. DIXON.
RELEVUE, HERNE HILL, LONDON;
January 29th, 1896.

Smoking Concert Club.

THE third Smoker of the season was held on February 1st, at the Frascati Restaurant, but, owing to a series of unfortunate accidents, was not equal to either of its predecessors. That indispensable official, the pianist, was disabled by an accident to his finger, and his substitute never discovered

the whereabouts of the concert! Half an hour after the advertised time for the overture, no musician having turned up, things were getting desperate, and a "new growth," in the shape of a "hump," appeared on the Chairman, the Secretary, and the forty or fifty gentlemen who formed the audience. The Secretary to the rescue, and proceedings began with a "tune" on the piano. Then followed various songs by Messrs. S. F. Smith, C. G. Meade, J. Macaulay, Dick Welch, J. K. Birdseye, and W. Long. These gentlemen spared themselves no pains to entertain, and were certainly very successful in reducing the professional pianist. Mr. J. C. Powell, the other Hon. Sec., spent the major part of the evening in a cab looking for an "ivory-scratcher," apparently a much rarer bird than the "wood pecker," and not to be caught on Saturday nights; but being unsuccessful his colleague filled the gap as best he might. In the course of the evening the Chairman, Mr. D. L. E. Bolton, said that he deplored the poor support the efforts of the executive had received on this occasion, and the apparent want of *esprit de corps* amongst members of the Club; he hoped that in the future the concerts would be given before "bumper" houses.

Dr. Haydon, who is always ready to give us the benefit of his services, played two violin solos—Raff's "Cavatina," and Simonetti's "Madrigale" in his finished and artistic style. Mr. S. F. Smith played several banjo solos, filling in the gap made by Mr. Stanley Gibson's absence most efficiently; these, his first efforts in this line that the Club has had the pleasure of hearing, were received with great applause. Mr. Macaulay was a host in himself, and sang and recited admirably again and again. Messrs. C. G. Meade, W. Long, and Dick Welch supplied the comic element, and sang all the well-known romances of the day in their various styles, but with equal success. Shortly after eleven the concert concluded with "Auld Lang Syne" and "God save the Queen."

At a committee meeting held in January, Mr. P. W. James was elected vice-chairman, vice Mr. F. W. Gale resigned. Mr. F. E. Meade was elected to fill Mr. James's place on the committee.

Cases of Special Interest.

- Medical.
Matthew, bed 1.—Pseudo-hypertrophic paralysis.
Matthew, bed 10.—Hodgkin's disease.
Matthew, bed 11.—Spasmodic torticollis.
Luke, bed 13.—Optic neuritis.
Colston, bed 10.—New growth of liver.
Colston, bed 14.—Chronic jaundice.
Mark, bed 21.—Double aortic disease in a boy.
Faith, bed 2.—Alcoholic neuritis.
Hope, bed 11.—Congenital spastic paraplegia.
John, bed 17.—Syphilitic cachexia.
Mary, bed 17.—Typhoid fever.

Amalgamated Clubs.

BALANCE SHEET, 1894-5.

Cr.		Dr.	
	£ s. d.		£ s. d.
By Members' Subscriptions	649 19 0	To Grants to Clubs:	
„ Grant from Medical School	190 0 0	Rugby Football Club	55 11 3
„ Profit on the JOURNAL ACCOUNT	159 5 1	Association Football Club	39 0 11
		Boxing Club	21 11 10
		Athletic Club	56 2 3
		Cricketer Club	20 15 11
		Swimming Club	11 15 4
		Lawn Tennis Club	3 3 0
		Boating Club	3 17 2
			211 17 8
Audited and found correct according to vouchers and bank pass book.		To Abernethian Society, 107 members at £1 1s.	112 7 0
		„ Musical Society	20 0 0
		„ Maintenance and Reserve Fund	564 19 5
			£909 4 1
			£909 4 1

January, 1896.

MAINTENANCE AND RESERVE FUND, 1894-5.

Cr.		Dr.	
	£ s. d.		£ s. d.
By Balance from 1893-4	205 14 1	To Stamps for cheques	0 8 4
„ Funds as per General Account	564 10 5	„ Subscriptions to Hare and Hounds	3 3 0
„ Sale of Refreshments	15 0 0	„ Special Grants to Clubs:	
„ Fines for new Tickets	0 3 0	Rugby and Association Football Clubs	5 0 0
		Swimming Club	3 13 0
		Furnishing pavilion	120 4 8
		Rollers and appliances for ground	116 0 7
		Kent	75 0 0
		Rates, taxes, and water	30 6 0
		Coal	4 10 0
		Seeds and turf	10 3 6
		Flag and flagstaff	8 1 0
		Keys for lockers	7 10 0
		Horse	10 0 0
		Printing	1 2 6
		Wages of clerk	5 0 0
		Wages of groundmen and boy and sundries	107 8 1
		Refreshments, luncheons to visiting teams, &c.	19 10 6
		Secretary's petty cash	7 0 0
			£534 19 11
Audited and found correct according to vouchers and bank pass book.		„ Balance to next account	230 10 7
			£785 10 6
			£785 10 6

RUGBY FOOTBALL CLUB.

BART'S v. WICKHAM PARK.

Played at Catford on January 11th, and resulted in a draw of 3 points all. The game throughout was of a scrambling and interesting nature, there being an entire lack of dash and combination. The ground was in a heavy and slippery condition.

In the first half the game was very even, play being almost entirely confined to the forwards. Just before half-time Bennett injured his shoulder, and was practically useless for the rest of the game.

In the second half Wickham Park had rather more of the play, but were never really dangerous. The Hospital was penalised for off-side play, and from the kick Wickham Park scored a goal. Immediately afterwards Robbs dribbled up from halfway and scored a good try, but the kick went wide. Just on the call of time Body ran right through to the back, and had he passed a certain try must have resulted.

Team.—H. Bond (back); A. J. W. Wells, T. M. Body, A. E. Hodgkins, S. Mason (three-quarters); A. Hawkins, G. C. Marrack (halves); J. C. A. Rigby, H. M. Cruddas, W. F. Bennett, J. K. S. Fleming, C. H. D. Robbs, W. M. James, F. G. Richards, A. C. Adams (forwards).

ST. BART'S v. LEICESTER.

Played at Leicester on Monday, January 20th, and resulted in a crushing defeat for the Hospital by 7 goals and 3 tries to nil.

Bart's were very weakly represented, as Bond, Marrack, Wells, Body, Hodgkins, and Bennett were absent. No description is needed, as Leicester did practically as they pleased.

Team.—S. F. Smith (back); S. Mason, C. Dix, W. H. Randolph, F. J. Wood (three-quarter backs); A. Hawkins, T. Martin (half-backs); P. O. Andrew, J. C. A. Rigby, H. M. Cruddas, J. K. S. Fleming, C. H. D. Robbs, W. M. James, H. C. Adams, H. Weeks (forwards).

BART'S v. NORTHAMPTON.

This match was played at Northampton on January 25th, and resulted in a win for the home team by 2 goals and 1 try to a dropped goal and try, or by 13 points to 7. The Hospital was again weakly represented.

Within two minutes of the start one of the opposing three-quarters intercepted a pass, and running the whole length of the field scored a try under the posts, which was converted. On starting again the Hospital forwards began to press, but could not get through for some time. Finally Robbs got over, but the kick failed. Almost immediately afterwards Hawkins picked up the ball from a scrum in front of goal, and dropped a goal. Nothing more was scored up to half-time.

From the kick off the Northampton forwards rushed the half over and scored a try, which was not improved upon. For the whole of the remainder of the game the Hospital forwards were on the Northampton goal line, and had very hard luck in not scoring. Just on the call of time an opposing three-quarter intercepted a pass and scored.

Team.—H. Bond (back); S. Mason, W. H. Randolph, A. E. Hodgkins, and T. M. Body (three-quarter backs); A. Hawkins, G. C. Marrack (half-backs); H. M. Cruddas, J. K. S. Fleming, C. H. D.

Robbs, W. M. James, F. J. Wood, H. Weeks, A. L. Vaughan, and A. N. Other (forwards).

ASSOCIATION FOOTBALL CLUB.

Saturday, Jan. 11th.—ST. BARTHOLOMEW'S HOSPITAL v.

HARROW ATHLETICS.

This match was played at Harrow before a good many spectators, and resulted in the defeat of the Hospital by two goals to none. The Hospital were perhaps handicapped by the ground, which was, to say the least of it, unfamiliar, and also by the absence of Pickering, whose place, however, was very ably filled by Woolcombe.

Harrow started, and immediately gained Bart's territory, the ball, however, being cleverly obtained by Joy, who passing Willett took the ball well up only to shoot behind. Harrow again got possession after desultory play in the centre, and forcing the ball down, the centre forward put the ball into the net. Again before changing ends the same player shot, and the ball rebounding off Fox was headed into the net. Thus in spite of several runs by Hay, and good, bad, and indifferent shots from our forwards, Harrow led by 2-0. On changing ends things looked better for Bart's, who constantly besieged the Athletic goal, and the excellence of their goal-keeper and our own bad luck only preventing us scoring several times, shots grazed the bar only to go behind or to end in corners. It is not too much to say that after half time Bart's had absolutely the best of the game. This has happened this year several times. Why cannot Bart's get goals? Certainly in this match lack of energy among the inside forwards was the sole reason. Had Willett used more of his weight with the goal-keeper the result would have been different. As it is, Bart's has to make what it can of a defeat by Harrow Athletic of two goals to none.

Team.—E. H. B. Fox, goal; R. P. Brown and L. E. Whitaker, backs; A. H. Bostock, N. H. Joy, A. Woolcombe, half-backs; T. H. Talbot, R. Waterhouse, J. A. Willett, E. W. Woodbridge, and A. Hay, forwards.

Monday, Jan. 13th.—ST. BARTHOLOMEW'S HOSPITAL v. OLD REPTONIANS.

This match was played at Winchmore Hill. The Old Reptonians kicked off from the pavilion end, and started what proved to be a very keen and evenly contested game. No points were scored in the first half, though both goals were frequently attacked, more especially that of Bart's, whose goal-keeper Fox was, however, quite equal to the emergency, saving time after time in grand style. After changing ends play became more exciting; after a few minutes' play Bryant scored the first goal for the Old Reptonians by an excellent shot. By no means dismayed, Bart's kept the ball as much as possible in the opponents' half till Talbot by a pass from Wethered put the ball into the net, thus making the score stand 1-1.

This brought the play to within about a quarter of an hour of time, and the keenness of the play continued unabated. The Reptonian forwards, though passing well, were constantly being brought to a standstill by the excellent tackling of Bostock, while on the left Tweedie did excellent work. Finally, from a melee in front of the Bart's goal the ball was sent out to Hay, who taking possession, ran the whole way down the ground, and out-distancing his opponents, put the ball into the net, thus putting to Bart's credit the winning goal, thus 2-1. Shortly after this time was called.

Considering there were only four of the usual team playing, Bart's may be congratulated on making a thoroughly successful victory of what, on paper, looked like a certain defeat.

Team.—E. H. B. Fox, goal; C. G. Watson and A. H. Hayes, backs; A. Woolcombe, A. H. Bostock, and A. R. Tweedie, half-backs; A. Hay, J. D. Hartley, E. Wethered, E. G. Simmonds, and T. H. Talbot, forwards.

Wednesday, Jan. 15th.—ST. BARTHOLOMEW'S HOSPITAL v. GRAVESEND UNITED.

This match was played at Gravesend before a large number of spectators, and resulted in a win for Gravesend by nine goals to nil, a result not surprising considering the Hospital were minus the services of Messrs. Willett, Robinson, Pickering, Joy, and Fox, and that during the match Brown was replaced by Watson owing to injury, and Talbot was also disabled.

There was an immense wind blowing down the ground, and Bart's elected to play with it first half. Gravesend scored twice during this portion of the game. On crossing over, play became of a very one-sided nature, and though Bart's made several commendable attempts to force the ball away their efforts were for the most part useless. Gravesend, sending in shot after shot, scored seven times, the scores at the end standing nine to nil.

Team.—A. Pugh, goal; C. G. Watson and L. E. Whitaker, backs; J. C. Marshall, A. H. Bostock, and A. R. Tweedie, half-backs; T. H. Talbot, C. G. Simons, R. Waterhouse, E. W. Woodbridge, and A. Hay, forwards.

LONDON CUP TIE.

Saturday, Jan. 25th.—ST. BARTHOLOMEW'S HOSPITAL v. OLYMPIANS.

This Cup Tie, in the first round of the London Senior Cup, was played at the Olympian ground, Walthamstow, in the presence of a large crowd of spectators. The result was Bart's 2, Olympians 1. The ground was in a very muddy condition, and the weather was not very favorable; however, the game resulted in some very fair play on both sides. The Hospital were without the services of Messrs. Robinson and Joy, their respective places being taken by R. Waterhouse and A. Woolcombe.

Bart's won the toss and decided to play uphill with the little wind there was blowing. The Olympians then kicked off, and their forwards, after some clever passing, were pulled up by Bostock, who passing to France, the latter by the aid of Hay took the ball up the field, the shot, however, going behind. The ball was for some minutes kept close in the Olympian quarters, shots being sent in by the Bart's forwards, most, however, going wide. The Olympians then woke up, and Blundell getting possession, in concert with the inside right brought the ball down the field, and through an error in judgment between the Bart's backs and goal keeper, the latter of whom ran out unadvisedly, put the ball into the net. The score now read Olympians one, Bart's nil.

The ball was then kicked off, and the Bart's forwards playing well and hard took the ball up, and Woodbridge, from a pass by Waterhouse, by a splendid shot which few goal-keepers could have stopped, scored a point for the Hospital, thus making the score 1-1. Play now ruled very fast, and the backs of both teams were kept well employed, and Bart's after pressing for several minutes scored another point by Waterhouse from a good shot. Scores at half-time were two to one in Bart's favour.

On crossing over, Bart's, playing downhill, had a good deal of the best of the game, and except on one or two occasions Fox was hardly requisitioned at all. The Hospital, however, continually looked dangerous, Hay especially running several times down the ground, only just failing to score. Shots were constantly being sent in, and Waterhouse from a pass by Woodbridge sent in a beautiful low shot which was just saved by the Olympians' custodian. After this play ruled more even, and no points were scored till the whistle blew, leaving Bart's victorious by two goals to one.

The Hospital may be congratulated on their victory, both because they had not played for some time before, and because of the absence of two of their men.

The goal that was scored against them was one that Fox would easily have stopped had he not been called out by the backs, and so was unable to get back in time. France playing in Woodbridge's usual place played up very hard, and did some very useful work, as did Woolcombe at half-back.

Team.—E. H. B. Fox, goal; R. P. Brown and L. E. Whitaker, backs; A. Woolcombe, A. H. Bostock, and H. J. Pickering, half-backs; T. H. Talbot, R. Waterhouse, E. W. Woodbridge, C. H. G. France, and A. Hay, forwards.

Referee—Lieutenant Chase (A.S.C.).

We regret to hear that J. A. Willett has been advised by his doctors not to play football any more this season, so he will not be able to take his place as centre forward in the forthcoming Cup ties.

DRAWNS FOR THE UNITED HOSPITAL ASSOCIATION CUP.

First Round.—To be played on or before January 31st.

A. St. Bartholomew's v. King's.

Second Round.—To be played on or before February 14th.

B. Winner of A. v. Charing Cross.

C. London v. St. Thomas's.

D. Middlesex v. University.

E. Guy's v. St. Mary's.

Semi-Final on or before February 28th.

F. Winner of D. v. Winner of E.

G. Winner of C. v. Winner of B.

Final.

H. Winner of F. v. Winner of G.

The semi-final and the final are to be played at Leyton.

First named to have choice of ground in first and second rounds.

In the first round which was to be played on January 30th, King's Hospital scratched to St. Bartholomew's, as they were unable to raise a team.

Abernethian Society.*



ON November 14th, Mr. Langdon Brown read a paper on "The Mechanism of Phagocytosis," the President, Mr. Murphy, in the chair. Mr. Brown's paper was a well arranged and thorough monograph, which gave his hearers a clear idea of a subject which is practically a "dark continent" to most of us.

On November 21st, Mr. J. Hussey read a paper on "The Blood Parasites in Malaria," the President, Mr. Meakin, in the chair. This paper, which was largely based on Mr. Hussey's original work, also laid a considerable amount of information before the Society, on a subject which is barely treated in the text-books. The reader illustrated his paper with excellent diagrams and microscopic specimens; the latter were particularly good.

On November 28th, Mr. Paterson read a paper on "Some Points in the Diagnosis of Typhoid Fever," the President, Mr. Murphy, in the chair. A long discussion followed, the merits of the Diazo reaction were criticised, and the forest of symptoms which have occurred in various cases were borne witness to, showing the extreme difficulty there may be in making a diagnosis.

On December 15th, the President, Mr. H. B. Meakin, being in the chair, a paper on "Photomicrography" was read by Mr. E. W. Roughton in conjunction with Mr. C. H. Cosens. Over 100 members attended this meeting, which was held in the Anatomical Theatre. The paper was prefaced by an explanation of the various apparatus employed, which had been brought and set up with considerable trouble by Messrs. Roughton and Cosens. The photographs were a revelation to the great majority of those present, and are probably unique in their excellence. A large series were shown. Dr. Kantnack, who had prepared the specimens from which the photographs were taken, said he hoped in time to come to illustrate his pathological lectures with photomicrographs. In the course of the evening he showed a photograph of a drawing by Mr. Smith of actinomycosis executed thirty years ago, when the fungus had not been recognised. This paper brought the first half of the Session to a close.

Volunteer Medical Staff Corps.

NO. 3 (LONDON) COMPANY.

This Company is composed of students of St. Bartholomew's and St. Thomas's Hospitals only. The officers are Surg.-Capt. H. Work Dudd (officer commanding), Surg.-Capt. G. Sims Woodhead, Surg.-Lieut. H. J. Waring (company adjutant).

Any gentleman desirous of joining should do so at once. All particulars can be obtained from either of the following N.C.O.'s: Staff-Sergts. H. G. McKinney and J. C. S. Dunn, Sergts. T. Compton and A. Granville.

The Bart's half-company drill every Tuesday in Charterhouse Square at 4.30 sharp.

The following Corps parades are down for February:—Saturday, Feb. 15th.—Chelsea Barracks, 4.30 p.m., dress, drill order with leggings and rolled great-coats; band to attend. Saturday, Feb. 29th.—Fall in at Finchley Road Station at 4.45 p.m., dress as above; band to attend.

Examinations.

FIRST CONJOINT: *Chemistry and Physics*.—T. M. Body, H. E. Flint, C. S. Hawes, G. J. A. Lecelejo, C. C. B. Thompson, P. L. Vawdry, C. C. K. White, and N. Wainisley.

FIRST CONJOINT: *Pharmacy and Materia Medica*.—H. G. Harris, L. Jones, W. T. Storrs, G. P. Taylor, L. L. Allen, F. Harvey, and A. A. Humphreys.

FIRST CONJOINT: *Biology*.—C. Fisher and G. S. A. S. Wynne.

FINAL L.S.A.: *Forensic Medicine and Midwifery*.—H. C. Wible.

FINAL L.S.A.: *Surgery, Medicine, Forensic Medicine, and Midwifery*.—W. Hampson.

FINAL CONJOINT.—The following having passed in all subjects of the final examination have received their Diplomas of M.R.C.S. and

* Received too late for publication in the January number.—Ed.

L.R.C.P.:—G. A. Anden, H. J. Bumsted, W. J. Codrington, M. W. Coleman, W. F. Cross, S. J. O. Dickens, A. E. Druitt, J. Evans, J. C. Fisher, J. M. Flavell, A. Heath, J. Hobday, J. Hussey, H. F. Hyde, P. T. Jouts, E. D. M'Dougal, J. F. Maxwell, H. J. May, H. B. Milsome, J. C. Padwick, R. D. Parker, T. S. Figg, W. H. Pope, A. R. H. Ekey, J. Thomas, C. H. Wilmer and R. W. Jancsoun.

PRIMARY L.S.A., PART II: *Anatomy and Physiology*.—L. T. Lavan, E. B. Stevenson. *Anatomy*: H. J. Pickering. *Physiology*: P. Cator.

SECOND CONJOINT: *Anatomy and Physiology*.—P. C. Barham, E. P. H. Dudley, A. G. Higgins, J. G. F. Hosken, H. P. Lobb, A. L. Scott, H. E. Waller. *Anatomy*: G. B. Nicholson, C. D. Parfitt, J. F. Robinson. *Physiology*: A. Hawkins, C. D. Parfitt, J. E. Robinson.

Appointments.

SNOW, L. U., M.R.C.S., L.R.C.P., has been appointed Medical Officer and Public Vaccinator for the No. 2 District of the Horsham Union.

BACK, A. H., M.A., M.R.C.S., L.R.C.P., has been appointed Medical Officer and Public Vaccinator for the fifth District of the Aylsham Union.

BACK, H. H., M.B. (Lond.), M.R.C.S., has been appointed Medical Officer of Health to the Aylsham District Council.

BARKER, TOFT, M.R.C.S., L.R.C.P., has been appointed House Surgeon to the Victoria Hospital for Children.

THORNE-THORNE, LESLIE, M.D. Dur., has been appointed Clinical Assistant to the Paddington Green Children's Hospital.

FOULERTON, ALEX. G. R., F.R.C.S. Eng., D.P.H. Camb., has been appointed Demonstrator of Biological Chemistry to the British Institute of Preventive Medicine.

CLAPHAM, Surgeon-Captain, A.M.S., has been posted to Colchester.

Pathological Department of the Journal.

SPECIMENS sent by subscribers to the JOURNAL will be examined in the Pathological Laboratory and a report furnished under the supervision of Dr. Kantnack, at the following rate:

Ordinary examination, Bacteriological or Pathological, such as tumour, membrane, or sputum	s. d.
Ordinary (qualitative) urine examination	2 6

Any further report will be charged for at a special rate. If a mounted specimen is desired an extra charge of 1s. will be made. If a telegraphic report is required, the cost of the telegram will be charged in addition.

Specimens must be accompanied by the fee and a stamped addressed envelope, in which the report will be sent as soon as possible. Specimens, with, if possible, a short history of the case, must be addressed to "The Manager of the Journal," with "Pathological Department" written in some conspicuous place on the wrapper.

Births.

OLIVE.—Jan. 7th, at Leamington, the wife of E. J. P. Olive, M.D., M.A., F.R.C.S., of twin daughters.

MILLER.—Jan. 27th, at Iver, Bucks, the wife of John Miller, L.R.C.P., M.R.C.S., of a son.

ROGERS-TILLSTONE.—Jan. 19th, at Ditton Holme, near Maidstone, the wife of J. M. Rogers-Tillstone, M.R.C.S., L.R.C.P. Lond., of a daughter.

ACKNOWLEDGMENTS.—*St. George's Hospital Gazette*, *Guy's Hospital Gazette*, *The Student (Edinburgh)*, *The Nursing Record*, *Two Uncommon Causes of Skin Irritation*, by W. T. Freeman, F.R.C.S.

St. Bartholomew's Hospital

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[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, W. E. SARGANT, M.R.C.S., at the Hospital.

All communications, financial or otherwise, relative to Advertisements ONLY, should be addressed to J. H. BOOTY, Advertisement Cansasser and Collector, 29, Wood Lane, Usbridge Road, W.

A Cover for binding (black cloth boards with lettering and King Henry VIII Gateway in gilt) can be obtained (price 1s. post free) from MESSRS. ADLARD and SON, Bartholomew Close. MESSRS. ADLARD have arranged to do the binding, with cut and sprinkled edges, at a cost of 1s. 6d., or carriage paid 2s. 3d.—cover included.

St. Bartholomew's Hospital Journal,

MARCH 14th, 1896.

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

Address to the Abernethian Society, October 10th,

1895.

By W. S. CHURCH, M.D.



ESTEEM it a particular honour that I should have been invited to address you to-night, for the occasion differs from the ordinary sessional openings of the Society, as with this meeting commences the second century of the active life of the Abernethian Society. Founded one hundred years ago by John Abernethy, whose name and memory is thus worthily perpetuated in our School, the Society like all other similar institutions has had its fat and lean years, its periods of decadence and threatened extinction, as well as its times of prosperity and growth; like the British oak which only attains to its greatest vigour during the second century of its existence, I think we may confidently say that the Abernethian Society has tested the nature of the soil on which it grows, and that its future will surpass in vigour and usefulness its past. Let me also take this opportunity of congratulating the officers of the Society on the success which marked the closing

year of its first century. It was a remarkable and happy incident that we had the pleasure last year of listening to the opening address of Sir James Paget, who had filled the office of President of the Society just fifty years previously, and I would that I could worthily succeed him to-night, but that is, I fear, beyond my powers, and I must beg of you to treat me with forbearance.

Nothing in my opinion is calculated to do more good in a great medical school than the existence of a Society such as ours; by its means the students are brought together, and also brought into friendly relationship with their teachers. At its meetings the medical work of the hospital is reviewed, and the practice of your seniors receives the healthy criticism of younger and perhaps more inquiring minds. Not the least among the many benefits which Mr. Abernethy conferred on this school was the formation of this Society. Our school in its present shape may be said to have been founded by him; although lectures had been given on anatomy by Nourse, on surgery by Pott, and on medicine by Picaire, it was due to John Abernethy that our school was really equipped for teaching. His influence with the governing body was so great that he not only persuaded them to establish the principal lectureships which go on to this day, but also in 1791 to build a lecture for the use of the lecturers; and so rapid was the progress of our school that thirty years later it was necessary to erect another and larger building. Abernethy's spirit remained with us, and under the guidance of Lawrence, Stanley, Burrows, Bailey, and Kirke, the reputation of our school continued to increase, and it became necessary fifteen years ago to remodel and increase our buildings in order to afford accommodation for our large and prosperous school.

The condition of medical education in the seventeenth and eighteenth centuries was so entirely different from that of the present day that it is difficult for us to realise the change. No facilities were afforded for the study of anatomy; it was not until 1734 that permission was given by the governing body of the hospital for "lectures on anatomy to be read in the dissecting room," though anatomical instruction of some sort must have been given here a few years earlier, for in 1726 a room "under the cutting ward was set apart as a repository for anatomical preparations, and the key was to be entrusted to Mr. Freke, or, on his declining it, to the junior assistant surgeon." Excepting at the universities, the only medical education and training which could be obtained was by apprenticeship, and the opportunities of the apprentice depended on the knowledge and position of his master alone. Apprenticeship was in its way a very good thing, but the apprentice could only be initiated in the mysteries he master practised, and although in many instances they no doubt received a fair amount of instruction, it was not a method calculated to spread the knowledge of the latest acquirements in the science and art of medicine.

A vivid, though probably a highly coloured picture of the life and position of the apprentice, and of the examination as conducted at Surgeons' Hall in those days has been left us by Smollett in *Roderick Random*, from which it appears that rejections were common then as now, and depended, as some may think they still do, as much on the idiosyncrasies of the examiner as on the want of knowledge among the examinees. It could not be expected that whilst medical education was in such a condition the profession should have the respect of the public. The learned university doctors occupied their proper station in virtue of their learning and university degree, but the rank and file of the profession had not risen from the low position the barber-surgeons had held in the preceding centuries. All this is now

happily changed, and medicine in all its branches occupies as honourable a position as any of the other liberal professions.

In the rise and progress of medicine in this country our great hospital and its staff have played no inconsiderable share. Whilst we can look backwards with justifiable pride upon the achievements and position of our predecessors, we must be ever mindful that a great responsibility rests on us, students and teachers alike, to keep bright the reputation of this ancient institution, and to make the best possible use of the advantages afforded us here for the advancement of medicine and the relief of sickness and suffering in the world.

Even during what are truly enough called the Dark Ages, before the re-foundation of our hospital, good work had been carried on here. The earliest medical treatise issuing directly from our hospital is Mirfield's *Breviarium Bartholomei*, from which we can gather somewhat of the modes of treatment then made use of. Subsequently to the re-foundation we have Thomas Vicary's *Treasure for Englishmen*, which was followed by the works of William Clowes, who was equally famous both as a military and civil surgeon, and in the succeeding century the reputation of our surgeons was kept up by John Woodall and his useful handbook the *Surgeon's Mate*. Of these worthies Vicary was the most noticeable; he held the post of sergeant-surgeon to four successive sovereigns, in itself a notable incident—Henry VIII, Edward VI, Mary, and Elizabeth. His book entitled *A Brevie Treatise of the Anatomie of mans Body* was published in 1540, and is the first anatomical treatise written in English; it is almost entirely taken from Galen, the lantern of all chirurgions, as Vicary calls him. The anatomical descriptions are very brief and incomplete, but it is extremely interesting as giving an account of what were the supposed functions of all the parts and organs of the body at the time the book was written. In the second edition in 1577, edited by Wm. Clowes, William Beaton, Richard Starke and Edward Ealy, the surgeons to the hospital at the time, Vicary is called the Chief Chirurgeon to St. Bartholomew's Hospital, which I think makes it pretty certain that he practised surgery in the hospital; but he occupied a different position to the other surgeons, and a far higher one, more nearly approaching to the position of the master before the days of the re-foundation. Vicary was appointed by the Common Council on September 29th, 1548, the year in which he published his book, a governor of the hospital. There are no entries in the accounts of the hospital of his receiving any salary or fees as a surgeon, but in the journals we find that many details of the general management of the hospital were left to be settled "according to the discretion of Mr. Vicary."

Of all the great men connected with our hospital, one stands out pre-eminently, towering above his contemporaries, predecessors, and successors—William Harvey—who for thirty-four years was physician to our hospital. We know little of Harvey as the physician, for none of his notes or papers on clinical medicine and pathology have been preserved. We learn from his own statements that he had collected materials for, if not actually composed treatises—*De usu lentis*, *De motu locali*; *Tractatum physiologicum de Amore, libidine et Cotiti Animalium*; *Medical Observations, Disquisitions on the Causes, uses, and organs of Respiration*; *Medical Anatomy, or Anatomy in its application to Medicine*, besides the works that have come down to us. The loss of his *Medical Observations and Pathology*, if ever completed, is to be very greatly regretted, for in his second disquisition to Riolanus he thus speaks of the bearing of the circulation on disease. "Any impediment or perversion or excessive excitement of the circulation is followed by a host of dangerous diseases, abscesses, pains, hemorrhoids, hemorrhages; in connection with the arteries—enlargements, phlegmons, severe and lancinating pains; aneurysms, sarcoses, fluxions, sudden attacks of suffocation, asthma, stupors, apoplexies, and innumerable other affections. But this is not the place to enter on the consideration of them; neither may I say under what circumstances and how speedily some of these diseases, that are even reported incurable, are remedied and dispelled as if by enchantment. I shall have much to put forth in my *Medical Observations and Pathology* which are remedied as they have been observed by no one." From this passage it appears that his *Observations* would have embraced the whole field of medical pathology, and would probably have anticipated the advances made during the next hundred years, for about that time elapsed before Morgagni published his great work—*De Causis et Sedibus Morborum*. From another passage we learn that he intended "from many dissections of the bodies of persons worn out by serious and strange affections, to relate how and in what way the internal organs were changed in their situation, size, structure, figure, consistency, and other sensible qualities, from their natural forms and appearances . . . for the inspection of diseased and cachectic subjects power-

fully assists philosophical pathology." We know not how far Harvey carried out these intentions, or what became of his MS. materials. I fear it is too late to expect that they may yet be discovered, and it is probable that the bulk of them perished in the Fire of London when the College of Physicians was destroyed. It is from his *Prolectiones Anatomia Universitatis* that we can gather the best idea of Harvey during the time that he was physician here. In these rough notes for his lectures in which he demonstrated his discovery of the circulation to his College, we see something of his practice as a physician, of his methods of study, and of his abundant learning.

References to his medical practice are not infrequent, and some of them, he tells us, referred to cases treated within our hospital. Dr. Moore thinks that he can identify ten of the twelve forms of liver mentioned by Harvey with well-known and comparatively distinct forms of hepatic disease, and most of the observations in which this nosology of the liver was founded must have been made in the wards here, although he mentions certain persons—Sir William Rigden, Mr. Peachy, Mr. Beaton by name—who were among his private patients. Harvey seems to have had considerable practice in gynaecological cases. In his treatise on parturition he endorses, if he did not originate, the maxim that meddling midwifery is bad, saying, "Midwives are much to blame, especially the younger and more meddling some ones who make a marvellous pother when they hear the woman cry out, and daubing their hands with oil and distending the passages, so as not to appear ignorant of their art . . . make the wretched woman run great risks of her life." He tells us also of cases in which he dilated the os uteri and washed out the cavity of the uterus. In the 19th exercise of *De Generatione Animalium* he describes how he removed an enormous sarcocele of which no one durst attempt the cure, and left the testicle and vas deferens uninjured. These and many other interesting references to his practice you will find incidentally occurring in his works.

In these days of multiplied examinations, not only in medicine and surgery but in numerous other branches of science, in which the student has to be acquainted with the last new view, it is impossible for you to find time to read, though you might still read with profit, the works of Harvey, and it may interest you if I very briefly and superficially describe the condition of medicine and physiology before his time, for just as we date the commencement of medicine from Hippocrates and biology from Aristotle, so physiology dates from Harvey. Physiology, even the most rudimentary, must of course be dependent on anatomical knowledge, and therefore to a certain extent the two have always been connected; but no reasonable idea of physiology existed until the circulation of the blood was known—*Aliter, to Eurikion, sto aploporon*. Blood is the living principle of man, said Sidas, and until its circulation was known, no scheme of physiology was possible.

It would weary you if I attempted to trace the development of medicine from its earlier ages to the time of Harvey, and those of you who like will find much information given in Sir William Broadbent's recent address to the British Medical Association.

Although the history of medicine commences with Hippocrates, the first rudiments of the healing art must have begun countless ages before his time, for surgery of a rude and ready kind must date from the earliest times of infernal war; indeed, it seems probable that the surgical operations of considerable magnitude, such as trephining the skull, were practised among some of the prehistoric races before the use of metals was known. It is certain from the whole tone of Hippocrates' writings that in his time, four centuries and more before our era, medicine filled an honourable place and important position in ancient Greece. The oath drawn up by Hippocrates, which appears to have been a sort of indenture entered into between master and pupil or apprentice, is too long to read to you *in extenso*, but it is composed in noble language, and breathes the spirit of honour and charity. "I swear by Apollo the physician, and $\mathcal{A}\epsilon\sigma\kappa\upsilon\lambda\iota\upsilon\sigma\iota\varsigma$ and Health and Healing, that I will keep this oath—to reckon him who taught me this Art Ally, that I will keep this oath—to reckon him who taught me this Art equally dear to me as my parents, to share my substance with him and relieve his necessities if required. . . . I will not divulge whatever I see or hear in connection with my professional practice which ought not to be spoken of abroad," &c.

Medicine in Greece was to a great extent an hereditary profession, and consequently confined to a few families who claimed descent from $\mathcal{A}\epsilon\sigma\kappa\upsilon\lambda\iota\upsilon\sigma\iota\varsigma$, and were known as the family of the Asclepiads. It was a tradition among the Greeks that the members of these families were taught dissections (on animals, not on man) as regularly as they were taught to read and write. Aristotle was a member of one of these families, his father, Nicomachus, being physician to the king of Macedonia, and he probably received this training, which led him afterwards to the study of zoology and comparative anatomy. Universal as was Aristotle's learning, no portion of his works are more

wonderful than his researches into comparative anatomy and embryology, and little if anything was added to the information he collected and handed down in all the years which elapsed between his day and Harvey.

Galen, embodying the increased knowledge of human anatomy due to the Schools of Erasistratus and Herophilus at Alexandria, and adding his own observations on the structure of the lower animals, raised anatomy to the highest level which it attained among the ancients. His philosophical mind also led him to endeavour to reconcile the different sects of medicine which had arisen since the days of Hippocrates. Like Hippocrates he was an humourist, but he superadded to the theory of humours that of the temperaments hot, cold, dry, wet; from the faulty properties of these arose distempers which, though not actual diseases themselves, were the causes of them. After the death of Galen, anatomy began to decline, as did other learning during the decadence of the Roman Empire. Instead of studying and observing nature for themselves, physicians and surgeons were content with studying Galen, and the whole or nearly the whole of the medicine of the Arabians was obtained secondhand from older Greek writers. In Western Europe, during the long period that elapsed between the downfall of the Roman Empire and the revival of learning in Italy, the only place in which medical and other learning was carried on was Salerno, where Charlemagne founded a college or university in A.D. 802, and where the Arabian writers were studied and translated into Latin. Almost if not the sole original work emanating from Salerno are the rules of regimen and diet called "Schola Salernitana de conservanda valetudine," which it is said was compiled for the use and benefit of Duke Robert of Normandy, son of William the Conqueror.

After the Conquest of Constantinople by the Turks in the fifteenth century, Greek learning was again carried to Italy by those who fled westward, and about the same time the study of anatomy began to revive in Italy.

To Linacre, the founder of the Royal College of Physicians, the friend of Erasistratus and his contemporaries Græcicus and Colet, we are indebted for the revival, at the end of the fifteenth and commencement of the sixteenth centuries, of the knowledge of Greek in England. Linacre, moreover, translated into Latin several of the most valuable of Galen's treatises—*De sanitata locis*, *De morbis crurandis*, *De temperamenti De Pulsuum usu*, and others, thus rendering them available to the physicians of his day. Linacre's translations, and the rapid progress made in the reintroduction of Greek in our universities, led to Galen's writings obtaining an overwhelming influence over the minds of the physicians of the sixteenth and early portion of the seventeenth centuries. His authority was considered final, and matters were carried so far in our College of Physicians that in 1550 Dr. Greynes was refused admission to the Fellowship because he disputed the infallibility of Galen, and it was only after publicly recanting his error that he was elected, and Dr. Hook was not admitted to the examination for the Licentiate ship because he had the honesty to say that he had not read Galen.

Before the time of Harvey, Vesalius had conclusively shown that Galen's anatomy was frequently in fault. In 1543 his great work, *De humani corporis Fabricatione*, published at Basle, and its magnificent plates and precise descriptions placed the true facts of human anatomy before the world. It is true that many details remained to be filled in, but to Vesalius is due the merit of convincing the medical mind that Galen could err. What Vesalius did for anatomy it was left for Harvey to do for physiology. Serretus, Columbus, and Casalpini had apparently independently arrived at some idea of the course of the lesser circulation, through the lungs, but of the systemic circulation, and of the action of the heart as a muscular pump, the circulation, and of the action of the circulation, they had no more knowledge than Aristotle or Galen. The pulse was thought to be due to a bellows-like action of the walls of the vessels. The heart was the source of heat, the lungs for keeping the heat emitted by the heart within due bounds. "The brain," says Aristotle, "tempers the heat and seeingness of the heart." "Man," says he, "has the largest brain of all animals in proportion to his size, because the region of the heart and lungs is hotter and richer in blood in him than in any other animal." Galen, however, Aristotelian though he was, dissented from this view of the function of the brain, and ascribed to it and to the nerves almost their true functions. It would weary you were I to go through the other organs of the body and describe the fanciful functions that Aristotle places on them in his work on the *Causes of the Parts of Animals*, for such is the full and correct title of his treatise usually known as *On the Parts of Animals*.

Those of you who would like to obtain a knowledge of the current physiological doctrines in Harvey's time among the educated classes

who were not of the medical profession may gain a fair idea by turning to the *Pursh's Island* of Thomas Fletcher; whilst for an opinion of those of his professional brethren who opposed his views we have an amusing instance in the treatise of Edward May, 1630, addressed to Sir Theodore Mayerne, on the occurrence of a strange monster or serpent found in the left ventricle of a young gentleman, twenty-one years of age, named John Pennant, a nephew of Sir Francis Herreris, Knt. This strange monster or serpent was a clot which had taken the shape of a cast of the pulmonary artery and its main branches, for I think there can be no doubt that what Dr. May calls the left ventricle was really the right. It is not for the main treatise that I mention May's work, but for a note he has in it obviously directed against Harvey, in which he says: "Those men may be questioned who say that the pulse is nothing else but the impulse of the blood into the arteries or the systole of the heart. . . . The pulse is a farre other thing than most men conceive, for there are in a sound percutie fevers and diseases above 35,600 and more (that would be 593 per minute), which cannot be from so many several expressions and receptiōns of blood, for it is impossible the heart should make compression and the arteries assertion so often in that space. Nay, in diacrot. caprizant and other inordinate pulses, diverse pulses strike in lesse space than the open mouth of an artery can goe, much more then in lesse time than it can open, shut, and open again, which three acts are requisite for the beginning of another pulse (*Somer's Treatise*, 2, vol. ii, p. 426). Now to judge from the treatise, Dr. May was not an ignorant man, and in his remarks on the necessity and advisability of post-mortem examinations wrote excellent sense. Harvey's immortal discovery was accepted very generally in his lifetime, but we must remember that he never saw the capillary circulation. In his letter to the learned Schlegel, of Hamburg, dated 1657, four years before his death, he says, "I confess, may I even pointedly assert, that I have never found any visible anastomosis between arteries and veins—anastomosis in the way the word is usually understood and as the meaning has come down to me from Galen, viz. a direct conjunction between the orifices of the visible arteries and veins," and goes on to explain how he imagines that the connection takes place. It was not until four years after his death that Malpighi, by the aid of his improved microscope, demonstrated the actual circulation through the capillaries in the mesentery and bladder of a frog.

In reading the works of Harvey, one naturally asks oneself in what did that great man differ from others that he should have rightly interpreted what others had had before their eyes and yet missed seeing, and at times one is inclined to take Dr. William Hunter's view "that Providence meant to remove it from him, and would not let men see what was before them, nor understand what they read,"—so simple a step did Dr. Hunter appear to think was the discovery of the circulation of the blood after Fabricius had demonstrated the existence of the valves in the veins. It appears to me that in which he used them. It is because men cannot see what is before them that advances in any definite direction come so slowly. It is the privilege of genius to see what others equally painstaking and equally learned overlook. In reading Harvey's writings, two things strike one: firstly, the acuteness and universality of his observation, and secondly, the simplicity but at the same time the convincing nature of his experiments. It was these means which not only enabled Harvey to make his immortal discovery, but to still further benefit mankind by showing them how to observe and how to interrogate nature by way of experiment. The saying of Fontanelle, "the art of observation is not the foundation of science, it is a science itself," contains a great truth, and one which we should here all keep constantly in mind.

One of our first duties here is to learn to observe, divesting ourselves of all preconceived views, deductions and interpretations of our own forming, since they may be false and are most probably defective. One of our difficulties in the clinical observation of disease is that our conclusions frequently appear to contradict themselves; this arises sometimes from carelessness or incompleteness of observation, but not infrequently is due to the tendency which we all have to confound two things which are distinct, the actual phenomena we have observed, and on the other hand the impression our observation of them has made on our minds. The physician and surgeon at the bedside are at a disadvantage and the inquirer into chemical and physical phenomena, for from the nature of the problem before them they can only make an incomplete examination. The sick or injured patient cannot be exhaustively examined in the manner in which a substance in a test-tube can be treated, and the complexity of the conditions of all but the simplest living organisms add yet further difficulties. The application of mechanical aids such as the thermometer, the sphygmograph, the stethoscope, and the ophthalm-

scope have increased enormously our powers of forming more correct diagnoses, and have thus led to increased success in treating disease. How easy it is in the application of remedies to be misled by our preconceived views is patent to us all, yet how frequently we fall into this error. We are all too apt to regard any favourable changes which may take place in the state of our patients, to the means we have employed, whilst any unfavourable results, to the means we have ascribed to the malignity of the disease. Do not unhesitatingly and imagine that mere barren observation is all that is required in our profession—far from it; without theory, little or no progress towards general principles can be made, and I dissent entirely from the old adage, *Medicina tota in observatione*. We must so examine and observe the phenomena presented to us, that we may recognise the relationship which they bear to one another and to the general condition of our patients. The more exact our knowledge of physiology, the better shall we be able to carry this out, for until we know the normal functions of the various organs, it is impossible to form any reasonable conception of the conditions which may arise when they are in an abnormal state.

Experimentation may be considered as a part of observation, for without faculties properly trained, experiments are useless for obtaining any trustworthy results from them; it is essential that they should be properly devised and conducted. Experimentation is, according to Bacon, a *Veneria natura*, a questioning of nature, and the answers she returns us are in accordance with the directness of the questions. Harvey was not the first to interrogate nature in this way. Galen experimented, and showed among other things the errors of Erasistratus who maintained that the arteries did not contain blood (curiously accepted than Galen's refutation of it), but Harvey was superior to all his predecessors in the conception of his experiments. What could be a more convincing proof of the truth of the circulation than the experiment he begs Riolaunus to try?

To lay open the thorax of a living animal and tie the vena cava near the heart, so that nothing can pass from that vessel into its cavities, then to divide the carotid arteries on both sides, leaving the jugular veins untouched; if the arteries be now perceived to become empty, but not the veins, I think, says Harvey, it will be manifest that the blood does nowhere pass from the arteries to the veins except through the ventricles of the heart (*First Disquisition to Riolaunus*).

Or again, that which he proposes to Schlegel in demonstrating the incorrectness of Riolaunus' statement that the blood passed from the right to the left ventricle through the septum.

To open the thorax of a recently executed criminal, tie the pulmonary artery and open the left ventricle, then inject water into the right auricle, which together with the right ventricle become distended, nothing escaping from the left ventricle.

What could be simpler than his demonstration that arterial blood was not a frothy mixture "of blood and spirits, effervescing and swelling, and occupying a greater space (than venous), like milk or honey cut upon the fire,"—to fill two basins of equal size with blood drawn from the veins and arteries of the same animal at the same time, and then set them aside to cool, and see if when cool after the escape of the fiery spirits the arterial blood occupied less space than the venous.

Every practitioner of medicine or surgery is an experimentalist; although we are careful not to give the name of experiment to our actions, yet in fact we never administer a dose of medicine or make use of any form of medical or surgical treatment twice under exactly the same circumstances, and consequently cannot predict with absolute certainty the results. It is by the right observation of the results of these experiments that we gain experience, and he will be the most successful practitioner who is most alive to the ever varying conditions present in even the commonest and simplest forms of disease. It is thus empirically that we have obtained most of the therapeutic knowledge we possess, for in this direction we have received much less assistance from physiology than we have in the diagnosis of abnormal conditions. This is natural enough, for no amount of experimentation on healthy animals would have taught us that salicylic acid would relieve the pains of rheumatism, or iodide of potassium those of late syphilis, or that a calomel purge would relieve an over-fed alderman. We turn to the pharmacologist and physiologist for aid in explaining how these results come about, and for the connection between the action of drugs and the results, in the hope that by this means we may be placed in a position to try other experiments on a reasonable and hopeful basis.

The progress of physiology during recent years is marvellous; whole fields of research into the action, beneficial and the contrary, of micro-organisms, the effect of animal ferments, and the discovery of hitherto unsuspected secretions, which apparently play a most impor-

tant part in the animal economy, lie before us. It is but a few years since (1874) from clinical observation Sir Wm. Gull drew attention to the group of symptoms which we call cretinism and myxedema; four years later Dr. Oud, again from clinical observation, recognised the connection between these symptoms and disease of the thyroid gland. The clue thus given is being worked out by physiologists in connection with other glands, and we already know that the ductless glands, such as the thyroid, the supra-renal capsules and the pituitary body, take a much larger share in maintaining the normal condition of the body than was suspected. And it appears probable that other glands, such as the liver and kidneys, besides the secretion which they pour forth through their ducts, elaborate other products which are of great, if not equal importance to the well-being of the animal.

The brilliant therapeutic effects which follow the administration of the thyroid secretion in cretinism and myxedema make us hopeful that similar results may follow greater knowledge of these unsuspected functions of glands and that we may in time be enabled to treat with success morbid conditions like leucocythæmia, Addison's disease, diabetes, and other diseases which have hitherto baffled our efforts. The knowledge we are beginning to possess of the connection between micro-organisms and communicable diseases is the greatest advance that has ever been made in medical science, and an enormous field for observation and experiment is open to us. Already, owing to the genius of Pasteur, whose recent death the whole world of science deplores, and the devoted labours of his followers, we are enabled to take these minute foes into our service and compel them to furnish us with weapons with which we may fight and conquer their own innumerable legions. It is too soon to venture on any positive assertions as to value of the antitoxic treatment of disease, but from what many of us have seen in our hospital, one can hardly doubt its efficacy in diphtheria. The immunity conferred by inoculation with attenuated virus in smallpox, anthrax, fowl cholera, and swine fever has stood the test of years, and of thousands of experiments, and is now firmly established, while the names of Jenner and Pasteur will remain for ever famous.

Genius like that of Harvey and Pasteur is not bestowed on ordinary men, but we can nevertheless follow their example and work steadily and patiently, pursuing the secrets of nature in the hope that we may assist, however feebly, in the furtherance of knowledge and the relief of suffering.

Notes on a Case of Caisson Disease.

By W. H. MAIDLOW, M.D., F.R.C.S.



NE variety of caisson (*i.e.* a chamber containing compressed air, and used in diving) disease is diver's paralysis. I thought a few notes might be interesting concerning this disease. In the September number of the JOURNAL Disease.

Dr. Heppner contributed a very interesting and able article on "So-called Mountain Sickness," in which are compared the diseases caisson, mountain, and aeronautic. He comes, and I think soundly, to the conclusion that aeronautic and mountain sicknesses differ in that the results of the former are due mainly to rapidly diminished atmospheric pressure, in the second to "deficiency of oxygen per unit volume." It will be obvious presently that caisson disease has no connection with the latter, but that there is considerable connection between the troubles of those who see the monsters of the deep and of those who visit the fowls of the air.

In diving there is the descent and the return; of which these is directly fatal? In the depths the diver in his apparatus has to bear an increased pressure of many pounds per square inch; ascending there is a corresponding diminution. A diver with paraplegia, whose notes I have, throws some light on these points. He is aged thirty-seven, a powerful man, six feet five inches, weighing seventeen stone, and very intelligent. (He attributes his undoubted improvement to rest in bed as much as to massage, &c.) He has a past of alcohol, but not of syphilis. Eight months ago he went down off Florida 102 feet to explore a wreck. At this depth he estimates the pressure in his caisson at 82 lbs. per square inch. Whilst groping his "air arrangements" went wrong, and being in imminent asphyxia he was rapidly hauled up. When his helmet was removed he had severe epistaxis and bleeding from the ears, tinnitus aurium, and complete loss of power in both legs, with pricking sensations in feet. Since then there has been gradual improvement. There has never been micturition or defecation difficulty. On admission he was on the verge of delirium

tremens, gait spastic, paresis (with no marked wasting) of both legs, increased knee-jerks, no clonus, no anesthesia, but some impaired sensation on the inner side of each leg, and the ground feels "a long way off." No R.D. Sphincters normal. Eyes nil. Some pulmonary emphysema. No albuminuria. No oedema of legs. He is not deaf. He states that 102 feet (26½ fathoms) is a very great depth; the pressure would be about 82 lbs. per square inch, that in these depths divers are quite deaf, but have no tinnitus, and a sense of constriction about the forehead, and have incontinence of urine and faeces. He knows the disease well, thinks cases of death below are mainly incidental, such as syncope, asphyxia from accident, apoplexy, or death from epilepsy, alcoholism, &c. He describes coma, hemiplegia, paraplegia, convulsions, and aphasia. Thinks most cases occur when the ascent is too rapid, and the patient alcoholic. Epistaxis and hæmorrhoidal bleeding on coming up and on other occasions are common and salutary, and are certainly relieving.

Now as regards some pathological points. 1. In the descent and in the depths we have the following possibilities:—(i) Mere increased atmospheric pressure. (ii) Increased O pressure in the blood. (iii) Increased N pressure. (iv) Increased CO₂ absorption. We know as a matter of fact the symptoms do not appear in the depths, but that they are subsequent to a too rapid or a normal ascent, and see no reason, moreover, why any of these possible factors should cause the symptoms; but it is possible their effects might secondarily, just as *b*, which cannot exist apart from *a*, is the cause of *c*.

(i) Mere atmospheric pressure would not cause paralysis. Inability of divers to live beyond 170 or 100 feet I should suppose is due to inability to expire; as a result of this there would occur acute emphysema, or arterial obstruction resulting in pulmonary regurgitation, then general congestion and asphyxia, like an acute uncompensated valvular disease, so to speak. At any rate, the fact of death beyond this depth remains. Sudden liberation of pressure would cause bleeding, and if spinal hæmorrhage, therefore paraplegia.

(ii) As regards increased O pressure in the blood, according to Landolt "the blood only gives off copiously its O when atmospheric pressure is lowered to 20 mm. Hg., and conversely the blood only takes up a little more O when pressure is increased to six atmospheres" (our man's was not six, viz. 82 lbs. per square inch). The condition of +O in the blood and CO₂ causes the symptoms of apnea (to use the old term), which is not caisson disease.

(iii) Increased nitrogen. N absorption, for anything I know to the contrary, is possible. One of the theories of the disease depends on it, *i.e.* a (+N absorption) produces *b* (*i.e.* liberation of N on coming to the surface), which produces *c* (*i.e.* caisson disease—*vide supra*).

(iv) Increased CO₂ absorption also seems possible, but the symptoms would be those of asphyxia. Caisson disease is not asphyxia. From these possible factors we may deduce two theories to account for the symptoms:

1. Sudden relief of pressure in the case of vessels would lead to their rupture, and then results according to the functions disturbed, just as a hæmatocoe may occur after tapping a hydrocele, or a cyst fill with blood after aspiration, as I have seen in a hydatid cyst.

2. Sudden liberation of bubbles of N, or possibly O or CO₂, with or without rupture of the vessel walls, might act in a similar way on compression or laceration. But in each case *a* (*i.e.* atmospheric pressure, NO or CO₂ absorption) is not the cause of *c* (caisson disease) directly, but only by producing *b* (*i.e.* hæmorrhage or liberation of gas); *a* occurs descending and below, *b* and *c* ascending and above.

For this reasoning one may obtain verification by (a) the symptoms, (b) by autopsies, (c) from an analogous case.

(a) The symptoms are manifold; those which recover have often paraplegia and locomotor ataxia, whilst bleeding externally is very common. The exactitude of the results, the seen hæmorrhage, and the onset point to bleeding. It seems improbable escape of gas would cause such exact results. The lesion in the case quoted would appear to be a hæmorrhage or hæmorrhages into the membranes on the anterior aspect of the cord in the lumbar region, except that the absence of R.D. and wasting is anomalous. Fissures and laceration should give symptoms like syringomyelia.

(b) There are three autopsies to help, which bear out either view, and form the *experimentum crucis* of our rationing. Leyden (quoted in *Lancet* of May 6th, 1893) found hæmorrhage in the cord and acute myelitis on the tenth day from onset. Schultze (*loc. cit.*), disseminated myelitis in dorsal region and fissures throughout, as if laceration had occurred.

Theodore Williams (? origin of quotation) found in a case with ataxic symptoms hæmorrhage between dura mater and arachnoid.

(c) Dr. Heppner does not directly describe aeronautic sickness, but if they ever have the same symptoms as divers the analogy will

help to verify the above hypothesis. If they have not yet been found we can deduce the symptoms and pathology for the disease from some of the above arguments, just as the presence of one of the major planets was correctly deduced. In other hands than mine, observation, induction, hypothesis, and verification would have been better demonstrated. *Felix qui potuit rerum cognoscere causas*, sings Virgil; happy also is the man, say I, who has kind critics.

Two Uncommon Causes of Skin Irritation.

By W. T. FREEMAN, F.R.C.S.



HAVE noticed in no work upon skin diseases that I have consulted any mention of the irritative dermatitis caused by the bulb parasite *Rhizocarpus echinatus*, nor of the urticarial eruption caused by touching the leaves or stalks of the *Primula obconica*. I was speaking a short time ago to a member of the staff at Blackfriars (Dr. Abraham), and he had heard nothing previously of the doings of the parasite, and I think he said he had not seen a case of the primula nettle-rash.

Inside the sheathings of imported hyacinth bulbs is a quantity of dust, and this dust is simply a living parasitic mass. The individual parasites are just visible to the naked eye,—a shade larger, therefore, than specimens of the *Acarus scabiei*. The bulb parasite and the *Acarus scabiei* are very comparable under the microscope, but the hooklets of the former are of the single claw form, and there are none of the half-moon hooklets which are the ordinary claw representatives of the tick insect.

The clinical results of their doings are different, for while the *Acarus scabiei* finds the inside epidermal coverings most suitable permanent soil, the bulb parasite, on the other hand, finds the human soil un congenial for permanent habitation. Nevertheless the workers amongst the hyacinth bulbs suffer much from skin irritation, but a few days' rest from the work, with some soothing application, stays it for good and all. I have never heard of sulphur ointment being used for the cure. The workers are in the habit (this season anyhow) of rubbing themselves with camphor. The irritation is found upon the hands, arms, and face; it does not, as far as I have seen, run on to pustulation, nor even to the stage of a weeping eczema. One man described his hands as chapped, and the description answers; another had vesicles from which a watery fluid exuded when they were pricked. These vesicles are evidently burrows, but if the female lays her eggs within the burrows so readily soon dies, and no maturation takes place. The preventive remedy should be, I think, a mild sulphur application (or similar parasiticide) upon the exposed surfaces of the body. I have purposely avoided mentioning again the Greek-Latin name of this creature; the language of it is too frightful for modest folk.

About the nettle-rash produced by contact with the leaves or stalks of the *Primula obconica*, I have seen one case, and the lady has kindly re-demonstrated to me, within the last two or three days, the effect upon herself of contact with the plant. The wheals appear within a minute or two of the application, and irritation commences before the wheals appear; both irritation and wheals extend considerably beyond the points originally in contact. It is an idiosyncrasy. Few people are affected by the contact, and no other variety of *primula* possesses similar powers. By the way, the *P. obconica* is one of the original types of the plant. One other point: a weak plant has almost lost its power; it is most powerful when growing lustily and blooming.

Two Obstetric Cases of Interest.

By CHARLES COLES, M.D., D.P.H. LOND.



ASE I. *Triplets*.—I was called on January 13th to see a woman æt. 35, the wife of a shoe hand. She had had eight children, seven of whom were alive, all being girls. She was within three weeks of full term as far as she could judge. A midwife was in attendance. A child had been born breech five or six hours before, and the pains were fairly strong, but the second child had made no progress.

On examination the presenting part was high up; it was made out to be the breech, tilted to the left too much to properly engage in the

pelvis. This was easily remedied with the finger, and the child was quickly born without further assistance. The uterus still remained large, and another bag of membranes presented. These were ruptured and a leg pulled down, the rest of the body following in a natural manner. The placental mass was expressed in the usual way. The uterus, though formerly contracted, remained very large, so that I passed my finger in but found nothing left behind, and after keeping the hand on it for a longer time than usual and giving ergot I thought all was safe.

There were two placentae; one, the larger, had two cords attached,—one centrally, while the other showed an "insertio velamentosa." There was a separate amnion for each child, but only one chorion judging from the thinness of the septum. The second placenta and membranes were natural. The babies, all girls, were apparently at full term, though they were small; they all died at the end of the second week. The mother did quite well.

CASE 2. *Inversion of the Uterus.*—This case, from the late period at which it came under observation, is more interesting from a medico-legal than from a clinical point of view.

On February 4th I was sent for to see a woman who had been confined the day previously, and who was thought to be dying. I received the following history afterwards from the midwife in attendance at the confinement.

The child had been born twenty-four hours ago; head presentation, nothing unusual with the cord. The midwife then washed the baby, and having done that turned her attention to the afterbirth. She found it very tight, but got it away. She examined it, and was certain that it was all there.

The patient was thought to be satisfactory, and the midwife left. During the night the patient had considerable pain, and made frequent unsuccessful attempts to pass water. There was some hæmorrhage. When the midwife came the next day she assisted the patient out of bed to pass water, when something came down, and the patient fainted. She was put back to bed, and I was sent for. I first examined the patient locally, and found a blue congested globular swelling of about half the size of a child's head outside the vulva. A large piece of membrane and some pieces of placenta were adhering to it. Passing the hand along the surface of the tumour, it was found to be continuous with the vaginal wall, which was itself partly outside the vulva. Bimanually the absence of the fundus was easily made out. The diagnosis was very readily made, although I had not seen a case before.

On turning my attention to the woman, I found her dying. The pulse at the wrist was imperceptible, and the respirations gasping.

I sent for Mr. Richard West, who lived near, but the woman died soon after, before he arrived. In the meantime I examined the uterus again, with the view of reducing it if that were easy; but as the inversion was complete, and the cervix rather contracted, I merely replaced the fundus within the vulva.

The post-mortem only confirmed the above details. At the inquest I was asked the following questions:—(1) What, in my opinion, was the cause of the inversion? (2) Could inversion occur spontaneously? (3) Would it occur in a properly managed labour? for instance, could it be caused by expression? (4) Ought it not to have been detected at the time? I of course could only reply to these questions by giving the text-book versions which I had looked up. In the case of the first question I gave it as my opinion that in this case the inversion had been caused by pulling on the placenta. A there was evidence of an abnormal adhesion of the placenta, and I believe that midwives always remove the afterbirth by pulling.

It would be instructive to hear these questions answered by any readers with personal experience of this abnormality, and especially by the teachers of obstetrics at the hospital, if only for the reason that there should be some uniformity in the medical evidence given on such an occasion as this.

What are the X Rays?

By T. GUTHRIE BLANDFORD, B.A.CANTAB., M.R.C.S.



SOME two months or so ago we were passing through a series of crises, not in the political world alone, but also in the scientific. Hitherto the idea of seeing the contents of a completely closed wooden box had been a dream of mathematicians alone. To the mathematician it was an affair of the mysterious x^4 —the plane of the fourth dimension. To the Mahatma it is, as Kipling says, "quite another story." The announcement that Professor Röntgen had succeeded in photograph-

ing the bones of the living hand created a profound sensation, more especially amongst medical men; for it was at once realised that possibly here was the foundation of an entirely original system of clinical diagnosis. Whether this new advance in physics will result in a corresponding advance in operative surgery, or whether its practical application will be more limited than was at first sight supposed, is at present *sub judice*. I had the privilege of being present at the meeting of the Camera Club some two months ago, when Mr. Swinton showed the first photograph taken in England by these new rays. On reading up the various articles, reports, &c., dealing with these experiments, I was much puzzled, and I dare say some of my readers may also have been, by sentences such as the following:—Prof. X. Y. Z., by taking advantage of the Hertzian waves emitted by the cathode of a Crookes' tube, succeeded in photographing the bones of the human hand."

Now Hertz waves I know, because I repeated some of Professor Lodge's experiments with them, but I did not know they had anything to do with vacuum tubes. Cathode rays I had heard of; Crookes' tubes I had always dimly associated with high vacua and radiometer vanes, which revolved under the bombardment of freely moving molecules. In the first place, what is a Crookes' tube? On turning up a catalogue I find some fifty varieties described. One containing rubies, one can only be used once, and as it is decidedly expensive, and the result is negatives if successful, does not appear to me to be the one used by Prof. R. Yet another contains a diamond, but the purchaser is warned that he must find his own diamond. How the diamond is to be introduced into an hermetically sealed high-vacuum tube is still a mystery to me. A most successful and interesting demonstration by Mr. Campbell Swinton at the enterprising Camera Club's rooms last month has cleared away many difficulties. Much, therefore, of this paper is really due to Mr. Swinton's able exposition. If we take a glass tube about 6 inches long, and having sealed a platinum wire at each end, provided to pass a current of high tension from an ordinary coil giving a 2-inch spark in air, we shall find no spark will jump across the 6-inch air space. If now we gradually exhaust the air by means of one of the new Fleuss's air-pumps, we find that soon a spark will jump across, and gradually, as the vacuum increases, the spark becomes broken up into a broad band of light. The tube now corresponds to a Geissler's tube. If the tube be further exhausted till a very high vacuum is obtained, the character of the discharge again alters, and the band of light is replaced by a uniform glow, the glass itself becoming phosphorescent. This is the Crookes' tube that we require. There are certain points which are essential for successful photography, which I shall have to deal with later.

Now a word as to invisible rays in general. Some people speak as if vibration of the ether explained everything. Now a cyclone, an anticyclone, a gentle breeze, a gas explosion, and a sound wave are very different, yet all are modes of motion in the same substance.

Vibrations of the ether between certain limits, varying with every individual, have the property of affecting our consciousness in a peculiar way; these we call light, but on either side of these limits, which of course are the limits of the visible spectrum, are many invisible rays, infra-red, and ultra-violet. By allowing ultra-violet rays to fall on certain chemical solutions they can be transformed into visible rays. By the infra-red rays Abney has succeeded in photographing a kettle of boiling water in an absolutely dark room.

It seems to me that Röntgen's X rays cannot be ultra-violet, since ultra-violet rays do not pass through wood or paper, otherwise no photographic plate could be prevented from being at once spoiled. I see it has been suggested that the bactericidal effect of sunlight is due to these Röntgen rays: the fact that an aluminium plate protects a photographic plate perfectly from sunlight, while it is transparent to X rays, proves, I think, that X rays are not present in sunlight.

Hertz waves are waves of energy thrown off by the sudden to-and-fro discharge of a Leyden jar, these waves will in turn set up a similar oscillatory discharge in a similar jar some feet or even yards away. Many very interesting experiments have been carried out with them, and their discovery, as Lord Kelvin said, "annexed at once the whole domain of optics to electricity;" their connection with X rays, however, has not been shown.

Cathode rays are intimately connected with X rays. If we take a Crookes' tube containing a mica plate coated with sulphide of barium, and pass a high tension current in one direction through the tube, we observe no visible discharge as in the Geissler tube, but that the barium sulphide opposite the negative or cathode pole becomes brilliantly phosphorescent,—that is, from the negative pole stream invisible rays, which possess the property of rendering certain substances luminous.

A most beautiful experiment is performed by allowing these cathode

rays to impinge upon an ebonite ball set with rubies. As soon as the current flows every ruby stands out as though brilliantly red-hot.

Lenard, a French physicist, further found that though glass was very opaque to these rays, aluminium was not; and that by insulating an aluminium window in the tube a certain amount passed outside.

Why then, it may be asked, does one distinguish between X rays and cathode rays? There is one striking difference: cathode rays can easily be shown to be deflected by a very weak magnet; X rays are not.

An extraordinary variability in the power of the same tube to emit photographically active X rays was soon noticed by many experimenters. Capital prints could be obtained by a tube, which on being used a few minutes after gave no result at all, though used under apparently identical conditions. To clear up this difficulty we must go back to our highly exhausted tube.

Let us take such a tube having the shape of a flask, with one electrode at the neck entering where the cork would be, and the other in the form of a plate, entering at the junction of the neck and spherical part. Further, before sealing and exhausting, we introduce a platinum cross, so arranged that it can, by inclining the tube, either stand upright about two inches from the flattened base of the flask, or lie out of the way on the side.

On passing the current with the cross upright, we see the glass at the base of the flask itself becoming luminous save where it is protected from the impact of the cathode rays by the cross; consequently we have a figure of a dark non-luminous cross on a luminous white background. This proves that (i) the cathode rays pass in straight lines; (ii) that the impulse of these rays or of molecules driven by them causes the glass to phosphoresce; but further, if the cross be allowed to fall flat, and the tube be again excited, a most curious thing happens: where formerly the dark non-luminous cross was is now a bright luminous image on a dark, non-phosphorescent background.

The obvious conclusion is that the phosphorescence of the glass is only a temporary effect of the impact of cathode rays. The unprotonated glass is soon tired out, and at the turning on of the current after the removal of the cross the formerly protected part commences to shine. Now it is found that when a tube is emitting photographically active X rays, after a time a black speck becomes apparent in the luminous patch on the glass, and that this gradually extends, and that *pari passu* with this extension the photographic effect also disappears. The analogy between these after-images and some of the retinal after-images is very striking.

It appears from these experiments that the phosphorescent patches are the source of the X rays. If we use such a current that one pole is first positive and then negative, we shall get two luminous patches; and we shall also get double shadows on the photographic plate, unless the tube has been so arranged that the two patches and the object are in one line. Hence for alternating currents the disc and ring electrodes are best, the two patches here coinciding.

Many theories have been suggested as to the ultimate nature of these rays. The most probable at present seems to be that they are longitudinal in direction. Light is due to vibrations transverse to its axis of propagation; X rays, then, are due to alternate to-and-fro impulses in the direction of the ray. In fact, they resemble sound waves, which are due to alternate condensation and expansion in the air. If this be true they have not been refracted, hence "shadowgraphy" in distinction to ordinary photography can alone be used.

Another practical point is that opacity to these rays is very much a relative matter; and hence, as photographers will readily see, differentiation of structure is very much a matter of development and exposure.

The opacity seems to have some relation to density.

To sum up, for obtaining satisfactory photographs the following points seem essential.

i. The coil should give not less than a 1 inch spark in air.

ii. If an alternating current be used beware of double shadows.

iii. The tubes (a) must not be excited for more than a quarter of a minute, and should have a rest of a quarter of a minute between each excitation; (b) must have the highest possible vacuum; (c) must be of German glass—some varieties of glass are useless; (d) too strong a current must not be used, or the tube will be destroyed; (e) though Tesla currents will give a shorter exposure, yet they will ruin the tubes.

iv. Mode of exposure. Rapid plates are enclosed in light tight envelopes, the objects laid directly on the envelopes, and the tube placed about a foot above. Of course the light in the room need not be turned down.

Since writing the foregoing it has been stated that Professor Salviani has succeeded in rendering the X ray visible. This is not strictly true. It is characteristic of these rays that they do not affect the retina. What he has done is this: he has transformed the energy of the X rays into the energy of ordinary light by allowing the rays

to fall upon platino-chloride of barium, which becomes luminous under their impact.

He has by this means devised a method of dispensing with photography, and Mr. Swinton has repeated his experiments. Instead of allowing the invisible shadow, if I may use the expression, to fall on a sensitive plate, it is thrown on a plate which is coated with a substance which is phosphorescent to X rays; where not protected the ground becomes luminous exactly as in the case of the cross and cathode rays. It has been stated that an ordinary paraffin lamp can be used for these experiments. I have not been able to obtain any detailed account of such experiments.

When we consider the great differences in opacity that bodies show to light and radiant heat respectively, it is perhaps not impossible that a newer development of the new photography may be awaiting us.

Notes.

IN the 2nd XI match against Tonbridge on March 7th one of our men, Mr. C. H. Turner, unhappily sustained a fracture of the tibia and fibula of the right leg. Dr. Cardell, an old Bart's man, whom many of us still remember well, and who is in practice at Tonbridge, was called, and very kindly superintended the treatment until the Monday following, when Mr. Turner was brought to town and warded in Abernethy. We wish him a speedy recovery.

MR. C. H. NEWINGTON has started practice at Edenbridge in Kent.

OUR defeat by St. Thomas's by two tries to *nil* in the semi-final Rugby Cup Tie on March 5th leaves the final to take place between St. Thomas's and St. George's. Thus there is a likelihood of the Cup returning once more to the Hospital that has guarded it so keenly and for so long a time. We had hoped that this year the spell would break, and especially after beating Guy's with such comparative ease, that we should at last court the cup successfully. Alas for our ambition!

OUR Association team meet St. Mary's in the final on Tuesday, March 17th. The result of the match is as yet by no means obvious. Our men must go down prepared for a hard fight, and we trust that every student "will do his duty" by attending the match and cheering lustily.

THOUGH many names have been sent in for copies of the engraving of the portrait by Ouleus of the late Mr. Mark Morris, we hope still to receive many more names. The cost of production will be divided amongst the subscribers; hence the number of subscribers materially influences the individual cost.

We notice that the surgeon to the "Harlech Castle"—the ship which brought Dr. Jameson's troopers to Plymouth—is Mr. F. G. Lloyd, an old Bart's man. Under his care the troopers seem to have made a healthy voyage, with the exception of the occurrence of a few cases of typhoid *en route*. Mr. Lloyd has recently received a vote of thanks from the Directors of the Chartered Company.

SURGEON-CAPTAIN F. P. MAYNARD, I.M.S., has been attached as Medical Officer and Naturalist to the Baluch-Afghan Boundary Commission under Captain McMahon, C.I.E. The work is expected to occupy three months, most of the time in the desert, and will take the Commission as far as Persia. Surgeon-Captain Maynard should meet with some interesting experiences, and we trust that at a future date we may be able to give some of them to our readers.

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WE ARE LATE, but not the less hearty, in congratulating Dr. Alfred Nicholls on the decoration of C.M.G. Dr. Nicholls entered at Bart's in 1869, took his M.R.C.S. in 1873, and graduated M.D. Aberdeen in 1875. While at Bart's he was one of Mr. Luther Holden's prosectors. Soon after leaving Bart's he acquired an extensive practice in Dominica, and, as a result of his experience, has rendered valuable service to medical literature. Mr. Froude, in *The English in the West Indies*, speaks of him as "the only man in the island of really superior attainments."

* * *

THREE TIMES since the reassembling of Parliament have questions been asked in the House of Commons concerning legislation to reform the University of London, and the reply on each occasion has been to the effect that the Government is still considering the question. On the last occasion Sir Albert Kollit was asked to repeat his question after Easter.

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SIR DYCE DUCKWORTH will deliver his Lumenian Lectures at the Royal College of Physicians on March 19th, 24th, and 26th. The subject is "The Sequels of Diseases."

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DR. CLEMENT GODSON has been elected Honorary President of the International Congress of Gynecology and Obstetrics to be held at Geneva in September.

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MR. H. J. WALTON, late House Surgeon to Mr. Smith, has passed into the Indian Medical Service at the head of the list with 3186 marks, Mr. F. A. Smith is fourth with 2635 marks, Mr. J. S. Stevenson is fifth with 2610 marks, and Mr. W. G. Richards is seventh with 2518 marks.

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MR. A. H. MORRIS has passed second into the Army Medical Service with 2368 marks, and Mr. Swabey is fifth with 2210 marks.

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E. LAMING EVANS has taken the degrees of M.B. and B.C., and J. M. Woolley the degree of M.B., in the University of Cambridge.

"NEVER read any book that bears internal marks of being addressed more to the public than to the profession. They are all bad, and many dishonest."—PETER MERE LATHAM.

Amalgamated Clubs. NEW MEMBERS.

J. M. E. Langton.	E. W. Alment.	J. D. C. Howden.
G. W. Bond.	W. C. F. Harland.	A. M. Ware.
H. Whitwell.	A. M. Ameler.	F. C. H. Home.
G. W. Miller.	F. G. Lloyd.	J. K. Birdseye.

RUGBY FOOTBALL CLUB. ST. BART'S v. UPPER CLAPTON.

Which we played Upper Clapton at the beginning of the season we beat them by 5 tries to nil. However, they managed to turn the tables on us on February 1st, and beat us by 1 goal and 1 try to nil. Bond won the toss, and chose the Pavilion end of the ground. At first play was very even, and was confined to neutral territory, but by means of good passing and kicking, Clapton worked down into our 25, and after about 75 minutes' play, scored a try which was not converted. The game was of a scrambling nature throughout, there being an entire lack of dash. Nothing more was scored up to half-time. On resuming, Clapton had rather the better of the exchanges for a time, and scored again. The try was converted. For the rest of the game the Hospital pressed, and Robbs was nearly in on several occasions. Armstrong was hurt, and retired at half-time.

Team.—H. Bond (back); S. Mason, A. E. Hopkins, P. L. Armstrong, S. F. Smith (three-quarter backs); A. Hawkins, G. C. Marrack (half-backs); P. O. Andrew, H. M. Cruddas, J. K. S. Fleming, C. H. D. Robbs, H. C. Adams, W. M. James, H. Weeks, F. J. Wood (forwards).

ST. BART'S v. R.M.C.

This match was played at Sandhurst, and resulted in a win for the Hospital by 1 goal and 1 try to 2 tries. Sandhurst kicked off against a strong wind, and play settled down well in the home 25. By means of short rushes the Hospital forwards carried the ball up to the touch line. Andrew crossed the line, but went into touch in goal. From the kick-out Sandhurst pressed, and Bond several times had to save. Hawkins brought relief with a good kick into touch. A good piece of passing, in which Mason, Robbs, and Weeks participated, transferred play to the home quarters. Hawkins, getting the ball from a scrum, feinted to pass, and managed to scramble over. Randolph's kick went wide. The ball travelled up and down at a great pace, each end in turn being visited. In the second half we had a strong wind against us. Sandhurst attacked at once, and a good piece of passing among their back division ended in a try. Andrew kicked out, and following up in good style prevented the return kick. A series of scrums now took place in neutral territory, of which the Hospital had if anything the better. Andrew headed a good forward rush into the Sandhurst 25, where some capital passing resulted in Marrack scoring. Randolph kicked the goal, the ball first striking the cross-bar. Sandhurst had slightly the better of the exchanges, and penned the Hospital in their 25 for some time. Marrack relieved with a good dribble to the centre. Gradually, however, Sandhurst worked back, and Collard kicking over the line scored a second try, but the place kick went wide. Nothing further was scored, and the game resulted in a win for the Hospital by 8 points to 6.

Team.—H. Bond (back); A. J. W. Wells, W. H. Randolph, T. M. Body, S. Mason (three-quarter backs); A. Hawkins, G. C. Marrack (half-backs); P. O. Andrew, H. M. Cruddas, J. K. S. Fleming, C. H. D. Robbs, H. C. Adams, F. J. Wood, H. Weeks, A. K. Vaughan (forwards).

INTER-HOSPITAL RUGBY CUP TIE.

ST. BART'S v. GUY'S.

On Valentine's Day Bart's opposed Guy's in the second round of the London Hospitals' Cup Ties at Richmond. In the first round Charing Cross scratched to Bart's, whilst Guy's had defeated Middlesex by 1 goal (dropped) to nil.

Andrew kicked off for Bart's at 3.15 to the tune of cat-calls, horns, and various instruments of torture. Nearly 800 medicals were present, including many members of the teaching staff. The Bart's forwards at once forced the game, soon reaching Guy's twenty-five line, a fine forward rush ending near the goal posts. After a short check, by reason of a slight injury to a player near the line, the forwards carried the scrums, and Hawkins, following up a kick over the line, scored about midway between the posts and corner flag after seven minutes' play. Randolph added two points by his kick. From the kick-off Bennett relieved to the centre. Successive packs were formed in neutral territory until Marrack punted up near the line.

The forwards kept up the attack, but kicked behind, and Guy's touched down. At length Guy's forwards gave their rear division a chance, and from some excellent passing ending between Clarke and Alexander, the Saints were attacked in their "twenty-five." Bart's by alternating kicks and rushes transferred play to mid-field. A free kick against Bart's for offside play was smartly followed up, and shortly afterwards Wetherall started a round of passing. Clarke, Alexander, and Rae in turn gained ground, and amidst great enthusiasm the last-named ran in and scored a try near the corner flag. No goal resulted.

After this Bart's very noticeably fell off, and Guy's seemed to gain confidence, Mathias starting some pretty passing behind. After central play for some time Bond was called upon to save a rush, Hawkins finally relieving the strain by kicking to the centre. Play varied for some time, until from some light scrambling Marrack passed out to Randolph, and Mason, who finally received, kicked into touch just outside the goal line. Now followed a very exciting time on the Guy's line, the tackling being on a par with the attack, until after about five minutes' scrambling Andrew managed to get over, Randolph again converting. Half-time arrived shortly afterwards with the score at St. Bart's 2 goals, Guy's 1 try.

Bart's rushed down from the first after the interval. Jackson relieved once, but the game was soon being vigorously contested well in Guy's quarters, and good tackling alone prevented scoring. Suddenly, from among a crowd of players, the ball was successfully dropped at goal by Mason. From the kick-off Andrew headed a rush down the field, but Wetherall judiciously returned play to the centre. The game for some time raged up and down, Rigby, Andrew, and Cruddas being conspicuous in attack, but Guy's were now playing a good game, Wetherall making several openings which were taken advantage of. At length wedge began to tell, and play was dangerously near Guy's line. Mason once looked like scoring, but he was brought down by Alexander. But the former would not again be denied, and sprinting in fine form from near mid-field, he succeeded in tricking Jackson and Muriel, and scored a try between the posts, Alexander just failing to make up on him. Randolph again did the needful. The Bart's men pressed hard for the last few minutes and Bennett got over, only, however, to be recalled, and the game ended with the score—St. Bart's 4 goals (1 dropped) = 10 points; Guy's 1 try = 3 points. The victory was bigger than was expected. Guy's were certainly better outside the scrum, but their forwards were lighter, and could give their outsiders few chances, although some pretty bouts of passing were brought off. Mason and Wetherall for their respective sides made the finest runs, and Randolph must be congratulated on his good place kicking.

LEAMS.

St. Bart's.—H. Bond (back); A. J. W. Wells, T. M. Body, W. H. Randolph, S. Mason (three-quarters); A. Hawkins, G. C. Marrack (halves); P. O. Andrew, J. C. A. Rigby, H. M. Cruddas, W. F. Bennett, J. K. S. Fleming, C. H. D. Robbs, H. C. Adams, W. M. James (forwards).

Guy's.—G. B. Muriel (back); F. L. Rae, K. B. Alexander, H. N. Clarke, F. D. S. Jackson (three-quarters); F. E. Wetherall, R. Mathias (halves); E. G. Goddard, P. A. Dykes, C. R. Nicholson, W. P. Gwynn, H. G. Rashleigh, F. G. Gibson, H. O. Bagshaw, W. Tyson (forwards).

Referee.—Mr. G. H. Harnett (Hon. Sec. Kent County F.C.).
Touch Judges.—Messrs. H. Marshall (St. Bart's) and P. D. Hunter (Guy's).

ST. BART'S v. MARLBOROUGH NOMADS.

The return match with the Nomads was played on February 15th at Wincmore Hill. Although we were weakly represented, owing to the Cup Tie on the previous day, yet we managed to win by 1 goal and 1 try to nil. The visitors pressed from the start, and should have scored on more than one occasion, but lost several good opportunities by erratic passing. Mason intercepted a pass, and the running fell from the halfway line scored. Simmonds missed the ball. The Nomads continued having the better of the game, and Dick had to touch down. After the interval the Hospital was seen to better advantage for some time, but fell away again towards the end. Jeaffreson made a good run, and passing to Robbs enabled the latter to score, Simmonds converting. From this period until the end the visitors made strenuous efforts to score, but the Hospital defence was too good, and the game ended as stated above.

Team.—H. Bond (back); S. Mason, A. E. Hodgkins, S. F. Smith, F. G. Simmonds (three-quarters); A. E. Jeaffreson, F. E. Everington

(halves); H. M. Cruddas, J. K. S. Fleming, C. H. D. Robbs, H. C. Adams, A. L. Vaughan, J. G. Forbes, J. C. Sale, J. W. Hughes.

ST. BART'S v. EAST SHEEN.

This match was played at Richmond on Wednesday, February 19th, and resulted in a defeat for the Hospital by 1 goal and 2 tries, or 9 points, to 1 goal and 1 try, or 8 points. Bennett started the game for the Hospital. Almost immediately East Sheen pressed hard, and Selwyn Biggs was nearly over, but Bond brought him down just in time. Play was gradually transferred to mid-field, and Hodgkins intercepting a pass ran in a try, which Body converted. After restarting the Hospital kept up the pressure till Cattell and Biggs brought relief to the home side. East Sheen forwards then rushed the ball down and the Hospital were kept busy defending. From a throw in from touch, Galloway scrambled over and scored a try for East Sheen, but the place kick failed. This reverse roused the Hospital forwards, who played up harder than they had hitherto done, and from a scrum near the goal line Marrack got over. Body's kick was a failure. For the rest of the first half the Hospital pressed vigorously, but were unable to score. At half-time the score stood at 8 points to 6 in favour of Bart's.

In the second half the Hospital play fell off very noticeably. East Sheen pressed for a great part of the time, and scored an unconverted try. Nothing further was scored, and the game resulted as stated above.

Team.—H. Bond (back); A. J. W. Wells, A. M. Body, I. D. C. Howden, A. E. Hodgkins (three-quarters); A. Hawkins, G. C. Marrack (halves); J. C. A. Rigby, H. M. Cruddas, W. F. Bennett, J. K. S. Fleming, C. H. D. Robbs, H. C. Adams, W. M. James, H. Weeks (forwards).

ST. BART'S v. R.M.A.

It will be seen from the team below that the Hospital was very weakly represented, and only played 14 men in this match at Woolwich on February 22nd. Play throughout was scrambling and uninteresting, there being an entire lack of combination and dash. The Academy kicked off against a very strong wind, and the return being muffed, play settled down in our quarters. Hawkins, however, relieved with a good kick into touch. Bennett and Marrack gained further ground by dribbling. The latter shortly afterwards dribbled over and scored a try. Body's kick went wide, but the try Hospital still kept up the pressure and Cruddas got over, but the try was not allowed. Half-time arrived with the score 1 try to nil in our favour. In the second half time about the last eight minutes, when the Academy pressed strongly, and managed to score an unconverted try just on the call of time. The match thus resulted in a draw of 1 try all.

Team.—S. F. Smith (back); A. J. W. Wells, T. M. Body, J. C. S. Dunn (three-quarters); A. Hawkins, G. C. Marrack (halves); H. M. Cruddas, W. F. Bennett, C. H. D. Robbs, H. C. Adams, W. M. James, F. J. Wood, H. Weeks, F. G. Richards (forwards).

ST. BART'S v. ROSSLYN PARK.

Played on February 29th at Richmond, and resulted in a pointless draw after a good game. Bond lost the toss and the Hospital started against a strong wind. From the first the Hospital pressed, and Hodgkins once was nearly over after some good passing among the backs. Gradually the ball was worked back to mid-field, where a series of tight scrummages took place. Crab for Rossllyn Park made several good runs, but he was not well enough supported to get very far. Bond was called upon to save, and kicked well down into touch. Each end in turn was visited, but the defence on both sides was too good, and half-time arrived with the score sheet blank. In the second half the Hospital had if anything the best of the exchanges, and were very near scoring on more than one occasion. From a scrum on the goal line Marrack nearly scored, but was just held up on the line, and immediately afterwards the ball was dribbled over, but kicked too hard. Marrack about this period received a nasty kick on the knee, but was able to resume after a short rest. Robbs was next conspicuous with a good run, and was only pulled up by the full back on the line. Time was called shortly, and the game resulted as stated above.

Team.—H. Bond (back); A. J. W. Wells, C. Dix, A. E. Hodgkins, S. F. Smith (three-quarters); A. Hawkins, G. C. Marrack (halves); H. M. Cruddas, W. F. Bennett, J. K. S. Fleming, C. H. D. Robbs, H. C. Adams, W. M. James, J. W. Hughes, J. G. Forbes (forwards).

INTER-HOSPITAL RUGBY CUP.

SEMI-FINAL.—BART'S v. ST. THOMAS'S.

Winner to play St. George's in the Final Tie. Played on March 5th at Richmond Athletic Ground.

Judging by the number of spectators present at the above match it is evidently a popular fixture; I advisedly use the word "fixture" in that we play St. Thomas's nearly every year in the Cup matches, and with invariably a similar result.

A beautiful day, a ground in good condition, a strong wind blowing lengthwise, and nearly 2000 spectators, amongst whom were many ladies and members of the rival staffs, all tended to make the game interesting, and all were equally futile of success. A more uninteresting and disgraceful exhibition of the Rugby game I have never seen between teams of such undoubted individual merit. Scrum followed scrum with remarkable precision and regularity, and as often as not ended in a hopeless muddle of forwards forming a struggling and perspiring mass on the ground. During the whole game—and the ball was as dry as a work on psychology—not a single pass was given by the Bart.'s halves to their three-quarters; while St. Thomas's, who certainly were considerably better in this respect, ought never to have allowed the ball to remain in the scrum more than was absolutely necessary. But enough of plaintive wallings, and let's to the game. The teams turned out as advertised, with the exception that with us Dix replaced Mason, and with our opponents Patch took the place of Harwood. Bart.'s won the toss and elected to play with the wind. Elliott kicking off for St. Thomas's, a series of scrums at once took place in our twenty-five, varied now by Rigby and Cruddas leading a forward rush over the halfway line, and as regularly by Elliott and Gilbert leading a similar rush back to near our goal line. This went on for fully twenty minutes, until at last Rotherham got the ball and initiated some pretty passing, ending in Dix prettily collaring Browne. Elliott then kicked, and before Bond could return he was pushed into touch close to the goal line, a score seeming imminent, but a rush by Bart.'s forwards relieved, and Moggeridge was downed by Hawkins beyond the halfway mark. More scrums, and then some more pretty passing by St. Thomas's outside, ending in Patch passing forward. St. Thomas's now pressed severely, and it was more luck than judgment which kept them out. However, another rush by the forwards ended in Dix picking up and kicking into touch close to St. Thomas's twenty-five, where the game fluctuated backwards and forwards, but the ball never came out of the scrum on the Bart.'s side. St. Thomas's goal line was now invaded, and five yards out had to be given; but Elliott again relieved, and a kick by Rotherham into touch at halfway was immediately followed by the whistle for half time.

On resuming some long kicks were exchanged by the backs, and Rotherham then punted over our line, Bond touching down. Some fine passing by St. Thomas's three quarters only failed in resulting in a try by Cruddas beautifully tackling Greg close to our line. Rigby relieved, but Rotherham here made his mark, and Gilbert had a try at goal but failed, Bond again touching down.

From the kick-out Moggeridge returned, and Bond, miffing, retrieved his character by gaining some ground with clever dodging. A high kick by Rotherham was well taken by Body, who kicked into touch near halfway. Immediately afterwards, however, some fine passing ended in Greg transferring to Rotherham on the line, the latter scoring far out, the kick at goal being a failure. From the kick-off Browne made his mark, and immediately afterwards Rotherham did ditto, a try at goal in the last case going wide.

St. Thomas's, not to be denied, maintained a high pressure, and Greg, obtaining the ball from a pass by Rotherham, ran round Bond and scored far out, the kick at goal again failing. Nothing more happened, and St. Thomas's left the field victors by 2 tries to nil.

To say that we were beaten at all points is no exaggeration, but at half and three-quarters we were simply demoralised. Rotherham played a grand game for them, and was a long way the best man on the field. Rigby, Cruddas, Andrew, and Adams showed up at times for us, but such flashes in the pan served only to make more apparent the generally rotten condition.

In justice to ourselves I must add that Maturin, our crack half-back, was unable to play owing to an injury to his knee; his loss was very marked and quite irreparable.

TEAMS.

St. Bart.'s.—H. Bond (back); A. J. Wells, T. M. Body, W. H. Randolph, C. Dix (three-quarters); A. Hawkins, G. C. Marrack (halves); P. O. Andrew, J. C. A. Rigby, G. Jones, H. M. Cruddas,

W. F. Bennett, J. K. S. Fleming, C. H. D. Robbs, H. C. Adams, W. M. James (forwards).

St. Thomas's.—C. F. Moggeridge (back); W. F. Hanbury, A. H. Greg, E. W. Browne, C. Patch (three-quarters); A. Rotherham, R. T. Holland (halves); A. E. Elliott, L. E. Gilbert, H. Stephens, C. Dorning, A. S. Arkle, W. E. Nelson, H. C. Thorp, F. M. Bingham (forwards).

Referee.—Mr. Harnett.

Touch Judges.—Messrs. Marshall and Thorman, of St. Bart.'s and St. Thomas's respectively.

ASSOCIATION FOOTBALL CLUB.

During this month we have been on the whole fortunate, having, out of five matches played, won three, lost one, and drawn one. Two of the wins were very creditable indeed, namely, Weybridge and Ipswich, as these clubs have an excellent record for the season. The match lost was the Casuals in the London Cup, and this indeed was not surprising considering the team against us; however, the fact that we did not reverse the final decision owing to very bad luck, was the opinion of every one present at the game.

The team has been unavoidably altered during the last few matches owing to injuries, &c., and we have to thank the services of the older members of the team for the results above recorded. Fox is still as good as ever in goal, and plays excellently to his backs. Pickering is perhaps the best of the halves, though Joy played splendidly against the Casuals, and Woodbridge of the forwards. Hay does much very useful work, and if he would centre before taking it behind, as was the feature of the match at Weybridge, his play would be much improved. Waterhouse and Talbot seem to get along excellently on the right. We hear that Willett will soon be amongst us again, so that we ought to have a good look-in at the semi-final and final of the Hospital Challenge Cup.

Saturday, Feb. 1st.—ST. BARTHOLOMEW'S HOSPITAL v. REIGATE.

This match took place at Reigate before a large number of interested spectators. It was of more than usual interest, as Bart.'s had drawn their last game with Reigate, and were determined to try and win this one. However, after a very good and exciting game, the score was 1-1, thus again ending in a draw. The ground was in very good condition, and the weather was the best obtainable for football. Reigate kicked off downhill, and getting past Joy began to look dangerous; however, Pickering relieved, and Hay getting the ball transferred the play to the other end, putting in a centre which Woodbridge only just failed to convert. Play then became very fast, Reigate travelling down the hill at a great pace; the Bart.'s halves, however, were in great form. Joy especially intercepting most of the passes of the opposing forwards. A little later Prance obtained possession, and passing to Woodbridge, the latter shot at the Reigate custodian, who, in saving, sent the ball against one of the Bart.'s forwards, from whom it rebounded into the net. Reigate then pressed heavily, and before half-time from "hands" against Bart.'s in front of goal, scored a point from a good shot by the inside right. Score at half-time thus: 1-1.

On re-starting, Bart.'s played downhill, and had the best of the game, and Hay taking the ball down centred right into the mouth of goal, and Waterhouse, rushing the goal-keeper, put the ball neatly into the mouth of goal. To the surprise of most of the players, a feeble appeal for off-side was sustained by the referee, who adjudged the point void. After this shots were being constantly put in, and though several spirited runs were put in by the Reigate forwards and some good play by the Reigate centre half, Bliss, nothing resulted. The game ended in a draw of 1-1 as above stated. Bart.'s had perhaps rather the worst of the luck as regards the ruling of the referee.

Team.—E. H. B. Fox, goal; R. P. Brown and L. E. Whitaker, backs; A. H. Bostock, N. H. Joy, H. J. Pickering, half-backs; H. N. Marrett, R. Waterhouse, E. W. Woodbridge, C. H. G. Prance, and A. Hay, forwards.

Thursday, Feb. 6th.—ST. BARTHOLOMEW'S HOSPITAL v. WEYBRIDGE.

At Weybridge great interest was centred in this match, as Weybridge have been running an excellent team this year, and it says a great deal for Bart.'s that they obtained a victory by three goals to one. Weybridge kicked off, but the Hospital obtained possession, and immediately the forwards started the combination, which was a feature throughout the game. On "hands" being given in front of goal Bart.'s, by the medium of Woodbridge, put the ball into the net. A few minutes afterwards the same player got right away, and taking a shot the ball hit the crossbar, and rebounding came back to Prance, who, however, did not score. Several times Bart.'s seemed like

scoring, while only once during the first half did Weybridge look dangerous. Shortly after this Prance shot, and the ball rebounding off the goal-keeper, Waterhouse took possession, and was just about to put the ball into the net when the referee ruled him off-side. This was, of course, manifestly impossible, as the ball came straight off one of the opposing team. However, before half-time another point was scored by the Hospital, making the score stand 2-0 in Bart.'s favour.

On re-starting Weybridge began pressing, and, chiefly by means of Ward and Lobb, kept up a vigorous attack, the ball invariably, however, being well returned by the Bart.'s goal and back division. From a run down by Hay the Hospital again scored through an excellent shot by Woodbridge. After this Weybridge again began pressing, and their outside left putting in a centre, the centre forward obtained possession, and though palpably off-side put the ball into the net, Fox not attempting to stop it, thinking that the whistle had blown. This was the last point scored before time was called, thus making the score 3-1 in Bart.'s favour. For the Hospital the forwards were in excellent form in everything except shooting, which was as usual lamentably bad. The halves were, as usual, very good, Bostock playing very well in the centre.

Team.—E. H. B. Fox, goal; K. P. Brown and L. E. Whitaker, backs; A. Woodcombe, A. H. Bostock, H. J. Pickering, half-backs; H. N. Marrett, K. Waterhouse, E. W. Woodbridge, C. H. G. Prance, and A. Hay, forwards.

Linesman.—T. H. Talbot.

LONDON CUP.

Second Round.

Saturday, Feb. 8th.—ST. BARTHOLOMEW'S HOSPITAL v. CASUALS.

This match was played at Winchmore Hill on the Bart.'s ground before a large contingent of onlookers from the Hospital and elsewhere. The Casuals had a very strong team, but, however, opinion was very evenly divided as to the result, and though in the end the Casuals won by 2-0, the game was by no means one-sided, the Hospital, if anything, having the best of it, the one fault being the inability of the forwards to shoot, the shots that were put in all just going a foot or so to the right or left of the posts.

The Casuals kicked off towards the pavilion and came down at a great pace, but were pulled up by Pickering, who passing the ball to Prance, the latter gave to Hay, who at once took the ball up, and centring, a shot was taken by Waterhouse, which, however, went behind. Play then went on for some minutes in the centre, until Fernie, obtaining possession, ran the ball down the ground, and just managing to pass to Bryant, the latter put the ball into the net. Bart.'s then began some very determined play, and not till nearly the end of the first half did they let the Casuals get possession. Runs were constantly made by the Hospital right wing, Marrett putting in some very good centres, which, however, the inside forwards failed to do anything with. Hay also and Prance were to the fore with several good runs. Just before half-time Hilary obtained possession for the Casuals, and taking the ball down, centred to Fernie, who passing to Bryant, the latter sent in a magnificent long shot which Fox was unable to cope with.

On changing ends Bart.'s played with the wind, which was as gusty as ever, and had considerably the best of the game till time was called. The halves and backs worked well feeding the forwards, who time after time shot just wide of the posts, the only good shot being put in by Waterhouse, which Lawrence, however, saved. Marrett also sent in a good shot, which just shaved the outside of the post.

Bart.'s were unable to score anything, and retired defeated, after an excellently well fought and contested game, by 2 goals to none. The backs were conspicuous by their excellent working of the opposing forwards, Joy and Pickering especially doing excellent work.

CASUALS.

Team.—A. G. S. Lawrence, goal; S. L. King and W. G. Adams, backs; A. Montgomery, R. R. Barker, and C. M. Wilson, half-backs; C. F. Drake, C. O. S. Hatton, F. Fernie, F. H. Bryant, and R. L. Hilary, forwards.

ST. BARTHOLOMEW'S.

Team.—E. H. B. Fox, goal; R. P. Brown and L. E. Whitaker, backs; A. H. Bostock, N. H. Joy, and H. J. Pickering, half-backs; H. N. Marrett, R. Waterhouse, E. W. Woodbridge, C. H. G. Prance, and A. Hay, forwards.

Referee.—Mr. H. C. Platt.

HOSPITAL CHALLENGE CUP.

Second Round.

ST. BARTHOLOMEW'S HOSPITAL v. CHARING CROSS HOSPITAL.

This match was played on Monday, February 17th, at Winchmore Hill, and resulted in an easy victory for Bart.'s by 6 goals to 1. The Hospital were without several of their ordinary team, Brown, Waterhouse and Talbot being absent. The ball was started at 3 o'clock punctually, and play was for the first fifteen minutes very even, as Charing Cross were playing for all they were worth; however, it soon became apparent that Bart.'s were the better team, and Prance scored the first goal by an excellent shot. Another goal was scored before half-time by the same player. The score on changing ends stood 2-0 in Bart.'s favour.

On re-starting Bart.'s took the ball down, but Woodbridge sent over; however, the same player sent in an excellent shot which went easily into the net. Shortly after this three more points were obtained by Prance and Hay.

Charing Cross then made a final effort, and the outside obtaining possession, centred to a Bart.'s back, who passed back to Fox, who in clearing sent the ball against an opposing forward, from whom it was put into the net.

The score at time was in Bart.'s favour, 6-1, the latter thus qualifying for the semi-final against London Hospital.

Team.—E. H. B. Fox, goal; C. G. Watson and L. Whitaker, backs; A. H. Bostock, N. H. Joy, and H. J. Pickering, half-backs; H. N. Marrett, C. H. G. Prance, E. W. Woodbridge, J. D. Hartley, and A. Hay, forwards.

Referee.—Mr. C. W. de Lyons Pike.

Saturday, Feb. 29th.—ST. BARTHOLOMEW'S HOSPITAL v. IPSWICH.

This match was played at Ipswich before a very fair number of spectators considering the weather, which was very unfavourable, rain falling practically without intermission throughout the game. However, play was of a very good and fast character, and Bart.'s did very well to win 3-1 as they did. Bart.'s kicked off, but Ipswich obtained possession and brought the ball down, play, however, being relieved by Brown. Woodbridge took possession, and with Waterhouse made a good run up the field, the latter, however, sending the shot over. Play then kept in the centre of the field till Pickering passing to Hay, the latter took the ball up and centred to Woodbridge, who, after a pretty piece of dribbling, placed the ball neatly into the net.

This made Ipswich play up harder, and they several times looked dangerous, Fox having to save twice. Hay then got away, but the ball was returned to Pickering, who, taking a shot, only just missed the goal by a few inches, though he was nearly in the centre of the field. The right wing of the Hospital then did excellent work, Talbot taking the ball neatly up with Waterhouse, who passing to Woodbridge, the latter sent the ball between the posts. Half-time was then called with score 2-0 in Bart.'s favour.

On re-starting Ipswich made several good runs, which were intercepted by the Bart.'s halves, all of whom, Watson especially, were playing in grand form. Marrett then got possession and took the ball down, passing to Hay; the latter centred. However, it was returned, and Bostock, taking a long shot, scored a third point for Bart.'s. Nothing further was scored till just on the stroke of time, when from a "hands" in front of goal, Ipswich were credited with a point. The ball should have been left to go into the net, as no one had touched it. Time was called with the score 3-1 in Bart.'s favour.

The Hospital team throughout played excellently, Watson being conspicuous, the shot of Bostock being also very good.

Team.—E. H. B. Fox, goal; R. P. Brown and L. E. Whitaker, backs; A. H. Bostock, C. G. Watson, and H. J. Pickering, half-backs; T. H. Talbot, K. Waterhouse, E. W. Woodbridge, H. N. Marrett, and A. Hay, forwards.

BOXING CLUB.

The annual competition was held in the schools of St. Bartholomew the Great on Friday, February 21st. The competition was at catch weights, and there were seven entries. Mr. A. N. West undertook the duties of referee, and the judges were A. H. Hawkins and J. W. Hughes. A. M. Dalzell and S. R. Douglas acted as seconds, and C. S. Hawes held the watch.

FIRST SERIES.

C. G. Meade beat C. R. S. Grimshaw.

There was not much in it in the first round, but in the second and third Meade, who was giving away a good deal of weight, did most of the scoring, and won a tame bout with something in hand.

T. M. Body beat Danks.

In the first round Danks got in some good jabs with the left, but in the second and third the exchanges were heavier, and Body's weight and strength enabled him to get the award of the judges.

J. C. S. Dunn beat G. C. Cathcart.

Cathcart made good use of his left in the first round, but in the second and third Dunn woke up, and putting in some heavy two-handed work, had his man all but "out" on the call of time.

Baker then boxed a bye with Professor Alec Roberts.

SECOND SERIES.

Meade beat Body.

This was the best bout of the evening. Weight and strength were all in favour of Body, but Meade showed much the better style. The first round went to Meade, but in the second Body got in some very heavy right-handers, and there was nothing to choose between them when time was called for the third round. In this, again, matters were so even that the judges disagreed, and the referee ordered another two minutes. Here Meade scored the faster, and just gained the verdict.

Dunn beat Baker.

There was not much in it either way for the first round and a half, but then Dunn did much the best, and won with a good bit to spare.

FINAL.

Dunn beat Meade.

In the first round Meade scored very quickly, and kept out of reach of the heavy man's right. In the second things were more evenly balanced, though Dunn's weight was beginning to tell. In the third round Dunn made full use of his weight and strength, and though Meade was in much the best condition he had to do all he knew to prevent a knock-out. In a grueling bout Meade showed great pluck and determination.

The winner showed very good form, and with more experience will make a very useful man. Of the others Meade was by far the best, and at his own weight would take a lot of beating.

The Intra-Hospital Competition will be held on March 16th, our representatives will be—

Featherweight, W. E. Graham.
Lightweight, C. G. Meade.
Middleweight, R. C. Baker.
Heavyweight, J. C. S. Dunn.

Abernethtian Society.

THE Mid-Sessional Address was given on January 16th by Mr. Henry Power in lieu of Mr. Vernon, who was unable to attend. The President, Mr. J. K. Murphy, was in the Chair. The address was entitled "Medicine and Music," and was listened to by a large part of the Nursing Staff and about seventy five members with evident appreciation.

In the course of the address Mr. Power remarked that there was no mention of music as a means of alleviating pain, of changing the current of thought or of relieving the tedium of convalescence, in any of the modern text-books. He thought that music as a factor in medical treatment might be introduced with considerable advantage. Many historical instances of the beneficial effect of music on the sick and afflicted were quoted, as also lines from the poets in praise of its soothing effect. The address was illustrated with several violin solos played by Dr. Arthur Haydon.

On January 23rd Dr. W. J. Collins read a paper on "The Pathology of Cataract," the President, Dr. H. B. Meakin, in the Chair. A brief review of the history of the origin of the word, and of the recognition of the disease, was followed by a description of some cases of "black cataract." The pathology of this special form was discussed, and the reader suggested that possibly the pigment was formed by the cells as a consequence of decreased vitality, or that possibly the lens acted as a filter, stopping microscopic masses of pigment shed by the iris. A new classification of cataract was also suggested.

On January 30th, Mr. P. Furnivall read a paper on "Training," the President, Mr. J. K. Murphy, in the chair. The paper opened with a definition of training and a description of training as carried out fifty years ago. Speaking of modern times, the reader eulogised the present system of training in the American

schools. The physiology of the process was thoroughly gone into, and many original observations made. Special attention was drawn to the rationale of staying power and the training of the nervous system. The paper concluded with an interesting account of some of the reader's personal experiences in the athletic world.

On February 6th, Mr. G. V. Worthington being unable to read his paper on "The Prognosis of Tetanus," a clinical evening was held, the President, Dr. H. B. Meakin, in the chair. Cases of thrombosis of the superior vena cava, and pseudo-hypertrophic paralysis were shown by Mr. Murphy, also of paraplegia and hemiplegia in children by the same gentleman. A good discussion followed the exhibition of these last cases, especially as to the pathology. Mr. Murphy made out a very good case for "meningeal hemorrhage" as a cause.

Two other cases were shown, one of facial hemiatrophy and one of pulmonary stenosis, and a series of microscopical specimens illustrating—1, actinomycosis and its relation to Madura foot; 2, pleural adhesions; 3, normal human female breast simulating scirrhous in appearance; and 4, cystic disease of jaw-bone.

On February 13th, Dr. Clave Shaw read a paper on "The Sexual branch of the Connate Instincts," the President, Dr. H. B. Meakin, in the chair. He prefaced his remarks by saying that he had chosen this particular subject as being of considerable interest, and because he hoped to put it before members of the Society in what seemed to him the correct light. The differences between the psychical states of the homo sexualist and hetero-sexualist were explained, and the position which the former held in the community defined. The treatment of those afflicted with unnatural connate and acquired instincts was a difficult question; confinement in a lunatic asylum was generally contra-indicated, and in some cases advocated. The combination of great intellectual power and unnatural sexual instinct, noticed not uncommonly, was remarked upon and explained.

On February 20th, the President, Mr. J. K. Murphy, being in the chair, Mr. L. C. P. Phillips read a paper on "Head Injuries." He also showed two cases of interest, one a case of malformed external ear, and the other a case of lymphangiectasis on the right hand of a girl.

In the course of the paper the special features of cerebral concussion, compression, contusion, and irritation were referred to and illustrated by cases. The extreme difficulty of distinguishing head injuries when accompanied by drunkenness was pointed out. Much time was given to the consideration of the variations of temperature accompanying head injuries; they were certainly not due to sepsis; their probable relation to disturbance of "heat centres" was discussed.

On February 27th, the President, Mr. J. K. Murphy, in the chair, Mr. E. C. Morland read a paper entitled, "An Aid to Human Anatomy; a Suggestion." The reader dealt with the study of human anatomy, more especially in its connection with the comparative branch of the subject, and thought that by means of combining the study of ordinary human anatomy with comparative anatomy it would prove more interesting to the student than it ordinarily is. "Recapitulation" in the animal world was explained, and many instances quoted of animal structures, once functionally active and suited to the animal's requirements, which now were mere memorials of the obsolete functions.

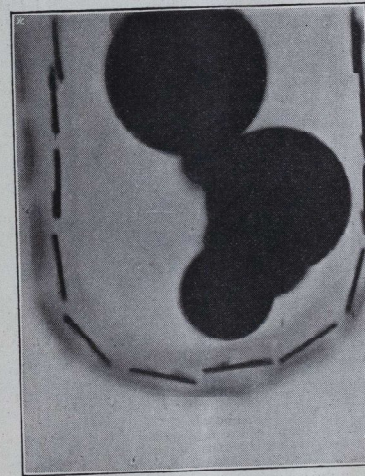
St. Bartholomew's Hospital Photographic Society.

MEETING of the above Society was held in the Electrical Department of the Hospital on March 3rd, at 8 p.m. The President, Dr. Russell, occupied the chair. Minutes of previous meeting having been read and passed, Dr. Lewis Jones (Vice-President) proceeded to give a demonstration of Photography by means of the Röntgen Rays. Having pointed out the great interest which Professor Röntgen's discovery had for the Photographic Society of the Hospital, Dr. Jones said that he had been occupied chiefly in endeavouring to work out the best arrangement of apparatus for the purpose of obtaining the photographs. To obtain sharper images and to produce them in a shorter time were the two points of most importance at present. Dr. Jones then briefly demonstrated the different parts of the apparatus to be used that evening. The efficient production of the X rays seemed to require a very high electro-motive force. Those who possessed induction coils capable of giving 7 or 10-inch sparks had obtained the best results. Such coils, however, were scarce, and just now could hardly be obtained, all those in the market having been snapped up.

He purposed using a Tesla coil which gave 4-inch sparks and was a home-made article, and a vacuum tube made according to his own



Brass lock-plate. Photo taken during demonstration. Note the shadow along one side of subject, due to light not being placed immediately above it.

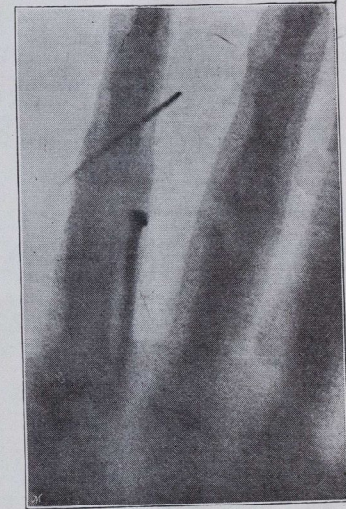


Purse with money; steel stitches round.

design, found serviceable by many workers in the subject, and in fact generally used by English experimenters, although it was not as

generally known to have been originated by Dr. Jones himself. He had not yet had the opportunity of trying the newer patterns of tube, which were said to give better results. The Tesla coil was in its essence an induction coil excited by condenser discharges instead of by a current from a battery. The magnitude of the effects obtained was due to the suddenness of the rush of current from a discharging condenser. The advantage of the Tesla coil was the ease and cheapness of its construction; its disadvantage, that it required connection with the electrical mains to work it. This was done for the present experiments.

When the coil was in action the vacuum-tube developed a beautiful greenish-yellow luminosity or phosphorescence, which was thought to be more or less accurate index to the amount of X rays being pro-



Hand photographed during demonstration, showing position of two foreign bodies, a French nail and a needle.

duced. Owing to the great electrical stresses set up in the lamp great heat was developed, and a continuous "exposure" should not be given for longer than fifteen or thirty seconds. So to avoid accidents fifteen seconds of rest would be alternated with fifteen seconds action throughout the exposure of ten minutes.

Dr. Jones then discussed the theories of the mode of action of the X rays upon the sensitive film. Capt. Abney's views on photographic matters were always to be received with the utmost respect and consideration, and he had expressed the opinion that the action was essentially one of phosphorescence. In support of this view it should be remembered that gelatine is well known to be a phosphorescent body, and therefore the opinion of Capt. Abney may very possibly turn out correct.

Meanwhile Dr. Jones proceeded to "expose" some objects. The first was a human hand, lent for the occasion by Mr. Waring, into which a nail and a needle were thrust. This was placed directly above a sensitised plate, enclosed in a red and a brown envelope, and above a sensitised plate, enclosed in a red and a brown envelope, and covered by a piece of gutta-percha tissue. Above the hand at a distance of four inches the tube was suspended. A second object—a brass lock-plate—was simply laid upon another photographic plate, similarly wrapped up, and placed by the side of the hand. An "exposure" of ten minutes was given, and the sensitised plates were then taken to the Society's dark room and developed. Whilst this was being done a third object—a pair of nail scissors—was placed in a bag made of layers of cloth, flannel, and leather, and "exposed"

for five minutes. The three negatives thus obtained were handed round for inspection.

During the demonstration several prints of other objects, which had been previously obtained, were also submitted for inspection. A point of some importance in the management of the Tesla coil was to connect the lamp to one terminal only; by so doing a purer phosphorescence was obtained, with less incandescence of the residual gas contained in the bulb, and with much less injury to the lamp itself.

The meeting was very well attended, the large room of the Electrical Department being quite insufficient to accommodate all who sought admission. Besides Dr. Claye Shaw, Dr. T. W. Shore, and Mr. W. H. Cross, the demonstration attracted several other members of the Hospital staff.

A vote of thanks to Dr. Jones terminated the proceedings.

The Country Surgeon.

LUCKLESS is he whom hard fates urge on
To practise as a country surgeon,
To drag a heavy galling chain,
The slave of all for paltry gain;
To ride, regardless of all weather,
Through frost and snow and hail together;
Sometimes to walk when dark as pitch,
And get a tumble in a ditch;
To smile and bow when sick and tired,
Considered as a servant hired.
At every quarter of the compass
A surly patient makes a nuisance
Because he is not seen the first
(For each man thinks his case the worst).
Here lies a man with broken limb,
A lady there with nervous whim,
Who, at the acme of her fever,
Calls him a savage if he leave her.
And oft at two points diametric
Called to a business quite obstetric;
For days and nights in some lone cottage
Condemned to live on crusts and pottage,
To kick his heels and spin his brains,
Waiting, forsooth, for labour pains;
And that job over, happy he
If he squeeze out the guinea tee.
Then, worn like culprit on the wheel,
He sits him down to hasty meal.
He sits, when lo! a patient comes
With carious tooth and swollen gums.
The doctor takes the dentist's tools,
Fixes the screw, and tugs and pulls.
His dinner cold, his hands this mess in,
All for a shilling or a blessing.
Sickly and weary and distressed,
He seeks his bed, in hopes of rest.
Vain hopes; his slumbers are no more—
Loud goes the rapper at his door.
A farmer's wife at ten miles distance,
Groaning, calls out for his assistance.
Fretting and fuming in the dark,
He on the tinder strikes a spark,
And as he, yawning, heaves his breeches,
Envis his neighbour blest with riches.

Appointments.

MORTON, CHARLES A., F.R.C.S.Eng., appointed Out-patient Surgeon to the Bristol Hospital for Sick Children and Women.

COOK, H. G. G., M.D.Lond., B.S., F.R.C.S., has been appointed Honorary Assistant Surgeon to the Cardiff Infirmary.

FARRAR, REGINALD, M.D.Oxon., M.R.C.S., L.R.C.P.Lond., has been appointed Surgeon to the Stamford, Rutland, and General Infirmary, vice W. Newman, resigned.

MILES, W. ERNEST, F.R.C.S.Eng., has been appointed House Surgeon to St. Mark's Hospital for Diseases of the Rectum.

NEWMAN, WILLIAM, M.D., M.R.C.P.Lond., F.R.C.S.Eng., appointed Consulting Surgeon to the Stamford, Rutland, and General Infirmary.

EVANS, F. W., M.D., appointed Honorary Physician to the Cardiff Infirmary.

RACKHAM, A. R., L.R.C.P.Edin., M.R.C.S.Eng., appointed Medical Officer to the Mitford and Launditch Union Workhouse.

SHEARS, W., M.R.Lond., M.R.C.S., L.R.C.P., appointed House Surgeon to the Scarborough Hospital.

In Tenebris.

THE sounds of day are hushed—the quiet square
Dark as the tomb;
Save where thy light, O moon, the shadow meets,
Piercing the gloom;
And, wearied with the labours of the day,
All are asleep.
Stay, what is that? A spectre from the grave
Of one long dead.
Who, mirrored in the fountain's silent wave,
Has left his bed
Of mouldered stone, and with unearthly wail
Doth break my rest.
Like mutt'ring thunder, dying ere 'tis born,
Again it roars;
But Luna fair, who peeps behind a cloud,
A cat reveals,
That, entertaining all its friends, forgets
The poor H. S.

K.

Cases of Special Interest.

Medical (Male).

Mark, bed 13.—Congenital heart disease, enlarged liver and spleen.
Mark, bed 19.—Aneurysm of aorta, swelling of head and neck.
Mark, bed 26.—Locomotor ataxia.
Luke, bed 7.—Mital stenosis, embolic hemiplegia (right), aphasia.
Matthew, bed 1.—Spasmodic torticollis, secondary to middle ear disease.
Matthew, bed 8.—Disseminated sclerosis.
Matthew, bed 21.—Obstructive jaundice (cause?).
Matthew, bed 24.—Idiopathic muscular atrophy.
Kahere, bed 13.—Neuritis in a man.

Medical (Female).

Mary, bed 11.—Jaundice.
John, bed 20.—Sequelæ of cerebral tumour.
Faith, bed 4.—Basal meningitis.
Faith, bed 13.—Addison's disease.
Faith, bed 19.—Morphine habit.

Examinations.

PRELIMINARY SCIENTIFIC: *University of London*.—R. C. Bowden (1st Div.), F. M. Howell (2nd Div.), A. A. Meaden (2nd Div.), A. B. Brown (Chem. and Phys.), P. G. Harvey (Chem. and Phys.), H. Mills (Chem. and Phys.), T. M. Pearce (Chem. and Phys.), E. Wethered (Chem. and Phys.), H. E. G. Boyle (Biol.), E. V. Lindsey (Biol.), E. C. Mackay (Biol.), H. M. H. Melluish (Biol.), H. W. Pank (Biol.), S. K. Roberts (Biol.), E. J. Woodwark (Biol.), E. M. Niall (Biol.).

D.P.H. CONJOINT BOARD.—The following having passed both parts have received the Diploma of Public Health:—W. J. C. Keats, L.R.C.P., M.R.C.S.; G. H. Patterson, L.R.C.P., M.R.C.S.; F. A. Spréat, L.R.C.P., M.R.C.S.

INTERMEDIATE M.D.: *University of London*.—P. J. Cammidge (2nd Div.), C. E. M. Kelly (2nd Div.), C. V. Knight (2nd Div.), H. D. Everington (excluding Physiology), H. B. Gibbins (excl.

Phys.), R. Hatfield (excl. Phys.), J. H. Rhodes (excl. Phys.), J. E. Robinson (excl. Phys.), P. W. Rowland (excl. Phys.), G. P. Taylor (excl. Phys.), F. V. O. Beit (Phys. only), W. F. Rowe (Phys. only), E. W. Woodbridge (Phys. only).

Correspondence.

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

SIR,—I do not think any apology is necessary from me in asking you to publish the following notes, which are perfectly genuine. I came across them in my pocket-book to-day. They were copied word for word from the dresser's notes during my house surgeonship two years ago. The punctuation is faithfully copied also. These notes illustrate well the supreme importance, I am sure, of taking the past history and the family history in full, even in the case of a Pott's fracture. I may say that I am sure the dresser had no grudge against any of the authorities when he wrote these notes, nor do I believe that he was "playing to the gallery."

The Case.

"C. W. aged 53 was admitted into — Ward on 2nd Nov. under the care of Mr. —. She is a widow for 20 years and has four children. She has a Pott's fracture of left leg.

"History.—The fracture occurred on 2nd Nov. and was caused by falling downstairs. It was very painful when admitted; she could not stand on her foot. Had rheumatism and swelling of joints, being treated at this hospital for it. Also been subject to fits for 10 years. Has had spots on her face for about six weeks before this accident. Fissure in bowels after child-birth, underwent operation scarlet fever when about 12.

"Family history.—Father had rheumatism. Mother had fits. Father also had sciatica. Eldest daughter had fits; is dead. Father and mother both consumptive. Father died of chest disease. Mother died in a fit.

"Condition of admission.—Rather collapsed. Appetite always bad, bowels always regular. Pain in pit of stomach. Had injury to chest about 3 weeks ago. Complains of pain in side, when she tries to rise, referable to injury of chest. Patient is suffering from Pott's fracture.

"Nov. 11th.—Rheumatism bad, not much sleep ankle bad. Appetite bad. Tongue furred. Leg pains. It is up in suspensory splint. Temp. 97°8' going down.

"17th.—The leg was dressed yesterday. Still a little painful. Patient complains of very little pain.

"24th.—The leg was put in plaster yesterday. House surgeon says it's getting on wonderfully well. Slept last night for a few hours; most sleep she has had right off. Appetite never very good. Bowels have been tolerably regular, but have not been open now for nearly 3 days. Temp. below normal. Patient does some sewing. Urine normal."

Although these notes speak for themselves, I would draw attention especially to the fact that the dresser realised during his wanderings the necessity of occasionally reminding the reader of the fact that it was a case of Pott's fracture, and not, as one might have thought from the numerous facts mentioned, something more abstruse. Also notice the pathos in "Temp. 97°8' going down"! Also notice that in spite of the fact that "the bowels are fairly regular, they have not been open for nearly three days." &c.

I may add that if any dresser now in the wards who has not had one of Mr. Berry's "blue tickets" stuck on to his notes would care for one, I cannot do better than advise him to try and emulate the gentleman who took the above note, and I know Mr. Berry well enough to say that he will assuredly get one, and he will richly deserve it—I am, sir, yours faithfully, F.R.C.S.

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

DEAR SIR,—There will no doubt be in this month's JOURNAL a description of our defeat at the "hands" of Thomas's in the Rugby Cup. It is that same defeat which moved me to write to you, hoping that your excellent JOURNAL may be thus made the mouthpiece of our grievances. It is now, I think, the third year in succession in which I have heard of the prophetic student holding forth in the square on our extreme likelihood of annexing the Cup. I fear the prophetic student has conceived the idea of sliding into success as easily as an oyster into the maw of an alderman; but whereas the mollusc fulfils his destiny, Bart's seems as far off as ever from escaping defeat. And why? The day has gone by for talking about "esprit de corps"—an unfortunate expression, and redolent of after-

dinner effusions. No; we have now to deal with a very different matter, and fortunately perhaps one easily expressed,—I mean "stupidity."

Over and over again have I heard men in their simplicity ask why have we no outsiders? but never have I heard anyone attempt to answer this question. The reason, and therefore the answer, are, however, apparent enough. Let us take them under four heads.

1. We have a frightful apology for a second fifteen.
2. Men out of their year naturally refuse to play for such a team.
3. We have no means of discovering new men or of inducing them to come to the Hospital.

4. Men who can play outside won't, because they say our matches are not good enough. Compare our fixtures with those of Thomas's, and their contention loses some of its harshness.

The second fifteen should be the training ground of the first, but "Mai aie!" is it?

The second frequently cannot raise a team at all, which is a disgrace.

A short time ago the first, in want of a three-quarter, had to utilise an antiquated forward because there are no three-quarters in the second, which is an absurd state of things.

An equally short time ago I had the pleasure of playing with the second. This is the team:

Full back: Just started Rugby, never played back before.
Three-quarters: Two never played before; one never played Rugby; one had not played for three years.

Half-backs: One had not played here since he left school, and was really a forward.

Forwards: I do not wish to be personal, but there was only one man who seemed to possess even a rudimentary idea of the game.

Result: A terrible licking.

It is perfectly idiotic to suppose that in 700 odd men this state of affairs cannot be remedied, and until it is Bart's will never reach the topmost rung.

We do not only fail to train men, but we ruin the football of some who come up. No wonder if the despatching light or left wing, never receiving a pass, become as careless and slovenly and slow as was so admirably shown in the game at Richmond. Some excuse there was when we had no ground, but thanks to the generosity of the staff and the exertion of the Warden that defect has been remedied. It only remains for the students themselves to see to the rest. Something radical must be done; let us do it quickly and thoroughly.—Yours sincerely, "RUGGER."

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

SIR,—The perusal of Dr. Lauder Brunton's interesting lecture on diabetes, which appeared in the February number of the JOURNAL, has induced me to send you the following communication.

When I read the statement that Dr. Brunton had found albumoses in his urine after swallowing "a large quantity of beet-tee made from Brand's Extract," I was reminded of a case which occurred in my practice just a year ago. In February, 1895, I was asked to see, in consultation with her own medical attendant, a lady who was the subject of chronic Bright's disease, and was recovering from an attack of bronchitis which had very much reduced her strength.

Symptoms of uremia had rapidly developed during the one or two days before I saw the case, and we found that there was a large increase in the amount of albumen in the urine since it had been examined a few days before. On making inquiries about her diet I found that the patient was taking six 3-oz. tins of Brand's Essence of Beef in twenty-four hours amongst other things, and I at once thought that this might have something to do with the increased albumen and uremia. I carefully revised the diet sheet and reduced the amount of Brand's Essence to one tin per diem, with the result that the urgent symptoms quickly subsided, and there was a coincident diminution in the amount of albumen in the urine. The justifiability of my diagnosis of cause and effect in this case was rudely shaken when I read in a December number of "Food and Sanitation" an analysis of Brand's Essence which stated that it contained 91.23 per cent. of water, and only 3.79 per cent. of "albuminoids and peptone;" but the facts of the case remain, and I have thought them sufficiently interesting to place before your readers.—Yours truly, ROBERT J. COLLINS.

DULVERTON; February 26th, 1896.

Reviews.

ELEMENTS OF PRACTICAL MEDICINE, by Alfred H. Carter, M.D.Lond., seventh edition (London, H. K. Lewis), price 10s.—

Having called for a seventh edition, this small text book of medicine can require but little introduction to the public. The edition before us has been thoroughly revised, and a short section, giving a brief account of the main diseases of the skin and their treatment, has been added by Mr. Malcolm Morris. Though useful in their place as an introduction to the study of medicine, one cannot be forgetful of the harmfulness of books of this class when relied on for too long a time by the student. Their statements, necessarily terse, clear, and dogmatic, then tend to give the student a quite erroneous idea as to the clinical manifestations of disease. On the other hand, broad statements such as we read in the subject of this review, may be quite deep enough for, and possibly very useful to, the student during the first two or three months of his ward work.

THE TREATMENT OF PULMONARY CONSUMPTION, by Vincent Dummer Harris, M.D. Lond., F.R.C.P., and Edwin C. Beale, M.B. Camb., F.R.C.P. London: H. K. Lewis. This excellent little book, written as it is in a truly scientific style, is another useful addition to Lewis's "Practical Series." All through the book the authors well maintain the claim they make in the preface that it is "a fairly full review, at the time of writing, of the subject of which it treats." Phthisis is unhappily so common a disease that no practitioner can go for any length of time without being called upon to advise and treat a case. In spite of this there are few diseases about which the average practitioner makes more mistakes in both respects. We sincerely commend this book to every student. The style of the book is clear, and its tone must appeal to every scientific mind. The chapters on "The History of the Treatment of Pulmonary Phthisis," "Treatment by Injections of Blood-serum of Different Animals," and the "Use of Special Drugs in the Treatment of Phthisis" are particularly interesting; while the practical nature of the chapters on dietetic treatment, including as it does not only a discussion of their relative value, but full directions for the preparation of invalid foods, makes it likely to be of great use. The use of cod-liver oil is fully dealt with, and we notice the authors' wholesome horror of the use of proprietary mixtures of unpublished composition. Prescriptions are liberally given throughout the book, and will probably be very welcome.

ASEPTIC SURGERY, by Charles Barrett Lockwood, F.R.C.S., and TRAUMATIC INFECTION, by the same author. Edinburgh and London: Young J. Pentland.—The first of these two books is a reprint of the articles which Mr. Lockwood wrote for the ST. BARTHOLOMEW'S HOSPITAL JOURNAL under the heading "Notes on Aseptic Surgery." Their republication now is in answer to repeated requests, and we have no doubt but that many will avail themselves of the opportunity of obtaining the articles in book form.

The second book is a reprint of the lectures delivered by Mr. Lockwood in 1895, as Hunterian Professor, at the Royal College of Surgeons. These have already been published in the *Lancet*, and any introduction by us would probably be superfluous.

THE DISEASES OF CHILDREN'S TEETH, THEIR PREVENTION AND TREATMENT: A MANUAL FOR MEDICAL PRACTITIONERS AND STUDENTS, by R. Denison Pedley, London, J. P. Segg and Co., 1895, 8vo, pp. 208, illustrations.—This book is ostensibly written in the interests of the medical student, but its author's ambitious educational aims in dealing rather lengthily with a portion only of the whole subject of dental surgery are likely to endanger the success of the objects he has in view.

It is to be feared that the student, already overburdened with the many subjects of a medical curriculum, will fain turn to literature of a simpler and more elementary nature for instruction in the art and practice of dentistry, such, for example, as is to be found in several of the ordinary text-books on surgery, or in selected chapters even of that generally acknowledged standard work for dental students, viz. *Tonnes' Dental Surgery*.

The book consists of eight chapters; that dealing with dental irregularities, alone occupies a quarter of the whole book, and from the difficult and complicated nature of the treatment of such dental conditions even in the hands of the most experienced among dental surgeons, we have no hesitation in saying that it would have been wiser to omit it altogether. The enunciation of the leading principles underlying the general treatment in such cases would have been vastly less confusing, and a few pages would then have sufficed to have given at once some intelligible and useful ideas on the subject.

It is too much to expect the medical student to grasp the mode of manufacture, the adjustment and action of such mechanical appliances as regulating plates, screws, spring wires, and other devices for moving teeth into proper position in the mouth. He requires to have had some practical experience in the dental laboratory before

he can approach the consideration of such things with anything like a clear understanding of what is aimed at or what is required.

The chapter on "Oral Hygiene" seems rather too spun out. Less prolixity might have been expected on what is after all a chapter based upon the use of the tooth-brush and a proper cleansing of the teeth.

The book concludes with a description of instruments and materials used in the permanent stopping of decayed teeth, but here again the author allows his enthusiasm to run away with him by recommending work to be undertaken which, to put it plainly, is beyond the powers of the student, who has not dressed in the dental department of his hospital, to cope with successfully.

Pathological Department of the Journal.

SPECIMENS sent by subscribers to the JOURNAL will be examined in the Pathological Laboratory and a report furnished under the supervision of Dr. Kanthack, at the following rates:

	s. d.
Ordinary examination, Bacteriological or Pathological, such as tumour, membrane, or sputum	2 6
Ordinary (qualitative) urine examination	2 0

Any further report will be charged for at a special rate. If a mounted specimen is desired an extra charge of 1s. will be made. If a telegraphic report is required, the cost of the telegram will be charged in addition.

Specimens must be accompanied by the fee and a stamped addressed envelope, in which the report will be sent as soon as possible. Specimens, with, if possible, a short history of the case, must be addressed to "The Manager of the Journal," with "Pathological Department" written in some conspicuous place on the wrapper.

On application to E. H. Shaw, Museum Assistant, a set of bottles containing hardening fluids, and ready for sending away by post, can be obtained on remitting a postal order for 2s. 6d.

Births.

ARNOLD.—14th Feb., at 332, Oxford Road, Manchester, the wife of Francis Sorrell Arnold, M.B. Oxon., of a daughter.

RAWLINSON.—On Feb. 16th, at Stuart House, Bognor, the wife of F. Juland Rawlinson, F.R.C.S., of a son.

ECCLES.—29th Feb., at Harley Street, W., the wife of W. McAdam Eccles, M.S., F.R.C.S., of a son.

PALMER.—On the 16th of Feb., at Lancaster House, Lincoln, the wife of Edwin C. Palmer, M.A., M.B. (Cantab.), of a son.

DUCKWORTH.—March 6th, at 11, Grafton Street, Piccadilly, Lady Duckworth, of a son.

NORRIS.—On March 9th, at 7, Oak Hill Road, Surbiton, the wife of F. B. Norris, M.A., M.B., B.C. (Cantab.), of a daughter.

MURDOCH.—March 11th, at The Oaks, Hythe, Kent, the wife of Alan Murdoch, M.R.C.S., L.R.C.P., prematurely of a daughter.

Marriages.

CROUCH—SMITH.—Feb. 18th, at St. Thomas's, Portman Square, by the Rev. Canon Page-Roberts, Vicar of St. Peter's, Vere Street, and the Ven. Archdeacon Smith, uncle of the bride, Charles Percival Crouch, F.R.C.S. Eng., M.B. Lond., of Weston-super-Mare, to Annie Parbury, second daughter of Thomas Smith, F.R.C.S. Eng., of Stratford Place, W.

KENNINGTON—ABREY.—On Feb. 12th, at the parish church, Tonbridge, Edgar Kennington, M.R.C.S., second son of the late James Kennington, The Hall, Walsham, to Enid, second daughter of John Abrey, Barden Park, Tonbridge.

Death.

LLOTT.—On Feb. 21st, at Beechfield, Bromley, Kent, James William Llott, M.R.C.S., L.S.A., aged 80.

ACKNOWLEDGMENTS.—*Guy's Hospital Gazette*, *St. George's Hospital Gazette*, *St. Thomas's Hospital Gazette*, *St. Mary's Hospital Gazette*, *The Student* (Edinburgh), *The Nursing Record*, *The Charities Record*, *Two Cases of "Appendicular Colic" Treated by Operation*, by A. A. BOWLEY, F.R.C.S. *Saving of Life through Sanitary Legislation*, by THEO. MAILLER KENDALL, D.A., L.R.C.P., Sydney.

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 communications, financial or otherwise, relative to Advertisements ONLY, should be addressed to J. H. BOOTY, Advertisement Cawasser and Collector, 29, Wood Lane, Uxbridge Road, W.

A Cover for binding (black cloth boards with lettering and King Henry VIII Gateway in gilt) can be obtained (price 1s. post free) from MESSRS. ADLARD AND SON, Bartholomew Close. MESSRS. ADLARD have arranged to do the binding, with cut and sprinkled edges, at a cost of 1s. 6d., or carriage paid 2s. 3d.—cover included.

St. Bartholomew's Hospital Journal,

APRIL 14th, 1896.

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

Two Cases of "Appendicular Colic" treated by Operation.

By ANTHONY A. BOWLEY, F.R.C.S.

FOR the notes of the following cases I am much indebted to my house surgeon, Mr. Marshall, and to the dressers of the patients, Messrs. Godwin and Nimmo.

E. R.—æt. 11, was admitted into Darker Ward on December 19th, 1895, under the care of Mr. Bowley, suffering from "appendicitis." He had been for some time under the care of Dr. Addison, of Tenterden, who had advised operation, and who had supplied the history of the previous attacks.

History.—Three years ago he first had an attack of pain in his right side in the iliac region, the pain was very acute, causing the legs to be drawn up, and he was very tender on pressure over the right iliac region, though not so on the left side of abdomen; he vomited several times; the pain lasted about four days, and when it passed off there was marked resistance on the right side of the abdo-

men in the iliac region, but no definite mass could be felt; this resistance cleared up gradually.

Since this time he has had similar attacks of sudden onset, and characterised by abdominal pains, sickness, and distension of the abdomen at the following times:

May, 1893; March, 1894; June, 1894 (this was a very bad attack, with symptoms of general peritonitis); August, 1894; November, 1894; March, 1895 (diarrhoea, blood, and mucus in stools); July, 1895; November, 1895.

There has never been any evident swelling in the iliac region except during an attack.

Present condition.—Patient is a healthy-looking boy; he complains of no pain anywhere, and is perfectly comfortable. The abdomen seems quite natural, no resistance of any kind felt in either iliac fossa, —not distended nor tender. Liver dulness normal, spleen cannot be felt. Has no difficulty of any kind on micturition. Urine acid. 1020. Bowels act regularly.

Operation (January 2nd, 1896).—An incision three inches long was made from above downwards and inwards, between the anterior superior spine and the umbilicus, close to the outer border of the rectus muscle. The sheath of the rectus was opened, and the muscle having been drawn towards the middle line, the posterior part of the sheath was incised and the peritoneal cavity opened. The small intestines here were matted together and constricted by three fibrous bands, and were twisted on themselves; these fibrous bands were ligatured in two places and cut between.

The vermiform appendix was then sought for, and was found after a little trouble buried in some adhesions behind the caecum; it was much swollen and twisted. The appendix was then dissected away from its adhesions, when it was seen that the bands mentioned above were attached to its end. A collar was then made by reflecting the peritoneum, and the appendix was ligatured and cut off, the peritoneum being sewn over the stump so as to completely cover it. The peritoneal cavity was closed with fine silk worm gut. The posterior part of the sheath in the rectus was then sutured, the rectus muscle was replaced in its natural position, and the anterior part of its sheath and the aponeurosis of the external oblique were closed over it. The wound was dressed with cyanide gauze.

January 6th.—Dressed and stitches removed; wound healed; no rise of temperature; has no pain whatever. The patient was kept in bed on his back for three weeks, and was then allowed to get on to a couch. He continued to do well, not having a bad symptom, and was discharged on February 18th, 1896.

An examination of the appendix after removal showed that it contained a concretions about the size of a cherry-stone, and that its walls were very thickened and oedematous. It was not ulcerated.

A. O.—æt. 25, a nurse, was admitted into Stanley Ward on December 16th, 1895, under the care of Mr. Bowley, suffering from an attack of relapsing "appendicitis." She had been under the care of Dr. Jones and Mr. Faulkner at Claybury Asylum, and had been advised to go to the hospital for operation in November. At that time, when seen in the ward, the abdomen appeared perfectly natural, and there was no tenderness or swelling; but her admission was delayed, as there was no vacant bed.

History of first attack.—On December 14th, 1893, at about 10 p.m., when quite quiet, she was suddenly seized with acute pain in the right inguinal region, and vomited. The pain was intense, and there was a tender spot to the inner side of the right anterior superior spine, between it and the umbilicus. The pain extended towards umbilicus up