TREATMENT OF SKIN DISEASES. By W. KNOWSLEY SIBLEY, M.D., M.R.C.P. Second edition. Reprinted. (Edward Arnold.) Pp. 307. Price 7*s.* 6*d.* net.

This book forms a handy volume for reference for the treatment of skin diseases, and as a reference volume its value is enhanced by the alphabetical arrangement of the diseases. Though it serves the above purpose well, it is not so convenient for those who wish to study the book systematically from beginning to end, since diseases which have similar treatment tend to become widely separated.

The treatment advised is very sound, and is thoroughly in accordance with the latest practice. Especially good are the descriptions and instructions on the mode of application of physical methods, such as radiant heat, passive congestion and electrolysis, and the practical points on the application of radium in skin disease. These of themselves well repay perusal of the volume.

MEDICAL ELECTRICITY. By H. LEWIS JONES, M.A., M.D. Eighth Edition. Revised and edited by L. W. BATHURST, M. D. (H. K. Lewis & Co., Ltd.) Pp. xvi + 575. Price 22*s.* 6*d.* net.

The fact that this work has run through seven editions since it was first published shows that its popularity has been considerable, and that it ranks among the best-known treatises on the subject in the English language. This last edition has been brought thoroughly up to date.

Medical electricity is the branch of science little read and investigated by the average medical practitioner or student, the reason probably being that questions are seldom asked on this subject in examinations, and attendance in the electrical department is not compulsory in the medical curriculum of most of the examining bodies.

The volume can safely be recommended to those who know nothing of the subject and who wish for a working knowledge thereof, since the elements are fully treated and explained. This work can also be recommended to those who have some knowledge of electricity as applied to medicine and are desirous of procuring apparatus to practise in this branch of medicine, since valuable advice is given as to the obtaining of electrical power under diverse condition either from batteries or from the local mains, especially good being the instruction on the adaptation of various municipal supplies to a required strength for application in the treatment of various conditions.

The work is fully illustrated and the illustrations are very clear and valuable, exceptions being figs. 33 and 103, which are somewhat blurred. Diagrams of connections are especially good.

Another commendable feature is the account of the electrical testing of muscles and nerves, and this is of especial interest to the general physician.

A MANUAL OF VENEREAL DISEASES FOR STUDENTS. By L. W. HARRISON, D.S.O. (Oxford Medical Publications.) Pp. 376. Price 16*s.*

Col. Harrison's *Manual of Venereal Diseases for Students* is certainly the best small book on the subject we have yet seen, and this in spite of the fact that a large number of books on venereal diseases have been published recently. It contains a wealth of valuable material, the result of the author's unrivalled experience under conditions which have enabled him to judge with a considerable amount of accuracy the value of different therapeutic agents. The author has had the advantage that for the most part his patients were under control; moreover, the subsequent history was more easily obtained than under civil conditions. It is for this reason that Col. Harrison's conclusions are so valuable, and we heartily commend the work to our readers.

RADIOGRAPHY IN THE EXAMINATION OF THE LIVER, GALL BLADDER, AND BILE DUCTS. By ROBERT KNOX, M.D. (William Heinemann, Ltd.) Price 7*s.* 6*d.*

For some time it has been recognised that radiography under certain conditions may demonstrate the presence of gall-stones. There is no doubt, however, that success or failure largely depends on the skill of the operator, and for this reason Dr. KNOX has done well to publish the result of his investigations and some details regarding the technique he employs.

The book (which is reprinted from the *Archives of Radiology and Electrotherapy*, 1919), contains experimental clinical, and historical notes and abstracts, and is well illustrated.

EXAMINATIONS, ETC.

UNIVERSITY OF CAMBRIDGE.

At a Congregation held on January 28th, 1921, the following degrees were conferred:

M.B., B.Ch.—E. B. Verney.

M.B.—E. P. Hicks.

The *Diploma in Medical Radiology and Electrology* has been granted to:

F. Hernaman-Johnson, M.D., A. E. H. Pinch, F.R.C.S.

ROYAL COLLEGE OF PHYSICIANS.

The following candidate, having passed the required examination, was admitted a *Member*:

W. Wrangham, M.D.(Lond.), M.R.C.S., L.R.C.P.

CONJOINT EXAMINING BOARD.

First Examination, January, 1921.

Chemistry.—A. J. Moody, W. E. H. Quennell, R. Stuart, T. P. Williams.

Physics.—W. F. D. Benton, C. M. H. Hicks, G. G. Stewart, R. Stuart, H. A. M. Whitby.

Biology.—R. C. Drake, P. B. P. Mellowe, S. B. S. Smith, T. P. Williams.

Second Examination.—Part I. January, 1921.

Anatomy and Physiology.—W. B. Arnold, G. P. Driver, C. M. Jennings, W. M. Jones, C. de W. Kitcat, K. S. M. Smith, N. Smith, H. H. D. Sutherland, T. B. Thomas, H. C. M. Williams.

Final Examination, January, 1921.

The following have completed the examination for the *Diplomas of M.R.C.S., L.R.C.P.*:

C. H. Andrewes, H. N. Andrews, L. M. Dillingham, C. H. Bracewell, J. L. M. Brown, F. P. de Caux, T. A. Eccles, H. Franklyn, H. W. Hammond, H. J. H. Hendley, T. B. Hodgson, J. G. Johnstone, F. R. Oliver, S. Orchard, T. L. Ormerod, J. L. Potts, C. S. C. Prance, H. L. Sackett, W. F. Skaife, N. G. Thomson.

APPOINTMENTS.

GILL, J. F., M.B., B.Ch.(Aberd.), F.R.C.S., appointed Surgeon to Out-patients, Victoria Hospital for Sick Children, Hull.

KENDREW, A. J., M.B., B.S.(Lond.), appointed Certifying Surgeon under the Factory and Workshop Acts, for Barnstaple.

STIDSTON, C. A., M.D., B.S.(Lond.), appointed Hon. Surgeon to the Wolverhampton and Staffordshire General Hospital.

WHITEFORD, C. H., M.R.C.S., L.R.C.P., appointed Consulting Surgeon to the Great Western Railway (Plymouth Centre).

CHANGES OF ADDRESS.

BOTT, R. H., Maj. I.M.S., c/o T. Cook & Sons, Ludgate Circus, E.C. (temporary).

FRASER, F. R., 75, Finchley Road, St. John's Wood, N.W.8 (Tel. Hamstead 7918).

HARRIS, H. G., 5, Archers Road, Southamptom.

LONGSTAFF, E. R., St. Brelades, Thurlow Park Road, West Dulwich, (Tel. Sydenham 669.)

STONE, G. K., 55, Church Street, Chelsea, S.W.

STURDEE, E. L., Ministry of Health, Whitehall, S.W.

WHITE, J. S., Chesham House, Champion Hill, S.E. 5.

WELLS, W., Tower Hill House, Bromyard, Worcs.

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.*

The Annual Subscription to the Journal is 7s. 6d., 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 ADVERTISEMENT MANAGER, *the Journal Office, St. Bartholomew's Hospital, E.C. Telephone: City 510.*

St. Bartholomew's Hospital Journal.

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

VOL. XXVIII.—No. 7.] APRIL 1ST, 1921. [PRICE NINEPENCE.

CALENDAR.

Tues., Mar. 29.—Sir P. Horton-Smith Hartley and Sir C. Gordon-Watson on duty.
Fri., April 1.—Dr. Fraser and Mr. G. E. Gask on duty.
Tues., „ 5.—Dr. Tooth and Mr. Waring on duty.
Fri., „ 8.—Dr. Morley Fletcher and Mr. McAdam Eccles on duty.
Tues., „ 12.—Dr. Drysdale and Mr. Rawling on duty.
Fri., „ 15.—Sir P. Horton-Smith Hartley and Sir C. Gordon-Watson on duty.
Tues., „ 19.—Dr. F. R. Fraser and Mr. G. E. Gask on duty.
Fri., „ 22.—Dr. Tooth and Mr. Waring on duty.
Tues., „ 26.—Dr. Morley Fletcher and Mr. McAdam Eccles on duty.
Fri., „ 29.—Dr. Drysdale and Mr. Rawling on duty.

EDITORIAL.

WITH this issue of the JOURNAL, the Editor comes to the end of his long period of office. For nearly three and a half years we have occupied the Editorial chair. The work has been extraordinarily interesting, although, like everything else, at times a source of considerable anxiety. Still, we would not have missed the opportunity which such a post has afforded of doing something to help cement the great brotherhood for which Bart.'s has long been famed. Milton hath it that an Editor must be "a man above the common measure, both studious, learned and judicious." We are afraid we cannot lay claim to these high distinctions, but at least we have tried to play a part. One thing we feel we have accomplished: we have made many friends; we hope no enemies. To our successor we are certain our readers will extend a hearty welcome, and give him the same measure of support and goodwill which we have invariably received in the past.

* * *

A meeting of the subscribers to Sir Anthony Bowlby's portrait, and the Governors of the Hospital, was held in the Great Hall of the Hospital on March 18th, at 3 o'clock in the afternoon. There were also present a large number of nurses and students.

Lord Sandhurst took the chair. Sir Frederick Andrewes, Sir Charles O'Brien Harding and Sir Wilmot Herringham between them related the past history and the qualifications of Sir Anthony Bowlby which had always recommended him to them as a great man, a great surgeon and a great friend. In this way they presented the portrait, which had been painted by Sir William Llewellyn, R.A., to Sir Anthony Bowlby, together with a list of some 700 subscribers, whose names were contained in a small volume which was also presented to him. Sir Anthony Bowlby thanked all those who were present for their kindness in making the presentation. He then handed the portrait over to the Governors of the Hospital so that it might in future hang in the Great Hall amongst those portraits which already adorned its walls. Lord Sandhurst received the portrait on behalf of the Governors. The ceremony then came to an end.

The portrait, which represents Sir Anthony Bowlby in military uniform, will be hung in the Academy this year. At the end of that time it is hoped to be able to obtain a photogravure, a copy of which will be presented to each of those who had made a subscription towards the portrait. A notice will be sent out at a later date intimating when this will be ready.

* * *

Old Bart.'s men will be extremely sorry to hear that Mr. R. Cozens Bailey has retired from practice and has gone to live at East Cowes, Isle of Wight. Great as his loss was to the Surgical Staff of St. Bartholomew's Hospital, it is now to be still further felt by those who had the benefit of his advice in private practice. We trust that his health, which we are glad to hear is almost completely restored, will be maintained in his island abode.

* * *

It gives us great pleasure to learn that Sir Thomas Horder has been elected to the senior staff on the retirement of Dr. Tooth. Sir Thomas will not take up his new duties in

the wards until the end of May, the interregnum being caused by a visit to America. We understand that one of the special objects of his visit is for the purposes of studying American methods, particularly in relation to Immune Therapy, a subject in which it is generally known Sir Thomas is much interested, and concerning which he contributes an article in this issue.

* * *

For the forthcoming election to the Council of the Royal College of Surgeons of England on July 7th, 1921, no less than eleven nominations have been received.

Four members of the Council retire, viz. Sir George Makins, Mr. Ernest Lane, Mr. H. J. Waring and Mr. F. F. Burghard.

Of these, Sir George Makins and Mr. Ernest Lane will not be candidates, but Mr. Waring and Mr. Burghard, both of whom have given excellent service upon the Council and its committees, seek re-election.

Mr. L. Bathe Rawling is the new Bart.'s candidate, and it is hoped that at least every old St. Bartholomew's man who is a Fellow of the College will vote for Mr. Waring and Mr. Rawling on this occasion, and persuade other Fellows to do the same.

* * *

The President of the Royal College of Surgeons of England has appointed Mr. H. J. Waring, M.S., F.R.C.S., as Bradshaw Lecturer for the coming year.

* * *

The following is a further list of names of Old St. Bartholomew's men who have contributed to Queen Mary's Home for Nurses :

Dr. G. Annesley-Fisher, Elmore Brewerton, Esq., F.R.C.S., Dr. L. J. Forman Bull, Capt. E. Culvert, I.M.S., Dr. C. B. Dale, Dr. A. R. Dingley, Dr. E. A. Edelsten, Dr. Eustace C. Frend, K. C. Gimson, Esq., Major W. F. Grant, R.A.M.C., Geoffrey Keynes, Esq., F.R.C.S., Dr. Ledward, Capt. Godfrey Lowe, R.A.M.C.(T.), Dr. E. L. Martin, Dr. A. F. Sladden, J. F. Steedman, Esq., F.R.C.S., Dr. Wm. Wyllys.

* * *

We note with interest that the General Board of Studies at Cambridge University have appointed Dr. C. S. Myers, O.B.E., as Reader in Experimental Psycology for five years as from October 1st last.

* * *

Dr. Robert A. Lyster, County Medical Officer for Hampshire and Editor of *Public Health*, has been appointed a member of the reconstituted Central Midwives Board, on the nomination of the Society of Medical Officers of Health.

Dr. Lyster, of course, is Lecturer on Public Health and Forensic Medicine at our own Hospital.

* * *

The Ninth Decennial Contemporary Club, which includes all old students who entered at the Hospital between 1895 and 1905 or who qualified between 1900 and 1910, will hold its annual dinner on Friday, May 6th, at 7.30, at Oddenino's Imperial Restaurant, Regent Street. Tickets 12*s.* 6*d.* It is hoped that there will be a full attendance at this (the first) dinner held since the conclusion of the war. The secretaries are Mr. R. C. Elmslie and Dr. C. M. Hinds Howell.

* * *

We take off our hats to Bart.'s Rugger Fifteen. Although beaten by Guy's in the Final of the Hospital Cup, it was only by a single try, and on the day's play we are not at all sure that we did not deserve to win. Bart.'s put up a magnificent fight, particularly in the second half. On two occasions at least we were within an ace of winning. During the season, Guy's have played with such conspicuous success that more than one Bart.'s man wondered whether we would be equal to even holding our own, but so well did our team play that even Guy's enthusiasm was damped. Again our warmest congratulations. We can take heart—Bart.'s is still a force to be reckoned with in the Rugger world.

* * *

At the forthcoming Epsom College Election, which takes place in June, there happen to be the sons of three old St. Bartholmew's men who are candidates for Foundation Scholarships. We are sure that all Bart.'s men having votes will give all or some of them to these boys.

Their names in alphabetical order are :—

Frank James Griffin, æt. 9½. His father died in 1919.

David Joy, æt. 10. His father is incapacitated from all work owing to an accident.

John Lambert Newton, æt. 9¾. His father died in 1920.

* * *

We regret to have to record the death of Dr. Phineas Simon Abraham, the well-known dermatologist, which took place on February 23rd at his residence in St. John's Wood. Dr. Abraham, who was 74 years of age, was born in Jamaica. He had a distinguished academic career at University College, London, the Royal College of Science, and Trinity College, Dublin, and at this Hospital, where he obtained his medical training. He qualified as a chemical and mining engineer, but afterwards devoted himself to medicine and specialised as a dermatologist. In 1879 he was appointed curator of the Museum of the Royal College of Surgeons, Dublin, and was subsequently a member of the Court of Examiners. For many years Dr. Abraham held the post of Dermatologist at the West London Hospital. He was medical secretary of the National Leprosy Fund, one of the principal founders of the Royal Academy of Medicine of Ireland and of the Dermatological Society of Great Britain and Ireland, and a former president of the West London Medico-Chirurgical Society. In Freemasonry he was an officer of the Grand Lodge of England.

We also regret to have to record the death of Dr. William Odling, which took place at Oxford on February 17th. Dr. Odling, who was in his ninety-first year, was a well-qualified member of the medical profession, although his fame as a chemist was greater. The son of a surgeon, he was born in London in 1829, and subsequently studied medicine at Guy's Hospital, graduating M.B. at the University of London in 1851. After qualifying he went to Paris, where he became a pupil of Gerhardt, the Strassburg chemist, whose influence largely determined his later studies. On his return to England he was appointed director of the Chemical Laboratory at Guy's Hospital and in 1863 lecturer in the same subject at our own Hospital. He became a Fellow of the Royal College of Physicians of London in 1859. In 1868 Odling was appointed Fullerian Professor of Chemistry at the Royal Institution in succession to Faraday, holding the post for four years, and succeeding Professor Benjamin Brodie in the Waynflete chair of chemistry at Oxford. Here he spent the remainder of his long life until his retirement in 1912. Odling contributed much to the literature of his specialty; it was he who suggested the use of the terms "monad," "dyad," etc., in connection with the valencies of chemical elements. His popular exposition of chemical processes and experiments charmed the boyhood of many of the present generation. The effect of a medical training on his chemical work is shown in the attention which he devoted to such subjects as the chemistry of bread-making, the purification of rivers, and the analysis of drinking water.

* * *

The completion of Dr. Spilsbury's interesting article on "The Medical Investigation of Crimes of Violence" is unfortunately held over until next month.

THE AVAILABLE REMEDIES IN IMMUNE THERAPY.

(*The substance of an Address to the Torquay Medical Society.*)

By SIR THOMAS HORDER, M.D.

SPECIFIC AND NON-SPECIFIC MEASURES.

WHEN faced with a case of disease due to microbic infection, we think of the measures we can employ in the patient's interest under two heads : (1) Measures that can be used to assist the patient's general functions (nervous, circulatory, respiratory, digestive and eliminative) during the extra strain which is being put upon them ; and (2) measures that can be attempted in order to give help to the special function, or mechanism, of immunity against the particular infection.

The treatment we give him under the first head is termed *non-specific* ; the treatment we adopt under the second is termed *specific*. I put these two sorts of help in this order, partly because this is their chronological sequence in regard to the evolution of therapeutics, partly because it is often desirable to get under way with general measures before we ascertain the exact nature of the infection, and partly because we *may* have to depend wholly upon non-specific measures for our programme of treatment. If these two kinds of assistance were put in order of relative theoretical importance it is clear that specific measures would take precedence.

I have recently drawn attention to the great value of non-specific measures in the treatment of many infective processes, and I have urged the importance of not neglecting them. The stimulus lately given to specific therapy by the advances made in bacteriology, and especially by the introduction and popularisation of bacterial vaccines, has led to a good deal of disregard of general measures which are not only time-honoured—if that were all the virtue they possessed it would be little to say for them—but of proved utility. It behoves us to be just as prompt, and to be just as thorough, in the exercise of the various means by which a patient's general resistance to infection can be kept at a high level, as to be prompt and thorough in the use of any specific remedy that may have experience or experiment, or both, to recommend it.

There is a not unnatural tendency to panic in even the coolest of us when faced with a very acute illness or when in the midst of a severe epidemic. And several influences exist to-day which lead us to feel that if we cannot employ some specific measure in the treatment of an infected patient we are not giving him the best chance. This feeling too often leads to a depreciation of the value of non-specific measures. One of these influences is a fear lest some new panacea may have arisen in the night, as it were, or when we were too busy to read the journals. We forget that science, no less than Nature, does not progress by leaps, but slowly and painfully, and medicine is far from being an exception. If a remedy is really good let us have no concern ; we shall know all about it by the time it has justified its existence. The anxiety of the friends in face of an acute or a fulminant illness is another of these influences. The vogue of the lay public and the pseudo-medicine of the lay press are others. "I am a great believer in innoculation," writes the patient's friend, and the spelling of the word with two "n's" gives the measure of the knowledge upon which the belief is based. Then there is the professional obsessionist and his enthusiasm on behalf of some favourite formula. Lastly come commercial propaganda, enterprising and competitive, exploiting the name of one distinguished professor against another, and from this influence, in the nature of things, no more pure science must be expected than is necessary to satisfy an honest profession that it is not merely exploiting a proprietary medicine, but

really is doing its best for the patient. The practitioner who can preserve his judgment against the pressure of all these influences, and give a reason for the faith that is in him, deserves all the confidence he gets and all the results he achieves. But I am concerned this evening with specific and not with non-specific measures, and I intend to pass in review the various forms of specific remedies that are available in practice and to make a few comments upon them.

The Principles of Immune Therapy.

Let us first of all briefly re-state the basic principles underlying all attempts at immune therapy, but without subscribing to any doctrine as to the exact nature of the immune process. What, in effect, transpires during infection of the body? In diseases of microbic origin the disease-process is the expression of an interaction between the infecting agent and the body-tissues. The immediate contributions to this interaction on the part of the micro-organism are the specific chemical poisons incidental to the life of the microbe in the body. These substances we term *toxins*. Toxins are of two kinds—those produced in the medium in which the bacterium thrives (*exotoxins*), and those existing in the cell of the bacterial element itself, and set free only by the disintegration of the cell-element (*endotoxins*). In respect of these two different toxins microbic diseases fall into two groups, according as the poisons leading to the symptoms of the disease are chiefly exotoxins or are chiefly endotoxins. Diseases of the first kind are tetanus and diphtheria; of the second kind cholera, typhoid fever, and diseases due to the pyogenetic cocci (streptococcus, pneumococcus, etc.).

But these two forms of toxin, the exotoxin which passes into solution in the tissue-fluids and the endotoxin which remains in the body of the bacterium, are not the only contributions made by the infecting agent to the interaction: there are the essential structural constituents of the bacterial cell itself, which, as soon as this latter is destroyed by the tissues of the host, become, we have reasons to know, important agents in the interaction.

So much for the contributions of the microbe to the interaction; what are the contributions made by the infected host? A protective substance termed generically *antibody* is formed in response to the stimulus of the various microbic factors already mentioned, and which are generically called *antigen*. Various properties exercised by this hypothetical substance called antibody are known, and the knowledge of these properties, resident in the serum or tissue-fluids during infection, has led to the postulation that antibody comprises a number of different substances: if the exotoxin is neutralised we speak of *antitoxin;* if the endotoxin is neutralised we speak (for purpose of distinction) of *anti-endotoxin;* if bacteria are agglutinated we speak of *agglutinin*, if precipitated of *precipitin;* if they are directly destroyed we call the specific substance, or the property of the antibody, *bacteriolysin:* if leucocytes are stimulated to phagocytosis we speak of *opsonin*.

Experiments have shown that in the interaction we are considering an intermediary substance is necessary, and without which the antigen and the antibody are not able to assume any very intimate chemical relations with each other. This third substance, which is present in healthy blood and tissue-fluids, is termed *complement*. Complement is certainly necessary for the neutralisation of toxin with antitoxin; to what extent, or if at all, it is essential for the complete interaction of other forms of antigen with corresponding forms of antibody we do not clearly know.

Now specific therapy has, as its object, the artificial increase of antibody. Quite incidentally it has a secondary object—the maintenance of efficient complement. This object, the artificial production of antibody, may be attained in two very different ways: the patient may be supplied with ready-made antibody, or he may be induced to manufacture his own antibody on a larger and more efficient scale than he is already doing. To supply ready-made antibody is to confer *passive immunity;* to stimulate the manufacture of antibody by the patient is to produce *active immunity*. The method of conferring passive immunity most commonly in use is the employment of immunised serum derived from animals (*e.g.* the horse). The method of producing active immunity most commonly in use is the employment of bacterial vaccines. These two methods may be combined in certain diseases.

The Available Means of Employing Specific Therapy.

(i) The use of *immune sera:* (*a*) *Antitoxin sera*, which chiefly act by the neutralisation of exotoxin formed by bacteria in the body. (*b*) *Bactericidal sera*, which chiefly act by destruction of the bacteria, thereby preventing the increase of endotoxin.

(ii) The use of *bacterial vaccines*, which serve to stimulate the natural mechanism of immunity.

(iii) The use of immune sera and vaccines conjointly, either as separate remedies or in the form of *sensitised vaccine*.

(i) *Antisera.* (*a*) *Antitoxin sera* remain the most strikingly successful, as they are historically the earliest of all the remedies used in specific therapy, and this applies especially to *antidiphtheria serum*, less so to *antitetanus serum*, but the more limited success of the latter remedy is undoubtedly due to the difficulty entailed by the path of infection of the virus rather than to lack of potency in the serum. Given at the earliest possible moment, given liberally, and given by the intrathecal route as well as by the subcutaneous, the results are, even here, frequently very encouraging. And of the prophylactic value of this serum no one can have much doubt after the experiences of the recent war.

(*b*) *Bactericidal sera* have never yet attained anything like the same degree of success as antitoxin sera. By none of the methods yet employed have these sera been produced with a sufficiently rich content of antibody to lead to any uniformly good results. And a difficulty of quite another kind faces the manufacturer in preparing these sera. This difficulty is connected with the fact that most of the bacteria against which these sera are manufactured exist in groups, and a serum prepared against one group is by no means specific in respect of antibody for another group. The attempt made in the case of streptococci to produce "multivalent" serum to overcome this difficulty has not proved successful. More hope appears to lie along the line of producing univalent sera against the different groups. In the case of streptococcus infections a univalent *S. pyogenes* serum has been available for some years, as the result of suggestions put forward by Andrewes and myself, and I have several times been convinced of its increased efficacy as compared with the more popular "multivalent" serum in the treatment of acute cases of *S. pyogenes* infection. Cole's grouping of the pneumococci and Gordon's grouping of the meningococci have quite recently enabled serum manufacturers to produce sera for the different groups of these micro-organisms, and, in the case of the meningococcus especially, the use of these group-sera may re-establish the reputation which anti-meningococcus serum obtained in the New York epidemic, and which it failed to retain over here.

Since the introduction of specific inoculation in the treatment of bacterial infections, antisera have, in the minds of many workers, fallen largely into disrepute—I think quite undeservedly so. The pendulum has probably swung too far in the direction of the newer remedy. The production of "group-sera" may lead to results of so much better value that the pendulum may swing back again—a by no means unlikely event.

(ii) *Bacterial vaccines* are at present the chief type of immunising substance employed in combatting nearly all infections by known micro-organisms possessing powerful endotoxins.

(*a*) The earliest form of vaccine remains the one in most common use—a simple suspension of the killed microbe in normal salt solution. Most bacteriologists appear to kill the bacterial elements by heat. Some prefer the system known as autolysis—allowing the micro-organism to undergo auto-digestion in the warm incubator after counting. Others rely upon a sufficiency of some such antiseptic as tri-cresol, believing that heat interferes with the efficacy of the vaccine. *If we knew exactly what are the initial processes going on in the human body when living microbes invade it, we should be better able to decide how best to prepare the cell-element before we inject it in the form of a vaccine.* It seems reasonable to suppose that undue heat, and the presence of chemical agents, are both of them to be avoided if the tissue is to digest the bacterial cell and manufacture antibody of use against the living micro-organism.

(*b*) "*Sensitised*" *vaccines* ("sero-vaccines") are made by bringing a bacterial emulsion into contact with the appropriate immune serum (*e.g.* a *Streptococcus pyogenes* is mixed with a univalent *S. pyogenes* serum). The specific antibody in the serum becomes "fixed" by the bacteria, and the combination is termed a "sensitised vaccine." Some authorities doubt whether this sensitisation of vaccines adds to their therapeutic value, and this question is still unsettled. Much must depend upon being able to secure a potent serum for the process, and we possess as yet very little guidance as to the amount of antibody present in a serum. The type of case in which sensitised vaccines have seemed to promise good results has been acute and generalised infection, especially by streptococci. In such cases my own practice is to use them in preference to ordinary vaccines. The dosage of sensitised vaccines is ten to twenty times that of the unsensitised material.

(*c*) "*Live*" *vaccine* has been used by Alcock and others in some cases of gonococcus infection and in one or two other infections. No special results appear to have been obtained—certainly none which counterbalance the obvious risks that might be run if such a system became generally adopted. The vaccines must be given intravenously, and there are reasons for regarding this route as less serviceable than the more solid tissues for vaccine introduction.

(*d*) The substances termed *phylacogens* come next under consideration. In the preparation of these substances the makers have made an effort to prepare the cell-body, which constitutes the essential part of the vaccine material, for easy assimilation by the tissues into which it is injected. This is obviously a move in the right direction. They argue, and very pertinently, that valuable time may be lost during these preliminary efforts on the part of the tissues at digesting or disintegrating the bacterial cell element in order to start the specific interaction that shall result in the formation of antibody. They therefore endeavour, partly by appropriate temperatures and partly by chemical agency, to get the bacterial cell structure into solution. During this process there is inevitably added to the solution a certain amount of the exotoxin of the bacteria—an amount depending, no doubt, upon the nature of the medium in which the bacteria are grown. But as this medium is invariably a fluid one, the amount of exotoxin cannot be negligible. This exotoxin perhaps accounts for the very sharp reaction sometimes seen after the use of this class of remedy. On general principles, seeing that the object in view is not to add more exotoxin to the patient's burden, this feature must be regarded as a point against the method. To what extent the endotoxin of the bacterial cell goes into solution it is not possible to say, because unfortunately we have no chemical means of measuring this substance, but it seems fairly certain that in the preparation of phylacogens a more

successful effort has been made in this direction than hitherto. No doubt the most valuable constituents in a phylacogen solution are the products of disintegration or autolysis of the cell body other than endotoxin—substances which are capable of stimulating the formation of antibody possessing specific power to destroy the living bacteria causing the infection.

It is obvious, therefore, that phylacogens are extremely complex in their composition; they contain a certain amount of exotoxin, some endotoxin, the products of autolysis of the bacterial cell-body, and a little antiseptic. With such a mixture it must be extremely difficult for the manufacturers to succeed in producing anything like a uniform solution, and it must be equally difficult for the practitioner to decide upon appropriate dosage. But the complication does not end here. The scientific advisers of the firm who supply this remedy introduce into its preparation another principle, altogether independent of that which guides their effort to secure solution of the antigen contained in the body of the bacterium. Considering every infection to be a mixed, and not a single one, they begin by preparing what is termed a "mixed infection base," a solution in which the above-mentioned ingredients are derived from staphylococci, streptococci, *Bacillus pyocyaneus*, *Diplococcus pneumoniæ*, *B. coli*, *B. diphtheriæ*, and the streptococci associated with rheumatism and erysipelas.

Fifty per cent. of this basic phylacogen is added to each of the specific phylacogens during its preparation. Even though we may readily subscribe to the truth underlying the general principle of mixed infections, it is scarcely surprising that those of us whose duty it is to pick our way very carefully in these matters hesitate to recommend this class of remedy in general, however much interest we may show in those experiments in its use which are brought to our notice. To load the tissues of a patient suffering, say, from typhoid fever, with toxins of the diphtheria bacillus and *S. erysipelatosus*, cannot be giving them very adequate *specific* help in their struggle. It seems a pity that a remedy promising so much should be complicated in this manner. *Too much has probably been attempted in the hope of producing a substance that will be of general rather than of particular service.* I have been in communication with the makers of phylacogens upon some of these points. They show a keenness and a willingness for discussion that are to be expected from so enterprising a firm. Some simplification of the method of manufacture of phylacogens and some concession in regard to the exploitation of the principle of mixed infections would probably yield products of greater utility and in which the practitioner would have greater confidence.

(*c*) The most modern of all the remedies of the bacterial vaccine type are the substances termed *detoxicated vaccines*. These we owe to Dr. David Thomson, who conceived the notion that it would be an advantage to get rid of the endotoxin of the bacterial cell, if that were possible, partly because of the known difficulty of producing anti-endotoxin experimentally by the injection of the whole cell-element, and partly because, with the endotoxin removed, it would be possible to use much larger doses of the vaccine, and thus obtain proportionately larger responses in the way of cell-destroying antibody. Thomson considers that he has devised a means of removing the endotoxin without, at the same time, altering the nature of the bacterial cell-substance, which is then left for purposes of inoculation.

These detoxicated vaccines are on trial, but as yet we cannot judge of their value. It remains to be seen (1) whether it has been possible to effect the segregation attempted, and (2) whether, after all, the endotoxin may not really be an essential ingredient of a specific bacterial vaccine designed to stimulate active immunity, in which case, although it would, of course, be possible to give much larger doses of the "detoxicated" material without producing undesirable reactions, the practitioner would risk being constantly subminimal in his dosage of the vaccine.

The Choice of Remedies.

The choice of the particular remedy to be employed in any case of infective disease depends upon (*a*) the nature of the infection, (*b*) whether it is local or general, (*c*) its acuteness or chronicity, and (*d*) the stage at which the infection has arrived. Let it be noted that there are two very important differences between sera and vaccines arising out of their mode of action as already outlined: (1) immune sera act rapidly, but their action is transient; vaccines act slowly, but their action is more prolonged; (2) immune sera supply important substances that are lacking in the body, and they do not require much active response on the part of the tissues in order to produce their effects; vaccines depend for their action upon a latent power in the tissues of producing antibody when specifically stimulated to do so. There follow from these generalisations certain rough indications for the choice of specific remedies in any case in which a choice is possible. It may be said that *the more acute and generalised the disease-process and the more ill the patient, the more likely is immune serum to prove efficacious: the more chronic and localised the disease-process and the less ill the patient, the more likely is a suitable vaccine to do good.* It is often advisable to begin the treatment of a severe case of infection by the immediate and liberal use of an appropriate serum, and to follow up any advantage thus gained by inoculation with a vaccine which has been prepared in the meantime.

Results and the Future.

The very fact that there are so many available remedies for inducing immunity stimulation in the patient proves how far we still have to go before we can expect to obtain standard measures of treatment, and get results showing any sort of uniformity. We are evidently only on the threshold of the subject, which teems with difficulties. There are difficulties in connection with immunity research: no subject calls for greater imagination, combined with meticulous technique, on the part of the laboratory worker. There are difficulties in connection with the practical use of the substances offered for exploitation to the practitioner. What argument can be more difficult or more complex than the therapeutic argument? It is full of pitfalls and possible fallacies. Patients get well at times in spite of our treatment, and they die at other times when the remedies seem to possess the hall-mark of precision. There is the *post hoc* and *propter hoc* which dogs us wherever we go, and to properly assess the part played by any remedy in the recovery of the patient is easy only to the ignorant.

If we are doing our best for our patient we are doing many things and not *one* thing, and therefore the experiment we may be trying, in the shape of one or other of these specific efforts at immune therapy, is far more complex than anything attempted in the laboratory, where *controls*, the essence of careful research, can always be devised. These considerations should lead us to exercise patience and forbearance. We help no one by rushing into print the moment we feel the glow of enthusiasm resulting from a laboratory discovery or a clinical success. And it devolves upon us to make an effort, at least, to check the wild speculations of the obsessionist, to inform the simple mind of the layman, and to resist the soft impeachment of the wholesale chemist.

It will not be surprising if some of the present technique, clumsy as it is, is shortly superseded by more exact methods of preparation of immunising substances. The chemist may supersede, or rather supplement, the bacteriologist; this opens up visions of more clear knowledge of the nature of the substance used, more uniformity of its composition and more exact dosage. The war, wasteful in time and brains as well as in human life and money, has no doubt delayed this development, which may now, let us hope, not be long in coming. In the meantime we must exploit the remedies that are at our disposal as well as we can—not, by the way, adding to them in an amateurish fashion of our own.

The measures that we use should be rational. We should understand what it is we are trying to do, and, so far as is possible for us, we should understand the nature of the materials with which we are doing it. These principles of practice are not only essential to our own development, they are part of the duty which we owe to our patients. The preservation of mental charity is a most important asset in the practitioner's attitude towards these things. Once he loses it he no longer controls his remedies: they control him.

SOME OF THE PROBLEMS IN THE THERAPEUTIC USES OF DIGITALIS.*

By F. R. Fraser, B.A.(Cantab.), M.B., Ch.B., F.R.C.P.(Edin.).

We are faced in medicine with many problems in diagnosis and with a vastly greater number in therapeutics which tax our knowledge—the knowledge accumulated during the past and the legacy to us from our professional ancestors. These problems are so numerous in the course of a day's work that as soon as we learn enough to commence thinking for ourselves and are no longer satisfied with referring to the authorities we are appalled by our ignorance. If we are interested in a particular point and search the literature to find what is known, we are astonished at the amount of work, bad and good, that has been done without the knowledge so gained adding much to our equipment for the relief of patients suffering from disease.

We find further that the solution of the one little point that started our search can usually only be reached by much work, involving the sciences of biochemistry and biophysics as well as physiology, pathology and therapeutics. Few of us have the training and very rarely the opportunities for following an investigation through all these stages, and we have to be content with adding to the work of others a little contribution according to our equipment.

Ordinary clinical methods of investigation have been applied to the study of diseased persons and their treatment for centuries by highly-skilled observers, and there are very few new diseases, so that it is seldom that these methods can be applied with any hope of the research being really fruitful. For a research to have prospects of being really fruitful it would seem necessary therefore that we have a new method of investigation, or that new light has been thrown on the subject by other investigators, often in the more fundamental sciences, so that the subject may be reconsidered from a new standpoint.

For example, a new differential stain or a new method of preserving tissues opens up vast fields for investigation in morbid histology, and the biological studies on the life-history and cultivation of spirochætes and studies of staining methods are opening up further work in subjects such as that of disseminated sclerosis.

In therapeutics the conditions are such that clear deductions can seldom be drawn. The conditions are not under the control of the observer. Patients differ in physique, in constitution and in temperament, and no two cases of the same disease present all of the same symptoms that are the criteria of the condition, and which must serve as the gauge of the therapeutic effect. In a pharmacological

* Delivered before the Abernethian Society March 4th, 1921.

investigation a therapeutic substance or process can be administered in increasing doses until the effect is clearly manifest and defined. In a therapeutic investigation the patient is the first consideration, and before a clear and precise effect can be obtained, some effect not beneficial to the patient frequently appears and limits the experiment. Seldom also is a patient the subject of one disease process alone, but is usually damaged to a slight extent in some organ by previous morbid conditions, which causes an impurity in the experiment.

Few therapeutic results can be gauged by instrumental methods of precision as are available in animal experiments, and in general the methods available for estimating an effect are those that depend on personal clinical observations or on the general results of recovery or death. The accepted therapeutic results are therefore based on a large number of observations on a large number of cases to avoid the other accidental conditions present in each case, and so must be based on the observations of many observers, which still further adds to the impurity of the experiments.

Advances in therapeutics may result from the discovery of a new drug such as salvarsan, or an improved method of administering a drug in use previously, such as the substitution of emetine-bismuth-iodine for ipecacuanha, or a new light being thrown on a diseased condition by investigations in pathology and physiology as in bilharziasis, or a new quantitative method for estimating improvement as the examination of the spinal fluid in tabes dorsalis and the estimation of the urea in the blood in nephritis, or the application of an instrument of precision to clinical practice as the string-galvanometer.

In the last few years several factors have combined to open to further investigation the question of therapeutic uses of digitalis, which has been the subject of much thought and writing for 140 years. The principal factors are the recognition of the different types of disturbed cardiac rhythm and the application of the string-galvanometer for observations on the action of the heart of patients. Sir James Mackenzie was investigating the significance of signs and symptoms in their relations to heart failure, and found it essential to differentiate the various types of irregularity of the pulse and of the heart. The recognition of the different mechanisms present in the various types of irregularity led directly to the question of the effect of digitalis in the different mechanisms. The string-galvanometer as adapted by Einthoven appeared at about the same time as Mackenzie's conception. It does not replace the instruments that record the movements of the walls of the arteries and veins, but it provides a very practical and accurate method of determining the activity of the cardiac structures, and a method remarkably free from the errors due to the personal factor. With a new point of view based on new discoveries in the functional pathology of heart failure and with a new instrument of precision to apply to the investigation, it appeared desirable that the problem of digitalis therapy should be reopened.

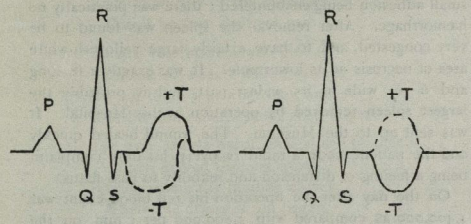
Immediately after the recognition of auricular fibrillation and its mechanism, came the recognition of the reason why digitalis is so efficient in showing the ventricular rate in this condition. The slowing was seen to be due to the production of heart-block, which had long been recognised as an action of digitalis in large doses on the hearts of animals under experimental conditions. For a time there was danger of this blocking action being regarded by clinicians as the only mechanism by which digitalis is beneficial, and of digitalis being regarded as of no value except in cases of auricular fibrillation. The pharmacologists maintain that the main action of the drug is on the heart-muscle, and that it causes an increase in the excursion of the contracting ventricle, and insist on elevation of blood-pressure and diuresis as further effects which Gottlieb states are due to an action on the arteries. Clinicians generally have looked for a slowing of the pulse-rate as a result of therapeutic administration.

It seemed worth while then to study the action of therapeutic doses on patients other than cases of auricular fibrillation, and to observe with the help of the string galvanometer the effect on heart-rate and the mechanism of the heart's action, and to observe also the effect on blood-pressure and on diuresis.

In planning an investigation, it is necessary to remember that if a result is to be obtained a simple question must be asked with a reasonable chance of a clear answer. It was decided, therefore, to study the effect on patients with a normal cardiac mechanism, normal rate, normal blood-pressure and no œdema, in the hope that from the action found in such cases, indications would be established to regulate the administration in the various abnormalities associated with heart failure. Nine cases were available of early rheumatic endocarditis, and in addition three patients without signs or symptoms of heart disease who were in hospital for other conditions. At the outset of the work there were no certain indications by which it could be ascertained that the drug was active other than vomiting and depression due to toxic doses, and so before stopping a course of administration it was always pushed until this proof was obtained that the maximum effect had been reached, if not passed. In all cases two or more courses were administered to each patient, and additional observations were obtained on patients who did not satisfy the conditions on admission but did do so after the first courses of treatment.

The effect on the frequency of the heart-beat in these cases with normal rate, normal mechanism and no œdema was that no slowing could be obtained. When the drug was pushed until toxic symptoms appeared, a slowing of the pulse-rate due to slowing of the ventricular contraction rate was obtained in all but one of the patients, due to heart-block. This slowing was not accompanied by a slowing of the auricular contractions, and was obtained only when the patient was distressed, so that it could not be taken as a desirable result. In some cases the auricular rate was raised at the time of the ventricular slowing. It seems fair, then, to conclude that slowing of the heart is not an effect to be expected in the therapeutic administration in this type of case. In none of the cases was any rise of systolic or diastolic blood-pressure found, and in none did any diuresis appear. When toxic symptoms appeared there was usually a fall in the output of urine associated probably with the lowered intake accompanying the nausea and vomiting.

The three effects, therefore, to be expected from the result of pharmacological and clinical observations, namely a slowing of the heart-beat, rise of blood-pressure and diuresis, do not occur in the patients with normal mechanism, normal rate, normal blood-pressure and no œdema, and it would seem that indications for the use of digitalis based on these effects must be faulty and misleading.



THE UNBROKEN LINE REPRESENTS THE ELECTROCARDIOGRAM, AND SHOWS THE P, Q, R, S, AND T-WAVES. THE BROKEN LINE SHOWS THE OUTLINE THE T-WAVE ASSUMES UNDER THE INFLUENCE OF DIGITALIS.

From the study of the electrocardiograms taken daily during the course of treatment two effects were observed with remarkable consistency. In all cases a lengthening of the conduction-time between the auricular and ventricular contractions occurred, even in the three patients whose hearts seemed perfectly normal. This was noticed within forty-eight hours when 15 minims of the tincture were given four times a day. In most cases the lengthening occurred gradually, so that the conduction-time could be maintained at any length by regulating the dose. This effect disappeared at once on the administration of atropine, and after stopping the digitalis disappeared in about two days. It is probably due to an action on the vagus nerve, and depends on the concentration of the drug circulating in the body. It is an effect of digitalis, to which considerable attention has been paid by other observers.

The second effect found had not been observed before in patients, and consisted in an alteration in the shape of the T-wave of the electrocardiogram. An upwardly directed wave gradually becomes smaller and eventually becomes a downwardly directed wave, sometimes becoming diphasic in the course of the change. This effect was noted thirty times in thirty-four patients of various types, including the twelve who were the subjects of the special investigations, and occurred before any other effect of the drug was noted. It was seen as early as twenty-four hours after the drug was started in doses of 15 minims of the tincture four times a day. On administering atropine this effect is not abolished and in some cases is increased, and on stopping the digitalis the T-wave returns to its previous size and shape slowly, the time required varying from five to twenty-two days. These facts point to this effect being due to some mechanism other than that of the vagus nerve, and to its not being dependent on the concentration of the drug circulating. Since the electrocardiogram is the expression of changes in the electric state of the muscle they suggest that this is an indication of an effect on the heart-muscle, and that the drug is closely combined with the substance of the muscle. This combination with the heart-muscle and the effect on the T-wave point to an effect on contraction. It has been shown later that therapeutic doses in dogs cause an increase in the excursion of the contracting ventricle at the time when the changes in the T-wave are seen.

These investigations show that evidence that the action of the drug is being obtained is to be found in the lengthening of the conduction-time and the alterations in the T-wave. They show further that the indication for digitalis administration must not be based on a primary slowing of the heart-rate or raising of blood-pressure or on diuresis, but on lengthening of conduction-time and on an effect on contraction of heart-muscle. When a lengthening of conduction-time is desirable digitalis should be given, and when an effect on the heart-muscle is required, as in all cases of heart failure, it should be given. It is possible that the slowing of the heart-rate, the raising of the blood-pressure and the diuresis obtained in cases of severe heart failure are the result of an effect on the heart-muscle improving the circulation. Further work is necessary before it can be shown definitely whether or not the effect on the T-wave is always evidence of a desirable effect on the muscle, and the action of the drug in other groups of cases than those here selected must be observed and the indications may then become even more clearly defined. As in all investigations, a small addition only has been made to our knowledge, and, as is usually the case, unexpected results point the direction for still further investigations.

HORS-D'ŒUVRES.

"ROULETTE AU GRATIN."

Patient: I cannot drink milk.

Doctor: Why not?

Patient: It forms a ball of casino, which rolls round my inside and comes away like a bullet.

A CASE OF ACHOLURIC FAMILY JAUNDICE TREATED BY Ssplenectomy.

By E. COLDREY.

ET—, æt. 23, occupation, greengrocer, was admitted to Stanley Ward on January 17th, 1921, under the care of Mr. Gask from Rahere Ward, where the patient had been under the observation of Dr. Drysdale.

The patient is the younger son in a family of seven. His father and one of his sisters have always been jaundiced, but have never in any way been incapacitated, and are now quite fit and able to do their work. Two other relatives on the father's side of the family are also jaundiced. The patient himself has been jaundiced for nine years.

In 1917 the patient joined the army and was classed A1. In 1918 he saw active service with the artillery in France, being one of the drivers of a heavy gun team, a fact which makes it evident that at this time he was not in any way incapacitated by his hereditary condition. In February, 1919, he was demobilised and again classed A1. During his period of service he had occasional epistaxis. Immediately after demobilisation and again in May, 1919, he had an attack of influenza, and since his second attack has suffered continuously from headaches and "nervous attacks."

At the beginning of September, 1920, the patient began to have pain in the back and in the left leg; he felt very feverish and went to bed. One evening he had a temperature of 105° F. and a severe attack of shivering. At the end of fourteen days he got up but had to return to bed. Since then he has been in bed. He had no further rigors, but the headache and pain in the back and left leg continued.

On October 14th, 1920, the patient was admitted to Rahere Ward under the care of Dr. Drysdale, complaining of palpitations, buzzing in the ears and pain in the left leg. The white blood-count was 7200, the red blood-count 1,800,000 per c.mm., and hæmoglobin ·44 per cent. His urine was of a dark reddish-brown colour, contained much urobilin, but no bile-salts or bile-pigments. Increased fragility of the red cells was well demonstrated, as strong a solution of saline as ·8 per cent. hæmolysing them, normal cells being hæmolysed by ·4–·5 per cent. solution.

The patient was jaundiced but well covered, and otherwise appeared healthy.

On examination of his abdomen the liver was not markedly enlarged, but the spleen markedly so, reaching down to within 1 in. of the pubic crest and stretching 2 in. across the middle line.

Whilst in Rahere the patient complained of pain in the frontal region, in the eyes, over the spleen and over the heart, the latter being accompanied by a feeling of pressure in the chest. He suffered from anorexia, occasional epistaxis and a general feeling of depression. Later he had pain and swelling of the left foot, undoubtedly caused by pressure on the left common iliac vein. The temperature and pulse were very irregular, rising to 99·5° and 100° F. respectively in the evening, and occasionally higher.

As the symptoms were not relieved by medical treatment, although there was a slight increase in the red cells and the patient put on nearly a stone in weight it was decided that the spleen should be removed. On January 14th, 1921, the patient was transferred to Stanley Ward under the care of Mr. Gask.

On January 21st splenectomy was performed by Mr. Gask. An L-shaped incision 9 in. long was made parallel with and just below the left costal margin and then vertically downwards to the crest of the ileum. Very little difficulty was experienced in freeing the spleen from its bed, only one small adhesion being encountered; there was practically no hæmorrhage. After removal the spleen was found to be very congested, and to have a fairly large yellowish-white area of necrosis at its lower pole. It was exactly 1 ft. long and 6 in. wide at its widest part, and is probably the largest spleen removed by operation at this Hospital. It was sent up to the Museum. The wound healed quickly and the patient made a rapid recovery, his only complaint being a feeling of distension and inability to pass flatus.

On the day after the operation his red blood-count was 4,400,000 as compared with 2,800,000 per c.mm. on the day before the operation. On the day of discharge, February 17th, his red cells had risen to 5,600,000 per c.mm. and hæmolysis only took place when the strength of the saline solution was ·6 per cent. or lower. The rapid recovery, disappearance of jaundice and all other signs and symptoms after splenectomy indicate that the spleen, and not, as was formerly believed, the liver, was the cause of the trouble.

If this view is accepted the increased fragility of the red cells can be explained as follows: The large over-functioning spleen is breaking down abnormally large numbers of red cells, and the red marrow in order to maintain life has to manufacture red cells at a greatly increased rate, and in doing this the red quality of red cells turned out suffers. Normally the blood-pigments formed in the spleen by the breaking down of red cells is carried *viâ* the splenic and portal veins to the liver, where it is converted into bile-pigments, which pass into the gut *viâ* the bile-passages. If, owing to the great increase in the destruction of red cells, so much hæmoglobin is converted into bile-pigments by the liver that it cannot leave the bile passages quickly enough, the excess of bile-pigments accumulates in the blood and gives rise to the jaundice so typical of this condition.

The writer is indebted to Mr. Gask for permission to publish this case.

A REMINDER TO THE BINDER.

Binder, who serenely bindest
Kanthack volumes year by year,
Is it true thou never findest
Muddy evidence of tear—

Dropt by dresser, blankly staring,
Jaws agape, brain out of use,
Deaf to stertorous voice of W——g,
Deaf to W——g's grand abuse?

Can it be thou carest never
In thy work to realise
What the sweat, the hard endeavour,
What the weary long-drawn sighs—

Clerks and dressers, grimly grinding,
Have expended to prepare
Records worthy of thy binding?
Can it be thou dost not care?

Binder, year by year who bindest
Reams of closely written sheets,
Do not think that what thou findest
Is the sum, there's more than meets—

The eye: sheets burnt, sheets torn in pieces,
Lunch denied to inner man—
Binder, where thy binding ceases
There the dresser's toil began.

D. W. W.

STUDENTS' UNION.

RUGBY FOOTBALL CLUB.

HOSPITAL RUGBY CHALLENGE CUP.

Final Tie.

ST. BARTHOLOMEW'S HOSPITAL *v.* GUY'S HOSPITAL.

The Final was played at Richmond on March 16th, and the Cup retained by Guy's, the holders, by a try to *nil*. The game was remarkable for the doggedness of the play from start to finish and it was "anybody's game" until the whistle for "no side" was blown. First one side and then the other was on the attack and the game up and down the field. Guy's scored a try through Daniel on the extreme left after about 15 minutes' play but it was not converted. The game immediately settled down again to a series of attacks by both sides, the Guy's three-quarters or the Bart.'s forwards. Towards the end of the second half, for 15 minutes at least, the hopes of the Bart.'s supporters were very high, for the forwards kept the game constantly in the vicinity of the Guy's "25," but though very nearly in on one occasion, no score materialised. The whole of the forwards played a magnificent game throughout and gave chances enough to the backs. Of the outsides mention must be made of Smuts' brilliant play at full back; for only 15 seconds out of the 80 minutes did he appear to be in trouble. M. G. Thomas made magnificent attempts to get across the line, never sparing himself in defence either, and it was extremely hard luck that one heroic effort failed.

St. Bart.'s: P. Smuts, *back;* M. G. Thomas, R. H. Williams, H. D. Llewellyn, C. Griffith-Jones, *three-quarters;* T. P. Williams (scrum), D. H. Cockell, *halves;* S. Orchard, C. Shaw, A. E. Beith, J. H. Mudge, A. B. Cooper, H. V. Morlock, G. C. Parker, E. S. Vergette, *forwards.*

ASSOCIATION FOOTBALL CLUB.

INTER-HOSPITAL CUP.

Final Round.

ST. BARTHOLOMEW'S HOSPITAL *v.* GUY'S HOSPITAL.

Played on the St. Thomas's Hospital ground at Chiswick on March 11th before a fair crowd of spectators from both the Hospitals engaged. A high wind rather interfered with the play.

During the first part of the game play ruled pretty even, with the Bart.'s forwards doing rather more pressing than their opponents. Our defence at this stage was excellent, but about a quarter of an hour from the start Braun's knee unfortunately gave way again. Shortly after this Guy's opened the scoring, a miss-kick allowing them to score from close range with Dingley out of the goal. However, not many minutes later Stuart-Low equalised with a splendid shot. For the rest of the first half play was even, and there was no further scoring. Shortly after the re-start Braun had to leave the field, and his absence soon began to be felt, more especially as Oldershaw had also been lamed by a kick. Guy's did most of the pressing, favoured by a change in the direction of the wind, but for some time they were kept out, Dingley making several excellent saves. Towards the end our defence obviously tired, and Guy's managed to put on four more goals before the close. Our forwards did not make so much use of their chances as did our opponents, who played a very much better game than they did in the previous rounds.

Though the result was undoubtedly a great disappointment to the team and its supporters, it is only fair to say that had we had our full team till the end of the game the result would have been very different. On the day's play Guy's were possibly slightly the better side, but Braun and Coldrey were defending so well during the first half that it is quite possible the game might have been drawn. The Bart.'s team were hardly good enough to have deserved to win. They did not bustle enough for Hospital Cup-tie football, and quite often lost time and ground by play that looked pretty, but was ineffective against a bustling defence.

Cup-ties cannot be won—and we have no right to expect to win them—unless the same side can be got together for the greater part of the season. We appeal to all soccer players at the Hospital who will still be there next season to support the Hospital teams, and so to ensure that the cup returns once more to the Library a year hence.

Team.—A. R. Dingley, *goal;* E. S. Coldrey (capt.), L. Braun, *backs;* A. E. Lorenzen, K. F. Waters, L. Oldershaw, *half-backs;* G. R. Nicholls, W. C. Stuart-Low, E. I. Lloyd, R. Savage, R. M. Williams, *forwards.*

INTER-HOSPITALS CHALLENGE CUP (JUNIOR).

Replay of Semi-Final.

UNIVERSITY COLLEGE HOSPITAL *v.* ST. BARTHOLOMEW'S HOSPITAL.

After having drawn previously the Semi-Final of the Junior Cup was re-played at Winchmore Hill on March 4th, 1921. Setting off a fast pace our team rapidly bore the play into the U.C.H "half" and, keeping up a steady pressure, Bart.'s were soon one goal up. A good pass forward by Morton allowed Maingot to rush and score a good goal. Unfortunately, Maingot was injured sufficiently (a kick on the thigh) to prevent his continuing in the style he had begun. Bart.'s half-backs, however, well held the opposing forwards, and, by good passes, were able to set our forward line in movement many times. The next goal came from Morton, who, getting right away, sent in a hard drive which the U.C.H. goal-keeper was quite unable to stop. Rarely were the "College" forwards able to get away, sound work at back by Roupell driving the ball back into their half time and again. A good run by Asker from the left wing brought to a close by an equally good shot from far out put Bart.'s three goals up.

Soon after, following some close passing by the inside forwards, Morton was able to score another goal.

The U.C.H. team were never allowed to get together, Dick, at centre half, breaking up the attack many times.

Soon after, however, the U.C.H. scored their only goal of the match from a penalty kick which apparently was given against Tincker when rushed by an opposing forward.

In the second half of the game play was fast and more even. The U.C.H. backs (especially the left back) playing a sound game. Following some hard work Morton again broke away and scored with a shot from close in. Some ten minutes before close of play

our centre forward placed a fourth goal to his credit and the issue of the game was thus put beyond all doubt.

Team.—R. Tincker, *goal;* J. McMenamin, C. F. Roupell, *backs;* E. W. C. Thomas, A. C. Dick, L. Maillard, *half-backs;* L. B. Jeaffreson, A. E. Ross, J. A. Morton, R. H. Maingot, F. Asker, *forwards.*

Guy's quickly took up the offensive and, despite steady work by the Bart.'s halves, especially by Thomas at right half, equalised by a shot which Tincker could not be expected to save.

Good work by the Bart.'s defence kept the opposing forwards out although they were pressing persistently. Some good tackling and clearing, generally of the nature of long passes to our outside left, by Summers at left back, repeatedly set our forward line going. Maingot, seizing an opening given him by a pass, put in a fine long shot which again gave the lead to Bart.'s. More even play followed and then a good passing movement by the Guy's left wing resulted in their scoring a second goal. Both teams then played up strenuously, both goals were at times in danger, but at the final "whistle" the score still stood at 2—2.

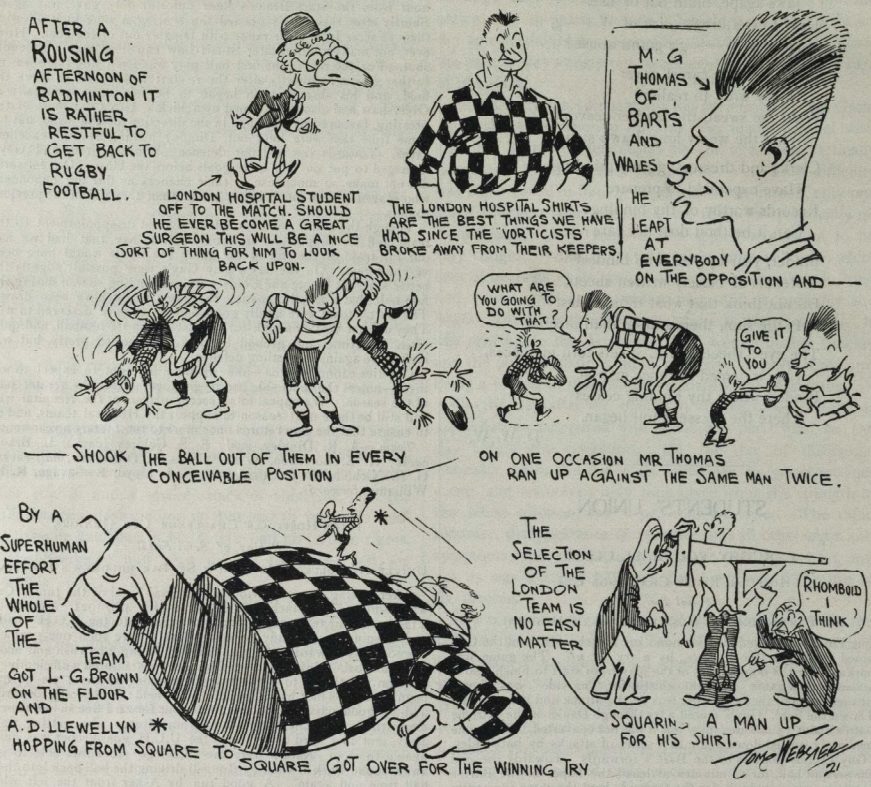
Extra time (ten minutes each way) was decided upon by the rival captains.

About five minutes of this had gone when Maingot again got clean away and scored his third goal. After this, play was hard but ragged, both teams being tired out. Bart.'s, however, hung on grimly and maintained their lead to the end.

Team.—R. Tincker, *goal;* J. McMenamin, H. Summers, *backs;* E. W. C. Thomas, A. C. Dick, L. Maillard, *half-backs;* L. B. Jeaffreson, A. E. Ross, J. A. Morton, R. H. Maingot, F. Asker, *forwards.*

HOSPITAL RUGBY CUP SEMI-FINAL.

By TOM WEBSTER.



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Final.

GUY'S HOSPITAL *v.* ST. BARTHOLOMEW'S HOSPITAL.

Played at Honor Oak on Saturday, March 19th, 1921. By beating Guy's 3—2 in a hard and even game our "Juniors" were able to bring back the Cup to where it ought always be—on our library table.

Following ten minutes' play of a ding-dong nature, Maingot, from a good pass by Morton, rushed through to give the lead to Bart.'s.

ANNUAL DINNER.

The Annual Dinner of the Association Football Club was held at Oddenino's Imperial Restaurant on Saturday, March 19th.

Sir Charles Gordon-Watson, President, Messrs. Holmes Spicer and Foster-Moore, Vice-presidents of the Club, were present.

A good number of members and friends also attended. The fact that the Junior team had won back the Cup from Guy's that afternoon set a happy atmosphere about the Dinner.

After an excellent dinner the Cup was duly set in circulation by the President. It (and its contents) were greatly admired by all as it was solemnly passed round the table.

We were then all entertained by the most amusing songs and tales of Mr. J. Stanley White, whilst Messrs. N. H. Bennett and R. J. Perkins "kept things going" by their excellent "turns."

Votes of thanks were given to the President and Vice-presidents for their interest in and great help to the Club during the season.

Further speeches and tales by "all and sundry" kept us well amused till it was time to break up.

INTER-HOSPITAL BOXING.

The Inter-Hospital Boxing Competitions were held at the National Sporting Club on March 8th. There was a large entry—nineteen contests in all. The result was a win for Guy's, who scored 16 points, Bart.'s and the London coming second with 8 points each, Thomas's and Middlesex third with 4 points each, whilst University College Hospital scored 2 points. Bart.'s were represented in five weights only, as M. G. Thomas was unable to compete in the Light-Heavies owing to the proximity of the Rugger Cup Final, and A. E. Ross, who had entered for the Light-Weights, had the misfortune to injure his hand in the Hospital Competitions, and had not recovered sufficiently to box in the Inter-Hospitals. Bart.'s secured two wins this year, T. M. Marcuse and G. H. Rossdale winning the Welters and Middles respectively.

Bantams.—D. Plum (Thomas's) beat S. B. Benton (Bart.'s) on points after a hard contest. Plum was the more aggressive and rugged fighter, with a good punch in each hand, but Benton was game and made his opponent go all out. Both were almost fought out by the end of the contest.

Final: Plum beat J. Fernandey (London) on points.

Feathers.—A. Kotkin (Middlesex) beat E. W. C. Thomas (Bart.'s) on points. Kotkin boxed right foot first, and his unusual style and longer reach proved too much for Thomas, and did not permit him to develop his usual form.

Final: D. S. Thomas (Guy's) beat T. A. Butcher (University College Hospital) on points after one of the best fights of the evening. Thomas's boxing was of a really high order, whilst Butcher put up a splendidly game and determined fight, his final spurt in the last round being especially creditable.

Light-Weights. Final: T. A. Shaw (Guy's) beat C. Thomas (London) on points.

Welter-Weights.—T. M. Marcuse (Bart.'s), after having a bye in the first series, beat C. A. Kirton in the semi-finals, the referee stopping the fight in the third round. Although badly handicapped in the matter of height and reach Marcuse carried the fight to his man in fine style, and worried him continually with well-placed punches to the body and jaw. In the third round Marcuse had his man weak, and finally dropped him with a fine right to the jaw. The referee then intervened, awarding the verdict to Marcuse.

Final: Marcuse w.o. R. A. Vaughan-Jones (London), retired. The latter had only recently recovered from an illness, and his first fight, in which he beat J. N. D. O'Rafferty of Guy's, left him too weak to fight again with any reasonable chance of success.

Middle-Weights.—Semi-final: G. H. Rossdale (Bart.'s) beat J. Freeman (Thomas's), who retired in the second round. Rossdale opened steadily and soon got the measure of his man. Punching with splendid power and accuracy, he had Freeman so badly shaken in the second round that the latter's second threw in the towel.

Final: Rossdale beat T. M. Fripp (Guy's) in the first round. Fripp was obviously outclassed, and the referee stopped the fight after he had been sent down heavily half way through the first round.

Heavies.—Semi-final: R. J. Kennedy (London) beat F. P. Guilfoyle after a determined if not remarkable scientific fight. The pace was gruelling throughout, and Kennedy won, thanks chiefly to his better staying power.

Final: Dennyssen (Guy's) beat Kennedy on points after a very even contest.

REVIEWS.

MEDICAL NOTES. By Sir THOMAS HORDER, M.D., F.R.C.P. (Oxford Medical Publications.) Pp. 112. Price 6*s.* net.

It is given to few men the power of being able both to write and to speak well, but Sir Thomas Horder has already proved himself to be a master in these directions. To a large extent this is due to a wide experience of general practitioners and students which yields an appreciation of their wants. This book, which is largely made up of a series of notes contributed to our own columns, will appeal to both the classes named, and prove to be not only a mine of knowledge but an inspiration for lines of thought and action to its readers. So absorbing is this book in its interest that one is tempted to read it straight through, but the reader will be well advised to pause to reflect after each paragraph, when many points of interest which were not at first apparent will at once suggest themselves.

To the busy practitioner or to the student who is reading for his final examination we cannot recommend a book that will prove more instructive and refreshing than *Medical Notes.* We hope that this is but the precursor of similar brochures.

PHYSICS AND CHEMISTRY. By H. E. CORBIN, B.Sc.(Lond.), M.R.C.S., L.R.C.P., D.P.H., and A. M. STEWART, M.A., B.Sc. (Lond.). Pp. 496. Price 15*s.*

This well-known work to medical students and others has now reached its fifth edition and maintains its character for clearness of expression and extent of subject matter. It has been enlarged to meet the higher standard of examination in the medical curriculum. Further chapters have been added on such physical subjects as refraction, absorption, spectra, ionization, radio-activity, etc., whilst the chemistry has been revised and brought more in accord with present-day thought thereon. The "Inorganic" side is copiously illustrated with methods and tests, whilst the "Organic" is clearly explained with the aid of many graphic formulæ. It is clearly a book which is indispensable to the aspirant to a medical career.

CLINICAL METHODS. By ROBERT HUTCHISON, M.D., F.R.C.P., and HARRY RAINY, M.D., F.R.C.P.(Edin.). Seventh Edition. (Cassell & Co., Ltd.) Price 12*s.* 6*d.* net.

"Hutchison and Rainy" is too well known to students of medicine to need any introduction. It has long been recognised as perhaps the best book available for the beginner just commencing his clinical work. A call from the publishers for a new edition has enabled the authors to thoroughly revise the book, which in addition to several new plates and figures also includes some new matter in the chapters devoted to the examinations of the heart and of the urine.

SYPHILIS AND ITS TREATMENT (with especial reference to Syphilis of the Skin). By WILFRED S. FOX, M.A., M.D., B.C.(Cantab), M.R.C.P.(Lond.). (H. K. Lewis & Co. Ltd.) Pp. viii + 195. Price 30*s.* net.

This book undoubtedly contains much valuable information, but we wonder very much whether it is worth the money asked for it. After all it covers only a limited area, and there are other books on the subject much more complete and less expensive. It is obvious on reading the book that skin lesions are predominating in the author's mind, and we are afraid much essential matter has been crowded out.

The book is well printed and makes easy reading; furthermore the illustrations are good. But there is no denying the fact that parts of it are patchy, and the fact that it covers only a limited field militates against its usefulness.

A TEXT BOOK OF PHARMACOLOGY AND MEDICAL TREATMENT FOR NURSES. By J. M. FORTESCUE-BRICKDALE, M.A., M.D.(Oxon.), M.R.C.P.(Lond.) (Oxford Medical Publications.) Price 25s. net.

We are inclined to think that the text book under review rather exceeds the needs of the nursing profession. By this we do not wish to imply that the work is not excellent; in fact, it is so good that we think the author might have gone a step farther and offered it as a general text book on pharmacology. The price too is somewhat excessive for the average nurse, although the fortunate lady who possesses a copy will certainly be able to take a much more intelligent interest in her cases with its valuable help.

The book is divided into two sections, the first part dealing with the action and origin of various drugs, and the second with the practical treatment of disease. The volume throughout is very readable, and in addition to being excellently printed, contains a large number of illustrations extremely well reproduced.

A HANDBOOK OF MIDWIFERY. For Midwives, Maternity Nurses and Obstetrics Dressers. By COMYNS BERKELEY, M.D., F.R.C.P. Fifth Edition. (Cassell & Co., Ltd.) Pp. xv + 550. Price 7s. 6d. net.

The author's reputation as a teacher of midwifery is a sufficient guarantee as to the sterling value of this excellent volume. We know of no better book for a nurse taking the examination of the Central Midwives Board. It is a handy size and contains a number of excellent illustrations. What is more important, it is extremely readable. All that a capable midwife should know is included, and we are glad to see a brief description of the treatment that a medical practitioner might be expected to apply if his assistance were available.

The chapters devoted to breast-feeding and artificial feeding are a great improvement on the previous editions.

ANÆSTHETICS: THEIR USES AND ADMINISTRATION. By D. W. BUXTON, M.D., B.S. Sixth Edition. (H. K. Lewis & Co. Ltd.) Pp. xiv + 548. Price 21s. net.

A new edition of this deservedly popular book is very welcome, and more than ever do we feel justified in describing it as one of the best available on the subject of anæsthetics. Parts of it have been re-written and several sections added, those devoted to shock and hæmorrhage perhaps being the most important. Another excellent chapter is the one devoted to complications and dangers. We are impressed with the extreme fairness of the author. He has endeavoured to chronicle the views of all workers, and after all this is what is wanted in a book which deals with a subject concerning which there must necessarily be many views.

We can confidently recommend the book to both student and general practitioner.

GOUT. By L. J. LLEWELLYN, M.B. (William Heinemann, Ltd.) Pp. xviii + 469. Price 30s.

In his extremely well-written book Dr. Llewellyn has contrived to say practically all we know about this great historical disease. The growth of modern pathology has largely limited the field of gout, and such conditions as visceral pains of tabes, gonococcal arthritis, and the wide group of infective arthritis are no longer confused with the disease. In view of its limitation the author's definition of gout is interesting, namely that it is "a hereditary disorder the intrinsic element of which is an inborn instability of nuclear metabolism which may remain latent, but under the influence of certain extrinsic factors may become manifest as betokened by local inflammatory reactions, mainly in the joints, associated with the deposition of urates." The author even goes so far as to assert that in the absence of the latter the disease cannot be diagnosed.

There is no denying the author's unique experience with this and similar diseases, and the book is to be heartily recommended.

PREVENTION OF VENEREAL DISEASE. By Sir G. ARCHDALL REID, K.B.E., M.B., C.M., F.R.S.E. With an introductory chapter by Sir H. BRYAN DONKIN, M.D., F.R.C.P. (Wm. Heinemann.) Price 15s. net.

This book largely represents the views of the Society for the Prevention of Venereal Disease and it must be admitted that the author has made out a very strong case. Sir Archdall Reid has put forward in an admirable way the facts as they really are, and we strongly recommend the book to everyone interested in this most important subject. We rather gather that the primary aim of the book is to impress upon the general public the necessity of taking measures against infection and we cannot but congratulate the author on his bold and courageous effort to influence public opinion.

DR. G. HERSCHELL'S TEXT-BOOK OF INDIGESTION. Revised and rewritten by ADOLPHE ABRAHAMS, O.B.E., M.D., M.R.C.P. Fourth Edition. (London: Edward Arnold.) Pp. 228. Octavo. Price .

Not so much the lapse of time, as the care and sound judgment of the present author, justifies the issue of the fourth edition of Dr. Herschell's manual. Dr. Abrahams has acted wisely in remodelling the work completely; otherwise it would not have been possible to introduce, with that thoroughness that it deserves, the result of his own rich experience in this particular subject. The point at which a collaborator decides to drop the name of his deceased in choosing the title of his work must always be a difficult one. We think the present edition of *Indigestion* justifies this departure upon the occasion of the next edition.

The difficulties met with in writing on this subject are, of course, immense. They are tackled here with greater success, we venture to believe, than in any presentation of the matter we have hitherto come across. The author is quite frank in his admission that the whole subject of classification is at present unsatisfactory: we think it is likely to remain so for many years to come. The author's effort at classifying "functional" dyspepsias according to their causes—physical, dietetic, psychical and reflex—is perhaps as good as any at present available.

The chapter dealing with the anamnesis in a case of indigestion is excellent, and that on the examination of the patient is most helpful. Other general chapters which will pay for thorough study are those on the Radiological Method, on Reflex Dyspepsia, on the Association of Dyspepsia with Organic Affections other than Gastric, and upon Nervous Indigestion. We are very glad that Dr. Abrahams has preserved Dr. Herschell's Appendix on the preparation of foods for dyspeptics; a study of it would go far to prevent, quite as much as to cure, much indigestion.

There is little that we can criticise. The word *auto-intoxication* is, we note, used to cover symptoms due both to products of perverted digestion (p. 24) and to microbic activity (p. 125). Were it not for the fact that the author uses his terms with such commendable accuracy this conformity to loose custom would not call for comment. The use of the words "*characteristic*" and "*characteristically*" is evidently a personal idiom. So few things are deserving of the expression in medicine that we trust we may be forgiven for putting the author on his guard.

It is not quite clear why *Indigestion* stops with consideration of the diseases of the stomach and duodenum, a brief chapter on pancreatic indigestion being thrown in. We should like to see the next edition include chapters on such important causes of dyspepsia as enteroptosis, colitis and hepatic inadequacy. Written with as much care and forbearance as are the present chapters they would add not a little to the present value of the book. As it is—and we say so deliberately—we know no manual of its size, nor approaching its size, which treats the subject matter so clearly, so concisely and so helpfully

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STUDENT'S SYNOPSIS SERIES: SURGERY. By IVOR BACK, M.A., M.B., B.C.(Cantab.), F.R.C.S., and A. TUDOR EDWARDS, M.A., M.C.(Cantab.), F.R.C.S. (J. & A. Churchill.) Pp. viii + 480. Price 15s. net.

Should a student make use of revision books? Theoretically no, especially if he uses such books to the exclusion of a recognised text-book on the subject. From a student's point of view, however, there is another aspect of the situation. The modern curriculum is such that he has got to make use of books which will enable him to rapidly review the various subjects, and for this reason we welcome the admirable series which Messrs. Churchill are now publishing. The present volume is quite one of the best of the series—in fact we believe it to be the most readable revision book on surgery which has yet been offered to the student.

The data is extraordinarily well arranged, and the authors are to be congratulated on the success of their venture—namely, to provide a revision book with the principal features of surgical diseases succinctly and categorically arranged.

VENEREAL DISEASE: ITS PREVENTION, SYMPTOMS, AND TREATMENT. By HUGH WANSEY BAYLY. (J. & A. Churchill.) Pp. 152. Price 10s 6d. net.

This is an eminently practical volume obviously written by a man who has had considerable experience in this particular subject. The essentials for the prevention, diagnosis and treatment of venereal disease are set forth in a short and concise manner, and the book cannot fail to be of great value to both student and general practitioner.

In a book of 150 pages much of the matter must necessarily be dogmatic, and yet there is very little with which even the expert could not fail to be in agreement.

Incidentally the two concluding chapters are unusually well written, and should prove of very considerable value to newly-appointed venereal officers.

GROUNDWORK OF SURGERY. By ARTHUR COOKE, M.A., M.B., B.Ch.(Oxon.), F.R.C.S. (W. Heffer & Sons, Ltd., Cambridge.) Pp. 177. Price 7s. 6d. net.

This is a useful little book, especially for the student just commencing dressing. The author has adopted a classification according to origin rather than the usual regional classification, and while this is quite satisfactory in a book which is only intended to be a brief survey of the subject, it would obviously be impossible in any complete work on surgery.

The chapter devoted to herniæ is excellent, but it is difficult to understand why such an important subject as carcinoma is dismissed in some two and a half pages. Yet in spite of criticism the book undoubtedly fills a want, and should certainly form part of the student's library.

The Seventh Edition of *Manson's Tropical Diseases* is announced for publication by Messrs. Cassell & Co., Ltd. The work has been much enlarged, and appears in a new format.

We have received from Messrs. Allen & Hanbury a copy of their recent publication *Medicamenta Recenta*. It is an extremely interesting compilation of modern therapeutical products prepared by the firm. The book also contains a therapeutic index which materially adds to its value.

We gather that it is the intention of Messrs. Allen & Hanbury to republish this volume at regular intervals, the object being to keep the medical profession *au fait* with the advancements in pharmacy which scientific progress may enable them to introduce.

RECENT BOOKS AND PAPERS BY ST. BARTHOLOMEW'S MEN.

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CHAPLIN, ARNOLD, M.D. "Certain Measures for Preserving the Health of Seamen on Board Ship." *Ibid.*, February, 1921.

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——— "Some Mistakes and their Lessons." *Practitioner*, January, 1921.

APPOINTMENTS.

ALDOUS G. F., F.R.C.S.(Edin.), appointed Consulting Surgeon to the South Devon and East Cornwall Hospital.
CANDLER, A. L., M.B., B.S.(Lond.), F.R.C.S., appointed Surgeon to the Royal Devon and Exeter Hospital.
ECCLES, T. A., M.R.C.S., L.R.C.P., appointed House-Surgeon to the Croydon General Hospital.
HUTT, C. W., M.D.(Cantab.), D.P.H.(Oxon.), appointed Medical Officer of Health to the Borough of Holborn.
ROPER, F. A., M.D.(Cantab.), M.R.C.P.(Lond.), appointed Physician to the Royal Devon and Exeter Hospital.
ROSE, E. S., M.R.C.S., L.R.C.P., appointed an Assistant Medical Officer, Claybury Mental Hospital, Woodford Green.
STRETTON, J. WESTON, B.Ch.(Cantab.), F.R.C.S.(Eng.), appointed Honorary Surgeon to the Kidderminster Infirmary and Children's Hospital.

CHANGES OF ADDRESS.

ALDOUS, G. F., Deanhurst, St. John's Road, Harrow-on-the-Hill, and Services Club, Stratford Place, W. 1.
ANDREW, J., 3, The Grange, Redhill.
BAILEY, R. COZENS, Hazelwood, East Cowes, Isle of Wight.
BARNSLEY, R. E., 1, Hutton Terrace, Jesmond, Newcastle-on-Tyne.
CATES, H. J., County Hall, Kingston.
COVENTON, A. W. D., 5, Smith Street, Chelsea.
DUNHILL, T. P., 15, Harley Street, W. 1. (Tel. Mayfair 438.)
ECCLES, T. A., Croydon General Hospital, Croydon.
FISHER, A. G. T., 86, Harley Street, W. 1. (Tel. Langham 2186), and "Copthorne," Radlett, Herts.
GASK, G. E., 4, York Gate, N.W. 1. (Tel. Langham 2027.)
GERARD-PEARSE, J. E., 11, Royal Terrace, Weymouth.
GREEN, Col. S. F. St.D., C.B.E., A.M.S., A.D.M.S., 5th Division, Headquarters, Curragh Camp, Co. Kildare.
HAMILL, P., 74, Harley Street, W. 1. (Tel. Langham 1632.)
KINGDON, J. R., c/o Dr. James, 54, Park Lane, Croydon.
LAURIE, C. R., The Red Bungalow, Trevanion Road, Wadebridge, Cornwall.
ROSE, E. S., Claybury Mental Hospital, Woodford Green, Essex.

The following is a list of Members of the Staff who have been transferred to the new *Langham Exchange*, with their present numbers.

Dr. H. G. Adamson	1878	Sir Thomas J. Horder	2200
Mr. W. Girling Ball	1311	Dr. C. M. Hinds Howell	2128
Mr. H. E. G. Boyle	2134	Dr. P. Hamill	1632
Mr. W. McAdam Eccles	1036	Dr. C. F. Hadfield	1035
Mr. R. C. Elmslie	2202	Mr. R. Foster Moore	1848
Dr. N. S. Finzi	1743	Sir D'Arcy Power	1226
Mr. G. E. Gask	2027	Mr. H. B. G. Russell	2186
Sir C. G. Gordon-Watson	2343	Mr. F. A. Rose	2283
Dr. A. E. Gow	1712	Dr. H. Williamson	2288
Mr. H. E. Griffiths	1645	Mr. H. W. Wilson	2228
Mr. W. D. Harmer	2071		

BIRTHS.

ATTLEE.—On January 24th, at 24, High Street, Eton, Windsor, the wife of Dr. W. Attlee—a daughter
BATT.—On January 25th, at Denston, near Newmarket, to Olive, wife of John Dorrington Batt—a son.
CUNNINGHAM.—On February 16th, at Chesham, Bucks, to Marguerite, wife of F. H. Lester Cunningham, M.C., M.B., B.S.(Lond.)—a daughter.
DALE.—On March 11th, at 1, Harrington Villas, Potter's Road, New Barnet, Herts, to Dr. and Mrs. W. Chalmers Dale—a son.
DICK.—On February 6th, at Beaufort House, Grange Park, Ealing, the wife of Major A. M. Dick, F.R.C.S., I.M.S.—a daughter.
ELLIS.—On March 16th, at The Limes, Cottenham, near Cambridge, to Ethel, wife of Robert Ellis, M.D. (and daughter of Dr. C. Hayden Cox)—a son.
HAMILL.—On March 21st, at 1, Weymouth Street, W. 1, the wife of P. Hamill, M.D., D.Sc., F.R.C.P., of 74, Harley Street—a daughter.
MCCALL.—On March 10th, at Malton, Yorkshire, the wife of H. Dundas McCall, M.R.C.S., L.R.C.P., of a son.
TAYLOR.—On February 7th, at Wayland House, Bridlington, to Frances (*née* Peto), wife of C. R. Taylor, O.B.E., M.B., B.Ch. (Cantab.)—a daughter.
WITH.—On January 29th, at The Homestead, Bexhill-on-Sea, to Jean (*née* Fraser), the wife of Capt. With, of Amarah, Mesopotamia—a daughter.

MARRIAGES.

COVENTON—OSTLE.—On January 29th, by the Right Rev. the Lord Bishop of London, assisted by the Rev. C. Spencer, at St. Bartholomew-the-Less, E.C., Albert William Duncan Coventon, M.B., son of the late Mr. and Mrs. A. E. Coventon, of Minchenden Lodge, Southgate, to Helen Muriel, youngest daughter of the late Rev. W. and Mrs. Ostle.
VINTER—PENOYRE.—On February 19th, at St. George's, Bloomsbury, London, by the Rev. F. A. Cockin, M.A., assisted by the father of the bride, Noël Sydney Bailey Vinter, M.B., B.S., younger and only surviving son of Sydney Garratt Vinter, M.R.C.S., J.P., of Udal Garth, Torpoint, Cornwall, to Alice Dorothy, eldest daughter of the Rev. Prebendary Stallard Penoyre, Rector of Stockton, Worcester.

DEATHS.

ABRAHAM.—On February 23rd, 1921, at 45, Marlborough Hill, St. John's Wood, N.W., Phineas Simon Abraham, M.D., F.R.C.S.I., etc., late of 66, Harley Street, W., aged 74.
BEATTIE.—On February 8th, 1921, H. Beattie, M.R.C.S., L.R.C.P., of Newland House, Broad Street, Banbury, Oxon.
JONES.—In February, 1921, Robert David Jones, M.R.C.S., L.R.C.P., of Penrhyndeudraeth, Merionethshire, as the result of a railway accident.
NUNN.—On January 10th, 1921, at Bournemouth, Dr. Philip G. Nunn, aged 72.
ODLING.—On February 17th, 1921, at Oxford, William Odling, M.B.(Lond.), F.R.C.P., aged 90.

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.*
The Annual Subscription to the Journal is 7s. 6d., 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 ADVERTISEMENT MANAGER, *the Journal Office, St. Bartholomew's Hospital, E.C. Telephone: City 510.*

St. Bartholomew's Hospital JOURNAL.

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

VOL. XXVIII.—No. 8.] MAY 1ST, 1921. [PRICE NINEPENCE.

CALENDAR.

Fri., April 29.—Dr. Drysdale and Mr. Rawling on duty.
Mon., May 2.—Clinical Lecture (Special Subjects), Mr. Harmer.
Tues., ,, 3.—Sir P. Horton-Smith Hartley and Sir C. G. Gordon-Watson on duty.
Wed., ,, 4.—Clinical Lecture (Surgery), Mr. Waring.
Fri., ,, 6.—Dr. Fraser and Mr. G. E. Gask on duty.
Clinical Lecture (Medicine), Dr. Morley Fletcher.
Mon., ,, 9.—Clinical Lecture (Special Subjects), Mr. Elmslie.
Tues., ,, 10.—Dr. Tooth and Mr. Waring on duty.
Wed., ,, 11.—Clinical Lecture (Surgery), Mr. Waring.
Fri., ,, 13.—Dr. Morley Fletcher and Mr. McAdam Eccles on duty.
Clinical Lecture (Medicine), Sir P. Horton-Smith Hartley
Mon., ,, 16.—Bank Holiday.
Tues., ,, 17.—Dr. Drysdale and Mr. Rawling on duty.
Wed. ,, 18.—Clinical Lecture (Surgery), Mr. McAdam Eccles.
Fri., ,, 20.—Sir P. Horton-Smith Hartley and Sir C. G. Gordon-Watson on duty.
Clinical Lecture (Medicine), Dr. Drysdale.
Mon., ,, 23.—Clinical Lecture (Special Subjects), Mr. West.
Tues., ,, 24.—Dr. Fraser and Mr. Gask on duty.
Wed., ,, 25.—Clinical Lecture (Surgery). Mr. McAdam Eccles.
Fri., ,, 27.—Dr. Tooth and Mr. Waring on duty.
Clinical Lecture (Medicine), Dr. Drysdale.
Mon., ,, 30.—Clinical Lecture (Special Subjects), Mr. Rose.
Tues., ,, 31.—Dr. Morley Fletcher and Mr. McAdam Eccles on duty.

EDITORIAL.

AFTER completing three and a half years of editorial hard labour J. Stanley White has retired from the management of the JOURNAL. The following is taken from the minutes of the Publication Committee meeting held on March 22nd:

"Before proceeding to the business of the day the Chairman (Mr. McAdam Eccles) drew attention to the fact that this was the last meeting with J. S. White as editor. For three and a half years Mr. White had been connected with the JOURNAL, and for over three years he had had the full responsibility of the JOURNAL on his shoulders. During the difficult times toward the end of the war when many journals suffered neglect Mr. White kept up the standard of the JOURNAL to an extremely high level, and for this service the Hospital should be very grateful. Moreover Mr. White was leaving the JOURNAL solvent, which was very reassuring in these times of high prices and high wages.

"Therefore the Committee wished to place on record its especial thanks for the work Mr. White had done and for the way he had done it."

* * *

Few can ever realise how hard it was to obtain material fit for publication in the last years of the war when everyone was *chargé d'affaires*. Mr. White took infinite trouble to pin contributors down to their promises, and by his importunity to cause people to send their articles in time for the next number. We thank him now on behalf of the Hospital.

Alas! we fear that those who do not realise the value of Mr. White's work in the Journal Office will soon enough learn the lesson if they continue to peruse our columns.

However, whatever changes in *personnel* occur, the Editorial "we" will do the utmost in their power to maintain the standard of excellency which the JOURNAL has reached under the jurisdiction of Mr. White.

* * *

May we remind our readers again that the reason why it is not as difficult to obtain material now as it was in the days of the war is that readers now have time to become themselves contributors? It is imperative for the well-being of the JOURNAL that contributors contribute, even as it is that editors edit. Contribute then, O reader! Let the ink flow from your pen like rain from heaven to water and nourish the science and art of medicine and surgery (noble symbiosis!).

The following gentlemen have been nominated to House Appointments from May 1st, 1921:

House-Physicians—	
Dr. Morley Fletcher.	L. P. Garrod.
	N. Gray Thomson.
Dr. Drysdale.	Campbell Shaw.
	C. H. Andrewes.
Prof. Fraser.	R. Hilton.
	D. W. Winnicott.
Sir P. Horton-Smith Hartley.	C. W. Narbeth.
	T. L. Ormerod.
Sir Thomas Horder.	J. Conway Davies.
	J. Stanley White.
House-Surgeons—	
Mr. Waring.	M. G. Thomas
	J. L. Potts.
Mr. Eccles.	H. J. Churchill.
	H. L. Sackett.
Mr. Rawling.	C. Hamblen Thomas.
	C. S. C. Prance.
Mr. G. E. Gask.	D. Cameron.
	H. J. Hendley.
Sir C. G. Gordon-Watson, K.B.E.	W. B. Jepson.
	S. Orchard.
Intern Midwifery Assistant (Resident)	C. H. Bracewell.
Intern Midwifery Assistant (Non-Resident)	D. G. F. Moore.*
Extern Midwifery Assistant	F. E. S. Willis.
Ophthalmic Department	A. R. Dingley.
Throat Department	S. L. Higgs.
Orthopædic Department	R. Powell.*
Venereal Department	F. Allen.†

* 3 months, May. † 3 months, August.
All others for 6 months.

* * *

The attention of old St. Bartholomew's men and others sending patients up from the country is drawn to the following notice:

PATIENTS' CONTRIBUTIONS.

In-Patients.

On and after April 1st, 1921, patients (other than children) admitted to the wards of the Hospital will be expected to pay £2 2s. per week towards the working cost of the Hospital. Patients unable to pay this amount must produce evidence of their inability to do so, and will be expected to contribute according to their means.

Out-Patients.

On and after April 1st, 1921, patients (other than children) treated in the Surgery or Special Departments will be expected to contribute towards the working cost of the Hospital in accordance with the following scale:

Casualty patients; Medical and surgical out-patients; Out-patients of Special Departments not hereunder mentioned	A minimum of 6d. for each attendance.
Out-patients of the Massage, Electrical, X-Ray and Dental Departments	A minimum of 1s. for each attendance.
Patients of the Dental Department on whom an anæsthetic is used	A minimum of 2s. 6d. for each attendance.
Out-patients (including children) on whom a minor operation is performed with the use of an anæsthetic, including patients of the Throat and Ear Departments	A minimum of 5s.

Out-patients unable to contribute will be treated free on production of satisfactory evidence of their inability to pay.

By order.

22nd March, 1921.

* * *

This notice is the sequel to a decision recently arrived at by the Governors. As far as can be judged, the immediate effect of the innovation has been satisfactory. There have been very few grumblers, and many patients have been glad to feel that they are enabled to contribute in some measure to the expenses of the Hospital. Only time will tell what effect the new system will have on the subscriptions and on the total income.

A number of questions immediately crop up, such as: Will the number of patients be appreciably lowered? This and other points will be discussed in a future number when more facts have been observed. In answer to one inquiry we can state that "patients sent up to a member of the Staff for an *opinion*" will be expected to contribute; no exceptions have been formulated.

* * *

We sincerely hope that no one missed the front-page column in one of the evening newspapers which purported to tell the truth about "the new anæsthetic." In the mind of anyone knowing Dr. Mackenzie Wallis and Mr. Langton Hewer the idea of their giving such an interview as the correspondent implied had been given was so ludicrous that the humorous side of the affair floated uppermost. We convey our sympathy, however, to the two gentlemen in question for the inconveniences and misapprehensions which resulted.

In order to inform our readers accurately on the subject of ethanesal we print on another page a summary of the papers read at the Royal Society of Medicine.

* * *

Attention is drawn to the page advertising the

SPECIAL POST-GRADUATE VACATION COURSE.

Between the dates July 18th (Monday) and July 30th (Saturday) there has been arranged a comprehensive course of instruction in the form of demonstrations in the out-patient departments, wards and laboratories. The programme has been very carefully arranged so that as few items clash as possible, and indeed the amount of useful knowledge stored up in the fortnight will depend simply on the capacity of the post-graduate brain.

It is difficult to conceive of any more important advance in the teaching of medicine than one like this, which enables a qualified man to become acquainted with the possibilities of application of scientific knowledge to every-day practice which have been discovered in the period since he himself was a student. This course is especially designed to meet the needs of the practitioner, and there will be no place given to abstruse science which cannot be applied in the practitioner's consulting-room. An important point is that undergraduates, with all their alarming knowledge of detail and theory, are absolutely barred, and so the more practical G.P. need not fear lest he be made a laughing-stock because he does not know the relations of structures emerging from the sciatic foramen.

It would be a great advantage to the G.P. if he could afford the time every year to attend such a class. Every one knows how difficult it is to keep in stride with the times simply by reading medical literature. Supplemented by this little summer session of mental gymnastics, medical periodicals might remain interesting to the G.P. even as they are interesting to the medical student.

* * *

The Ninth Annual Meeting of the St. Bartholomew's Hospital Women's Guild will be held in the Great Hall on May 11th at 4.45 p.m., with the Viscountess Sandhurst, O.B.E., in the chair. The speakers will be Mrs. Crawford and Mr. Elmslie.

Lady Moore has worked as Hon. Secretary of the Guild for nearly eight years and is now retiring, her place being taken by Mrs. Tooth.

* * *

The King of the Belgians has conferred the Croix de Guerre on Hon. Lieut.-Col. H. C. Parsons, T.D., R.A.M.C. (T.F.), of the N.Z.M.C.

The following Old Bart.'s man has been mentioned in despatches by Gen. Sir E. F. Milne, G.C.M.G., British Army of the Black Sea, dated October 31st, 1920, for distinguished and gallant services: Capt. and Brevet-Major (acting Lieut.-Col.) R. E. Barnsley, M.C., R.A.M.C., 84th F.A.

* * *

Mr. A. G. Timbrell Fisher, M.C., F.R.C.S., who was recently appointed Hunterian Professor of the Royal College of Surgeons of England, will deliver an address on gunshot wounds of joints at the forthcoming Congrès International de Médecine Militaire at Brussels in July.

* * *

An acknowledgment has to be made on behalf of the Queen Mary's Home for St. Bartholomew's Nurses Fund. The name of Dr. H. H. Tooth, C.B., C.M.G., M.D., F.R.C.P., was omitted from former lists of subscribers.

Dr. C. A. Hingston's death at Plymouth on April 5th removes a well-loved practitioner who was also a wise and generous philanthropist. Son of the late Dr. Charles Hingston, he was born at Plymouth in 1843, and after being educated locally, entered as a student at this Hospital and matriculated at the London University. On graduating M.B. in 1864 he joined his father in partnership, taking his M.D. and B.Sc. degrees a year later. His public appointments included that of Consulting Physician to the Plymouth Public Dispensary and Dental Dispensary, and Physician to the Ear and Throat Hospital, Plymouth, and to the Devon and Cornwall Female Orphan Asylum. Dr. Hingston was particularly interested in the Y.M.C.A. movement and did much to put its local branch on a firm financial basis, presiding himself over the South-Western District of the Association. He made himself responsible for building the Crownhill Convalescent Home, and he expended some £5000 on a lodging-house for tramps. He will be much missed in and around Plymouth.

THE MEDICAL INVESTIGATION OF CRIMES OF VIOLENCE.*

By BERNARD H. SPILSBURY, M.B., B.Ch.

(*Continued from p.* 88.)

Rex v. *Rutherford.*—This was a charge of murder by the use of a revolver. In the body of the deceased man were found six bullet-wounds, and two others in the arms.

The absence of scorching and of powder marks round the bullet-holes in the clothing proved that the weapon had not been used at very short range; the wounds of entrance and exit were so similar in character as to give no sure indication as to the direction of the bullets, with one exception, where the bullet had remained in the body.

Two of the bullets had produced superficial transverse wounds, which ran horizontally through the right breast at a height of 4 ft. 7 in. and 4 ft. 3 in. respectively above the heel.

A third bullet had crossed the front of the chest from side to side and almost horizontally at a height of 4 ft. 3 in., and had wounded the right lung.

At the same level a fourth bullet had crossed the chest almost horizontally between the mid-axillary lines, traversing the lungs and both ventricles of the heart; this, the most rapidly fatal wound, was the cause of death.

A fifth bullet had entered behind the right shoulder at a height of 4 ft. 7 in., crossing the chest horizontally, traversing the apices of the lungs and the vertebral column and lodging against the left scapula.

The sixth bullet had passed through the left abdominal

* A paper read before the Abernethian Society, December 2nd, 1920.

wall horizontally in an antero-posterior direction at a height of 3 ft. 6 in., inflicting a flesh wound.

All the wounds were approximately horizontal, two at a height of 4 ft. 7 in.; three, including the fatal injury, at 4 ft. 3 in.; and the other at 3 ft. 6 in. All ran across the chest with the exception of one, which traversed the abdominal wall in an antero-posterior direction.

The weapon was discharged in a sitting-room, and the deceased was found lying face downwards outside the door with his legs and feet in the doorway. He died within five minutes of the time when the sounds of firing were heard. The sounds were described by an ear-witness as following in quick succession, apparently as rapidly as the weapon could be discharged.

During the removal of the body a bullet fell out of the clothing; another was found in contact with a note-book in the left breast pocket, but the relative position of book and bullet could not be ascertained, and so it could not be determined whether the bullet had traversed the body before striking the book or had come from the opposite direction.

A search of the clothing before the body was moved would have enabled these bullets to have been located, and would have assisted in determining the relative positions of assailant and assailed.

A third bullet was found in a spectacle case in the right breast-pocket close to the right extremities of the second and third wounds; there was no hole in the front of the pocket. This bullet had therefore traversed the body from left to right.

At a later date I examined the room in which the murder occurred, in the door, door-frame and adjacent wall of which bullet-holes had been noted.

There was a bullet-hole in the wall 7 in. to the right of the door-frame upon the hinged side, 4 ft. 5 in. above the floor. The bullet had entered the wall almost horizontally, and had been fired from a point exactly opposite. The hole corresponded in height approximately with the wound described first. As the revolver was not fired at very close range the assailant must have been on the far side of a table which occupied the centre of the room.

A second bullet-hole was found in the door 2½ in. from its left or swinging edge and 36½ in. above the floor; the direction was downwards at an angle of 105° with the perpendicular. This bullet could have been fired from the same position as the one producing the first hole if the door was slightly open, but if it was closed the assailant moved 1½ ft. to the left of his previous position.

A third bullet penetrated the left door-frame 3 ft. 5 in. from the floor. It had a more marked downward inclination of 115°. It was fired from a point exactly opposite the hole, and probably at rather shorter range than the first. The assailant had moved to the left and round the end of the table towards the door. The hole corresponded in height with the wound in the abdomen if the deceased stood close to and facing the door leaning forwards slightly.

A fourth bullet had passed through the open door, grazing the left door-frame; it had a fairly marked downward inclination, and could have been fired from the same position as the first bullet if the door was wide open, otherwise the assailant must have moved to the left.

The increasing downward inclination of the last three bullet-holes, although the wounds in the body were horizontal, suggests that the fatal injury had been inflicted, and that the deceased was collapsing, when these three shots were fired.

Owing in part to insufficient data, in part to the difficulty arising from the movement of the door, reconstruction is incomplete in this case, but a comparison of the wounds with the bullet-holes in the room indicate that the first shot was fired when the deceased was a short distance from the door, and that he reached the door and opened it before he collapsed upon the threshold. The assailant followed him on the opposite side of the table, and lowered the muzzle of the weapon as the deceased man sank to the ground.

Rex v. *Jeannie Baxter*.—In this case a woman was charged with the murder of a flying-man by the use of a revolver.

One bullet had traversed the man's chest from front to back and obliquely from right to left. It opened one of the innominate veins, wounded the trachea and the left lung, and was found lodged beneath the skin at the back of the chest. A second bullet passed through the right upper arm and had then embedded itself in the wall. Four other bullets were found in the walls of the bedroom in which the shooting occurred.

The two wounds might have been self-inflicted if the weapon had been changed from one hand to the other; a comparison of the powder marks round the bullet-holes in the clothing with experiments made by firing at a cloth with the revolver and similar cartridges at different ranges showed that the muzzle of the weapon must have been more than 2 ft. away when the wounds were inflicted and that they could not have been self-inflicted.

The deceased man was found on the bed, which was in one corner of the room against the wall. Two bullet-holes in the wall adjacent to the bed were produced by bullets whose lines of flight converged to a spot at the side of the bed close to the foot; a third bullet entered the wall high up, having taken a very oblique upward course, and this one was fired from a spot close to the first two.

These observations gave the position of the assailant when three of the shots were fired. The other two bullet-holes in the wall had been excavated by a police-officer in order to recover the bullets before the direction of those bullets had been ascertained; it was therefore impossible to ascertain the movements of the assailant during the whole period of the firing.

Cases of homicidal cut throat sometimes present difficulty owing to the simulation of suicidal wounding, especially when the injury is inflicted from behind.

Examination of the clothing of the victim before removal will sometimes dispel a doubt upon this point, for it is an axiom to which there are few exceptions that a suicide bares his throat and applies the cutting edge of the weapon to the skin before making a cutting movement.

A murderer, on the other hand, will cut through any clothing which covers the throat, and the cutting movement frequently starts before the weapon reaches the throat or passes beyond the limit of the injured area; clothing may therefore be cut at some distance from the wound.

Thus, in *Rex* v. *Pedder* the prisoner was charged with the murder of his wife by cutting her throat. The deceased was found dead in a lane with a single gaping wound almost 4 in. long on the front and right side of the neck; the wound was deep and was undercut at its right end, becoming shallower towards its left end; the internal jugular vein was divided and the larynx opened.

A lace collar was cut along the line of the wound in the throat, and a fur collar which encircled the neck was almost completely cut across a little to the right of the wound.

The deceased was wearing a knitted woollen jumper, and across the front of the left shoulder of this article was a long, clean cut which resembled a tear because the fabric had become unknitted. The cut was in a line with the wound on the throat and there was no blood along the edges of the cut.

These observations showed that the wound had been inflicted by a slashing cut from left to right, the jumper being cut first, then the throat, and lastly the fur collar.

Corroboration was obtained by examination of a blood-stained razor in the possession of the prisoner. Several hairs were adherent to the razor in the blood-stained area; these were found on microscopical examination to correspond in structure with the hairs on the fur collar, which had therefore been cut after the razor had been moistened with blood.

Rex v. *Pateman*.—This case is similar to the last, the prisoner being charged with the murder of his sweetheart by cutting her throat. There was a single gaping wound on the front and right side of the neck, sweeping upwards at its right end, where it was undercut; the common carotid artery, internal jugular vein and larynx were all opened.

The girl was wearing a broad-brimmed beaver hat; there was a clean cut through the brim on the right side in a line with the right extremity of the wound in the neck and the lower edge of the cut was smeared with blood.

The throat had therefore been cut by a sweeping movement from left to right, and the continuation of the movement beyond the wound in the neck cut the brim of the hat.

In spite of the serious injuries the deceased was able to cover a distance of about fifty yards before she collapsed.

Examination of the blood found at the scene of a crime of violence, its amount, characters and distribution is of great assistance in some instances in the indications which it affords of the mode of infliction of the injuries.

In the case of *Rex* v. *De Stamir* the injured man was found unconscious in his bedroom with several wounds on the head, which appeared to have been inflicted by a bent and blood-stained poker which was found in the room.

After death nine wounds were found on the back and sides of the head and several fractures of the vault of the skull.

The injured man was found upon the floor in one corner of the room and a large quantity of blood had flowed from the wounds over the surrounding carpet.

In addition the immediate surroundings were thickly covered with small spots of blood splashed by repeated blows upon a surface already wet with blood.

The body was lying in front of a chest of drawers, and on the top of the chest and on the wall above and behind it were some hundreds of small blood-spots extending to a height of over 7 ft. from the floor; some of the spots were caused by fluid blood which had soaked into the paper, others by tiny clots which formed projecting crusts when they were dry; adhering to the latter were short pieces of human hair, which corresponded in characters with the hair on the head of the injured man. These spots had been flung off the bloody weapon when it was raised to strike further blows, the assailant standing between his prostrate victim and the chest of drawers.

On the ceiling there were five rows of blood-spots which had been caused in the same way. These rows radiated from the corner in which the body was found outwards towards the centre of the room; the assailant must have moved round to the other side of his victim when these five blows were struck.

Whilst the examination of the dead man showed that at least nine blows had been struck, the number and the distribution of these blood-spots pointed to a considerably larger number of blows—thirty at the least, and probably many more—and suggested that the assailant was either insane or in a frenzied condition at the time.

Although blood may be scattered widely by repeated blows upon a surface wet with blood the assailant may receive little blood upon his clothing.

This is illustrated by the case of *Rex* v. *Hodgson*, where a man was charged with murdering his wife and young child by striking them with a chopper.

The kitchen in which the murders were committed was described as resembling a shambles, with a large quantity of blood upon the floor and splashes of blood in large numbers on the walls and furniture.

On examination of the clothing of the accused man I

found only twenty very minute spots, some of which were duplicates produced by contact with adjacent garments. Some of the spots were produced by fluid blood, others by blood-clot forming minute crusts.

It was suggested for the defence that there must have been a very much larger amount of blood upon the clothes of the murderer.

The back of the chopper had a flat surface about half the size of the palm of a hand, and most of the blood upon the weapon was on that surface, to which long human hairs adhered. There was no blood upon the sharp edge of the chopper.

It was evident therefore that the back of the chopper was the striking surface, and if that surface was between the assailant and the part struck, he would be shielded to a large extent from the blood scattered all round the area of contact, just as a boy can bespatter other persons by dropping a brick in a puddle whilst he escapes the shower.

In many other cases investigations of a more general character will be found to be of value. The details of each case will determine the line of investigation required, and it is impossible to classify the methods or to draw up a series of rules to serve as a guide.

Only one example of this class of investigation can be given now, and that is in the case of *Rex* v. *G. J. Smith*, the man who was charged with murdering three women, whom he had bigamously married, by drowning in baths.

In the first case Smith purchased a bath a week before the fatality, and placed it in an empty bedroom on the first floor, where there was no water supply or waste-pipe by which it could be emptied. It was in that condition that the bath was used on the day of the death.

In the Coroner's Court Smith stated that on that morning he went for a walk for half an hour, leaving his wife in bed, and that on his return he found her dead in the bath.

The doctor, on his arrival, found the woman still in the bath, which contained tepid water to about three-quarters of its capacity. According to Smith the woman had got up, heated the water, carried it upstairs, and had drowned herself all in the space of half an hour. The statement was accepted, and a verdict of accidental death was returned.

After Smith's arrest the police tested his story by filling the bath to the same extent with water carried from the lower floor in buckets. They found that more than twenty buckets of water were required, and that one man could not carry these in half an hour. It was very fatiguing work, and a considerable time in addition would have been required to heat the water. They thus demonstrated that Smith's story was an impossible one.

In the second case the body of the woman exhumed about a year after burial was found to be short and stout, especially about the hips and buttocks, the transverse measurement of the hips being 16 in. This part of the body was well preserved in shape and size owing to its complete conversion into adipocere.

The bath in which she was drowned was a small and old-fashioned one, 5 ft. 6 in. in length at the top, with a bottom which sloped steeply from the head to the foot end. At the foot it was very narrow, measuring 11 in. across near the bottom and 19 in. at the top.

Smith raised the alarm, and he was found supporting the woman in a sitting posture at the foot of the bath, her legs extending up towards the head, and the greater part of the body out of the water.

It was an impossible position for this woman to have assumed naturally in that bath, as her hips would have been wedged against the sides at a short distance from the top, and the only sitting position which she could have assumed would have been at the head end.

It was noticed that a large amount of the woman's hair was loose in the water, and there had been much splashing on the floor.

These details suggested the method which had been employed to compass the death of this woman and probably of the other victims, the legs being seized suddenly and raised out of the water with one hand, whilst the head was thrust beneath the water with the other hand and held there until death ensued.

In this case the size of the woman and the small dimensions of the bath rendered this operation unusually difficult, and the woman struggled so violently that he was obliged to hold her legs high up and to force her head down towards the deeper foot end, so that when her struggles ceased and he relaxed his hold he had completely reversed her position in the bath. When he feigned to rescue her he raised her up into the position in which she was seen by those who were summoned by his cries.

In this case also the coroner's jury brought in a verdict of accidental death.

If in either of these two cases the above investigations had been carried out before the coroner's inquiry was held, this man's career of crime would probably have been considerably curtailed.

The cases which I have quoted in this paper are but a few examples of the value of general observation in criminal cases, and I do not claim to have dealt with the subject in a comprehensive manner, but I hope that I have made good my contention that the medical man is the best equipped by training, knowledge, and opportunity to carry out these investigations, and that he is the only person who can interweave the strictly medical facts with the more general observations.

The accumulation of accurate observations is the object of all inquiries in criminal cases, whether those observations are employed to test the story told by a prisoner upon his defence, or whether, when they are sufficiently detailed, they enable complete reconstruction to be made of the crime.

In the criminal courts a medical man is an impersonal witness; he testifies generally, not against the individual prisoner, but for the truth; the conviction of an accused person follows when the facts stated and tested at the trial satisfy the jury beyond reasonable doubt that he is guilty.

TESTS FOR RENAL FUNCTION.

By R. L. MACKENZIE WALLIS, M.A., M.D.(Cantab.).

THE present paper deals with some of the tests for renal function which, in the experience of the writer, have yielded most information as regards the functional capacity of the kidneys. It is of course impossible to deal adequately with even a few of the tests within the scope of a single article. Their very multiplicity is a sign that the importance of determining renal function is recognised. The clinician is seeking for aid, not only for purposes of diagnosis, but also for prognosis in cases presenting evidence of renal disease. The introduction of new and improved methods of analysis of the blood and urine have enabled us to apply the knowledge thus gained, and further, have produced a variety of tests for renal function. Some of these tests will be described below, and the results obtained will be given in a subsequent article. In the present state of our knowledge it is, however, impossible to say with any degree of certainty whether one or both kidneys are at fault, and further, we are unable to make any distinction as regards anatomical differences of function. We rely upon abnormal changes in the urine and blood as indices of renal insufficiency, but when the kidneys are irreparably damaged then no special tests are required to demonstrate it.

(1) THE WATER TEST.

The urine provides us with the ultimate results of renal activity, but even gross lesions may be present in the kidneys which may not be revealed by analysis of the urine alone. Now water is eliminated through the glomeruli, and the diluting power of the kidney is thus purely glomerular in origin. The production of polyuria by the consumption of water thus serves as a useful test of kidney function, since a healthy kidney is capable of adapting itself, whereas a diseased organ may respond little, if at all, to such extra stimulation. The test is carried out in the morning on an empty stomach, and the early morning urine should be collected and measured. The patient then consumes 500 c.c. of ordinary water and samples of urine are collected every half hour. In a normal person polyuria occurs within the first half hour and quickly subsides. If, on the other hand, the functional capacity of the kidney is deranged, then the polyuria is delayed, or does not occur at all. The amount of variation from the normal may be taken as a rough measure of the amount of renal inadaquacy. This test is a simple clinical test, and may be applied to every case. It is quite safe, and has, in fact, superseded the tests based upon diuresis produced by drugs. In parenchymatous nephritis the water-secreting power of the kidneys is definitely lowered, whilst in the contracted kidney this power is retained. The relationship of the volume of urine passed to the body-weight is of interest, and is roughly 1 c.c. per kilogramme of body-weight per hour. Thus a patient weighing 62 kilos. should pass 62 c.c. per hour and nearly 1500 c.c. *per diem*.

(2) THE UREA CONCENTRATION TEST.

The test devised by MacLean aims at producing a forced urea elimination by the kidneys, and the degree of concentration of urea in the urine serves as a guide in determining the extent of renal damage. Theoretically this test is an excellent one, since there are so few disturbing factors, and it has been applied with success by MacLean and others. This useful, and at the same time simple test, can be carried out with little inconvenience to the patient, and does not require elaborate apparatus for its performance. The details of the test are as follows: The patient is instructed to empty the bladder in the early morning, and on a fasting stomach is given a urea mixture by the mouth. The mixture for an adult consists of 15 grms. of urea dissolved in 100 c.c. of water, which is flavoured with tinctura aurantii or spiritus chloroforma. Exactly one hour after this dose has been consumed the bladder is emptied, and the specimen passed is placed in a bottle, measured, and labelled "Specimen No. 1." At the end of the second hour the bladder is again emptied, and this specimen is labelled "No. 2." The urea content of each of these specimens is estimated by the ordinary hypobromite method, which is sufficiently accurate for the purpose, and the results are recorded in percentage of urea passed in each specimen. It is often advisable to collect the urine passed three hours after the urea solution has been consumed. In a normal individual the urea percentage in the two specimens passed is usually identical, viz. 2 per cent. or more. Any damage to the kidneys is reflected in the percentage of urea, which becomes progressively less and less according to the extent of renal insufficiency. As a general rule, a low percentage of urea in the urea-concentration test presupposes a retention of urea in the blood.

(3) THE DIASTASE CONTENT OF THE URINE.

The presence of a ferment capable of digesting starch solutions when added to urine has been known for a very long time. The subject received new interest when in 1909 Wohlgemuth published his method of estimating the amount of diastase in the urine. He showed that in pancreatic disease the diastase content of the urine was markedly increased. Since these observations were recorded a

number of workers have all obtained confirmatory evidence, but the best and most complete work is undoubtedly that of Corbett in this country. He showed that there is normally a certain amount of diastase in the blood and that the same quantity is excreted by the kidneys. If there is an increase of diastase in the blood then there is a corresponding increase in the amount of diastase in the urine provided that the kidneys are functionally unimpaired. The slightest damage to the renal epithelium leads either to a great diminution of diastase in the urine or an increase depending upon the permeability of the kidney. Geyelin came to similar conclusions as regards the influence of the kidneys in the removal of diastase from the blood. With regard to pancreatic diseases, it is of interest to note that Wohlgemuth and Noguchi found an increase of diastase in both blood and urine where injury to the pancreas had occurred. The results of Corbett are also striking, and there seems to be no doubt that a high diastase value of the urine is in favour of pancreatic disease, whereas a normal or low value points to a normal pancreas. Some writers, however, have suggested that these high values are only obtained in the acute stages of the disease. These observations represented the general trend of opinion when I first commenced my work upon the subject. The analysis of my results will be given later and compared with the various other tests that have been applied. In carrying out the estimations I have followed the technique devised by Wohlgemuth in certain particulars, and the method of procedure adopted is as follows:

A twenty-four hours' hourly collection of the urine is made into clean, stoppered glass bottles, and the estimation is carried out as rapidly as possible after the full amount has been collected. The urine should be as free as possible from contamination, and where a twenty-four hourly specimen is unobtainable I generally advise a six-hourly collection, or, better still, a twelve-hourly collection. Apart from the fact that there may be a slight rise in the diastase content of the urine preceding a meal, followed by a fall immediately afterwards and lasting for from three to four hours, the rise is so slight that it is almost negligible except when attempting to obtain normal standards of diastase excretion. For practical purposes it does not matter whether a fresh specimen or a twenty-four hours' hourly sample of urine is used. To preserve the urine when facilities for carrying out the test are not immediately available toluol is added. This will not affect the diastase, and in fact specimens may be kept for months or even years without showing any alteration in their diastase content. All other forms of preservative must be avoided, since I have found that in most cases they lead to immediate destruction of the ferment.

For the actual test only 2–3 c.c. of urine are required. The apparatus and chemical reagents required are:

(1) Ten clean, dry test-tubes made of good glass of equal bore and of uniform thickness.

(2) Standard 10 c.c. burettes, Ostwald pipettes of 1 c.c. and 2 c.c. capacity and 1 c.c. pipettes graduated in $\frac{1}{100}$ths of a degree.

(3) Pure distilled water.

(4) A carefully-prepared solution of starch made by dissolving 2 gr. of pure soluble starch in 100 c.c. of pure 10 per cent. sodium chloride. This acts as a stock solution and the standard starch solution is made up fresh as required. Five c.c. of this stock solution are placed in a 100 c.c. measuring flask and diluted up to the mark with pure distilled water. This solution now contains 0·1 grm. per cent. of soluble starch in a 0·5 per cent. solution of sodium chloride, and is the solution used in all the diastase estimations recorded in this paper.

(5) A $\frac{1}{10}$ normal solution of iodine. This has to be made up fresh as required, since it does not keep well, particularly in the summer months. The iodine solution is stored in the dark in $\frac{1}{10}$ normal strength, and from this a fresh $\frac{1}{50}$ normal solution is made by diluting 2 c.c. of the iodine solution up to 10 c.c. with distilled water. A specially-prepared dropping pipette is always used with this solution to ensure that the same number of drops of dilute iodine are added to each tube when carrying out the estimation.

(6) A reliable water-bath, which is maintained at a temperature of 39° C. by means of a thermo-regulator.

(7) A wire cage to hold the test-tubes in place when immersed in the bath.

The tests are carried out as follows:

The ten test-tubes are placed in a stand and numbered in sequence. One c.c. of the urine to be tested is added to tube No. 1 by means of a pipette, and tube No. 2 contains ·5 c.c. and so on according to the table below. Each tube is then made up to a volume of 1 c.c. with distilled water. We have now a series of ten test-tubes containing various decreasing quantities of urine, but each of equal volume—1 c.c. It has been found that by careful manipulation and using a good pipette this method of dilution gives rise to only a slight error—at least insufficient to affect the estimation.

We now have the following series of dilutions:

(1) 1 c.c. of urine.
(2) 0·5 c.c. of urine.
(3) 0·2 „ „
(4) 0·1 „ „ (1 c.c. urine diluted with 9 c.c. water).
(5) 0·08 c.c. of urine.
(6) 0·06 „ „
(7) 0·04 „ „
(8) 0·02 „ „
(9) 0·01 „ „ (1 c.c. of 1 in 10 diluted with 9 c.c. water).
(10) 0·008 c.c. of urine.

All these tubes are now inserted into the wire cage and placed in the water-bath for fifteen to thirty minutes. This serves to bring the temperature of the mixtures up to the required level, and further activates the ferment present in the urine. The diluted starch solution is now run into each tube, 2 c.c. being used, and after mixing the tube is replaced in the wire cage. The wire cage is placed in the water-bath and allowed to remain there for half an hour, after which time the cage is withdrawn and placed under running water to cool the tubes, to arrest any further ferment action. The ten tubes are replaced in the test-tube stand in their original order. By means of the fine dropping pipette two drops of the freshly-prepared iodine solution are added to each tube and the mixture shaken.

If the urine is normal tubes 1, 2 and 3 will show a golden-yellow colour, indicating that the 2 c.c. of starch solution added has been completely digested by the diastase present in the urine, whilst tube 4 will have a reddish colour with no tinge of blue, tube 5 a violet tinge, and all the remaining tubes will be deep blue. In such a series tube 4 will give the reading required, since it is the tube where the starch has been digested as far as the dextrin stage. This red-coloured tube is taken as the limit-tube when the above dilutions are used. After considerable experience with this method I prefer to adopt this reading rather than the somewhat indefinite mauve limit in Corbett's modification.

The calculation of the amount of diastase in the urine is now a simple matter, the results being expressed in terms of units of diastase. Thus tube 4 gives a red coloration, and shows that 0·1 c.c. of the urine has digested 2 c.c. of a ·1 per cent. solution of starch in half an hour at a temperature of 39° C. Therefore 1 c.c. of urine will digest 0·1 : 2 c.c. starch : : 1 c.c. : x.

This gives a diastase content of 20 units, or, in other words, 1 c.c. of the urine is capable of digesting 20 c.c. of a 0·1 per cent. solution of starch in half an hour, or expressed numerally,

$$d\frac{39^{\circ}}{30}, = 20 \text{ or } d = 20 \text{ units.}$$

In dealing with pathological urines the above method possesses many advantages, since the ten tubes give a wide range, and the differences are generally so large that minor errors of dilution, changes in volume of the urine, saline constituents, reaction and presence of abnormal constituents have very little influence on the result. Thus we see how important it is to adopt a technique with freedom from any external sources of error, and any attempt to depart from this procedure, either on the lines of simplification or amplification, invariably meets with failure. After an extensive trial with this test on many hundreds of specimens of urine it has been possible to fix a standard for normal healthy individuals. The normal average value has been found to be 20 units—the maximum being 33·3 and the minimum 10 units—a sufficiently limited range from which to determine whether a given urine is normal or abnormal.

(4) Analysis of the Blood, particularly the Urea Content.

For a complete analysis of the blood the methods devised by Folin and Wu have been followed with certain modifications. The blood is obtained by venepuncture of an arm vein, the sample being taken at least three hours after a meal. The blood is allowed to flow into a small measuring cylinder containing a small amount of powdered potassium oxalate to prevent clotting. The potassium oxalate should not exceed 20 mgrm., and this acts best when distributed over the sides of the cylinder. For the analysis either 7 c.c. or 12 c.c. of blood are removed, the latter volume being obtained for preference. Immediately the amount required has been collected the cylinder is thoroughly shaken to prevent clotting, and 5 c.c. or 10 c.c. of the oxalated blood is removed by means of a standard pipette and placed in a clean Erlenmeyer flask. The blood is now diluted with seven times its volume of distilled water and thoroughly shaken until complete laking has been obtained. To this mixture is added first a 10 per cent. solution of sodium tungstate, and then $\frac{2}{3}$ normal sulphuric acid in equal proportions. Thus if 10 c.c. of blood are used 70 c.c. of distilled water is added, then 10 c.c. of 10 per cent. sodium tungstate and 10 c.c. of $\frac{2}{3}$ normal sulphuric acid. This makes a total volume of 100 c.c. If only 5 c.c. of oxalated blood is used then just half the quantity of the other reagents are required and the resulting volume is 50 c.c. This mixture at first assumes a bright red colour, but a precipitate soon appears, which rapidly converts the mixture to a dark brown colour. The whole is now thoroughly shaken until it becomes viscous, and produces a metallic ring when shaken similar to that produced by shaking mercury in a glass vesssel. The blood mixture may now be filtered, and the filtrate is remarkable for its clarity and brilliant watery appearance. This filtrate is almost neutral in reaction, or at the most faintly acid, provided pure reagents are used. It contains no trace of proteins, but all the uric acid, créatinin, urea and sugar are present in this filtrate. This method of preparing a protein-free filtrate from blood is superior to any other method so far devised, and provided due care is taken is always successful.

The urea content of the filtrate is estimated by means of the urease method. Five c.c. of the clear filtrate are digested with an alcoholic extract of soya beans, and the resulting ammonium carbonate formed from the urea by the ferment urease is distilled in the presence of borax. The ammonia which distils over is collected in standard acid and estimated colorimetrically by means of Nessler's reagent. The colour obtained is compared in the colorimeter against a similar test carried out on a standard

solution of urea, made up in such a strength as to yield a colour comparable with that of a normal blood-urea content. This estimation can be carried out in a short time, and judging by a number of control experiments gives remarkably constant results. My colleague, Mr. H. E. Archer, Demonstrator of Pathology, is at present engaged on the method of estimation of urea in the blood, and his results will be published shortly.

The sugar content of the blood is estimated on the filtrate according to the method described by the writer and Dr. C. D. Gallagher.

(5) The Cerebro-Spinal Fluid.

The same constituents, viz. urea and sugar, are estimated whenever lumbar puncture is performed for diagnostic purposes. The results of the blood analysis are, however, much more conclusive, and the results of an analysis of the cerebro spinal fluid are used simply to confirm the figures obtained for the blood.

(6) The Urinary Proteins.

The presence of albumen in the urine is of little significance unless the nature and amount of the different proteins is determined as well. The presence of globulin should always be ascertained and the ratio of albumen to globulin determined. The method of estimation of the total proteins as well as the albumen and globulin content requires the use of a refractometer and nephelometer. For this purpose a small quantity of urine is required, and, if possible, samples of both morning and evening specimens should be examined. For clinical purposes the following tests for globulin may be applied to the urine and a rough estimate of the amount present may be determined.

(A) *Acetic acid in the cold test.*—To about 10 c.c. of the urine in a test-tube add three to six drops, not more, of dilute acetic acid (33 per cent. strength). The presence of an excess of globulin is indicated by the immediate appearance of an opalescence or precipitate.

If the precipitate does not appear at once it is not globulin but probably mucin, and the latter is frequently mistaken for globulin. Many urines contain mucin precipitated by acetic acid and consequently care is necessary in carrying out this test. Attention is also called to the necessity of using dilute acetic acid and not to add more than six drops, as otherwise the globulin may be re-dissolved and so escape detection.

(B) *The distilled water test.*—This test consists in allowing the urine to drop into a cylinder containing pure distilled water. The presence of globulin is at once apparent, as white rings like smoke rings appear when the drop comes in contact with the distilled water. This test is not so delicate as the cold acetic acid test, but it is a striking test, and gives definite results when globulin is present in quantity.

(7) The Phenol-Sulphone-Phthalein Test of Rowntree and Geraghty (the Phenol Red Test).

The test depends on the fact that if the dye is injected into the body it is almost entirely eliminated by the kidneys. This dye is prepared in the form of a red crystalline powder, moderately soluble in water, and when the solution is alkaline has a bright red colour, but when acid of a golden yellow colour. It is practically non-toxic, and can be administered by the mouth or by subcutaneous injection. The test is carried out as follows: About half an hour previous to the test the patient is given 200 to 400 c.c. of water to promote diuresis. The bladder must be completely emptied, and in cases of retention a catheter must be used. One c.c. of an alkaline solution of the dye (0·006 gr.) is injected into the lumbar muscles and the time of injection noted. Exactly one hour and two hours after the injection the bladder is emptied and the volume of each sample measured. The urine passed is usually of a yellow or orange colour, but becomes a deep purple on addition of a solution of 25 per cent. sodium hydroxide. The whole of each sample is placed in a 500 c.c. or litre flask and diluted up to volume with distilled water. After being thoroughly mixed and filtered a portion of the coloured solution is placed in a colorimeter and compared against a standard solution of the dye. The standard solution is prepared by adding ½ c.c. of the solution used for injection to a 500 c.c. or litre flask, diluting with distilled water to the mark and rendering alkaline with a few drops of sodium hydroxide. This standard solution will retain its purple colour for some weeks. The amount of dye excreted in the first and second hours can be determined by comparing the colour produced with that of the standard, which, of course, represents 50 per cent. of the dye injected. In a normal person 40–60 per cent. of the 0·006 gr. of dye injected can be recovered in the urine in the first hour and from 15–25 per cent. in the second hour. There is thus about 60–85 per cent. of the dye excreted in the first two hours—in other words, the elimination is practically complete after the second-hour interval. This test has much to commend it, not only on account of its simplicity, but also the rapid and complete elimination of the dye by the kidneys. In America this test has been given an extensive trial, and in general has received a favourable reception. In this country, on the other hand, the test has signally failed to produce such good results. It may be mentioned that several samples of the dye which have been put on the market are quite useless, in that the colour changes are not produced and consequently the test is rendered valueless when such preparations are used.

(To be continued.)

SYPHILIS AND MARRIAGE.

By Kenneth M. Walker, F.R.C.S.,
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ALMOST common and perhaps the most difficult question a doctor is called upon to answer is: When shall a person who has suffered from syphilis be allowed to marry? In the old pre-Wassermann days a time-limit was usually set, after which it was considered safe to allow the patient to marry. Fournier, who must be recognised as one of the greatest of syphilologists, stated that a minimum period of three or four years subsequent to the chancre must be allowed to elapse, and that after that period, provided that the patient had received careful treatment, marriage should be permitted. Keyes, an American authority, insists on a period of four years, during the last of which no lesions have occurred, and during the last six months of which no treatment has been received. The introduction of the Wassermann reaction has supplied another criterion, and, in spite of all that has been urged against the reliability of the Wassermann reaction, the information it affords remains of the greatest value. Yet, even with this additional information, the question of when a patient should be allowed to marry remains a difficult one. Although the exceptions to Fournier's rule are few, accidents undoubtedly occur if the rule be followed too blindly. The following three cases are interesting examples of infection being transmitted after a period of four years since the chancre and in spite of the fact that treatment had been carried out:

Mr. Y—. 1906: Developed a chancre, followed by secondary lesions. Was treated for two years with injections of grey oil (20 to 30) and mercury pills.

1908: Wassermann negative. Patient told that he was cured.

1918: Patient married.

1920: Child born, apparently healthy.

December, 1920: Patient's wife developed a typical chancre on the left labium majorum, in which spirochætes were found.

Mr. M—. 1902: Developed syphilis with secondary lesions. Treated with inunction, pills and pot. iodide.

1910: Examined with a view to marriage. Wassermann negative. Permission to marry given.

Wife found to be suffering from gonorrhœa six months after marriage. Wassermann done; result positive. Patient's own reaction strongly positive. No syphilitic lesions found in either case. Wife put on injections of NAB and mercury. Healthy child born.

Mrs. C—. A widow whose husband had died of general paralysis of the insane but who herself had shown no signs of syphilis.

1915: Married, her second husband being absolutely healthy.

1916: Stillborn child with definite syphilitic lesions.

1919: Husband developed a chancre on the glans, in which spirochætes were found.

Mrs. C— on examination showed no evidence of syphilitic lesions and had a negative Wassermann reaction.

The possibility of infection from an extra-marital source must always be considered in connection with such cases as those recorded above. The histories have, however, been carefully gone into, and as far as possible such a contingency has been excluded. All the patients were newly married and the probability of extra-conjugal infection small.

The second case is probably one of conceptional syphilis, the mother having given no previous evidence of syphilitic lesions and the diagnosis resting on a positive Wassermann. It is also an instance of the importance of bearing in mind the possibility of the dual infection in any pregnant woman found to be suffering from gonorrhœa, and of the consequent importance of making a Wassermann examination.

A common feature in the two treated cases is the fact that treatment was entirely restricted to the administration of mercury, arsenical preparations not being given. The following lessons may be drawn from the above:

(1) In no case should a patient who has developed secondary lesions be summarily dismissed with a certificate of cure merely because he has undergone two years' mercurial treatment and exhibits at the moment no evidence of disease.

(2) The obtaining of a single negative Wassermann reaction is no evidence that a recurrence may not subsequently occur, or that a positive Wassermann may not be given if the examination be repeated at a later date.

(3) Special care must be exercised before a patient is allowed to marry, even although four years have elapsed since the development of a chancre.

It is difficult to lay down a definite rule on the subject of marriage in syphilitic patients. Much will depend on the period of the disease at which treatment was started, and much will depend on the amount of treatment the patient has received. A patient who has started treatment in the early primary stage before any serum reaction has developed will naturally be in a much better position than one who has only come under treatment after the development of secondary lesions. If a positive Wassermann reaction is to be accepted as an indication that spirochætes still exist somewhere in the body, it may be urged that a positive Wassermann is a contra-indication to marriage. Living spirochætes have been found in scar-tissue nineteen years after the healing of a syphilitic lesion, and the mere presence of spirochætes in the body, however well walled off, renders

transmission of infection possible. Yet cases exist in which a positive Wassermann persists in spite of continuous and prolonged treatment, and it is not always easy to forbid marriage to patients who have undergone conscientious treatment and have shown no evidence of disease for many years. The question is one which is attracting the attention of syphilologists at the present time, and it is impossible to lay down an arbitrary rule which will fit all cases. In the meantime it is obvious that axioms based merely upon the period which has elapsed since infection must be received with extreme caution.

A FEW POINTS ABOUT ETHANESAL.

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AS there appears to be a good deal of misapprehension with regard to this anæsthetic, it was thought that a few remarks about it might not be ill-timed.

The first question that naturally arises is: "What are its constituents?" Without going into the theory of its action at all, it can be said that the anæsthetic principle in it is a ketone, fairly high up in the series. As very small quantities of this are required it is necessary to have a vehicle, and this is, at present, purified ether. The special impurities which are removed are mercaptans, and it is only necessary to smell the residue in the condenser from the finest anæsthetic ether to realise how very undesirable mercaptans are.

In addition to these ingredients two gases are added, these being ethylene and carbon dioxide. It would take up too much space to explain exactly why they are added, except that the latter gas renders the whole preparation stable.

The resulting product is colourless and possesses a smell similar to that of ether, except that it is less pungent and more fruity. This smell is due to the ketones, as the purified ether by itself is practically odourless.

Passing now to the practical side, the anæsthetic can be given in a similar way to ether either in a Clover's inhaler by the open method, combined with gas and oxygen, or through a tracheal catheter.

It takes some little time to get accustomed to giving it if the anæsthetist has been used to ether, as there are many minor differences between the two anæsthetics.

In the first place the patient is nearly always more deeply anæsthetised than the administrator thinks. Thus during a long abdominal operation I have seen a patient slightly move his legs and have a very brisk corneal reflex while his abdominal muscles were absolutely relaxed. To one brought up on ether it is rather a shock to see a patient blinking his eyes when most of his abdominal contents are exposed to view, but when one has got used to the differences one gives considerably less of the anæsthetic than of ether, and the patients are much fitter afterwards.

There is one important point to be observed when giving the anæsthetic with gas and oxygen, and that is, the recovery to consciousness may be extremely rapid, and the mask should not be removed from the patient's face until the last suture has been inserted and tied.

The advantages claimed for the anæsthetic are based upon the results obtained in about 300 cases, which included practically every well-known major operation.

The ages of the patients varied between 3 months and 70 years, while the length of time of the shortest operation was 5 minutes and the longest 2 hours 45 minutes.

Anæsthesia was very good with no salivation or any difficulties whatever in 91·3 per cent. of cases; anæsthesia was satisfactory but some slight difficulties were encountered in 8 per cent.; it was unsatisfactory in 0·7 per cent.

After-vomiting occurred as follows: 48 per cent. had no vomiting whatever; 42·6 per cent. retched or vomited before coming round, but did not remember it, and had no vomiting afterwards; 7·3 per cent. vomited up to one hour after coming round; 2·0 per cent. vomited for over one hour after coming round.

The main advantages of the anæsthetic are:

(1) It is less toxic than chloroform or ether, and the safety margin is greater than with either.

(2) It is less irritating to the respiratory passages than ether.

(3) Post-anæsthetic vomiting is less than with chloroform or ether.

(4) The taste and smell noticed afterwards by the patient are very much less than with ether, and are generally entirely absent.

(5) The pulse-pressure, *i. e.* the difference between systolic and diastolic blood pressures, remains higher than with chloroform or ether.

In conclusion it may be stated that this product is not yet in its final stage, and it is hoped that it may be further improved. The writer would be very glad to hear of the experiences of other anæsthetists with ethanesal, and of any suggestions as to its improvement.

TUMOUR OF THE INTERCAROTID GLAND.

By H. G. PINKER,
Plymouth.

I THOUGHT an account of an intercarotid glandular tumour was sufficiently rare and interesting for publication in the JOURNAL.

F. P. R—, æt. 48, was sent to me for an opinion in February, 1921, for a swelling in the neck.

History of present condition.—A swelling was first noticed in the right side of the neck by the patient himself in 1915 and had definitely been watched by his own doctor for four years. He described the swelling as sometimes getting larger. No difficulty in swallowing.

Examination.—Healthy-looking man. The right tonsil was enlarged and pendulous. No growth seen in the mouth or larynx.

On the right side of the neck in the upper carotid triangle was a swelling which was firm in consistency and regular in outline. The upper limit disappeared under the ramus of the jaw. Painless, moveable, but attached to deep structures. No pulsation felt or noticed. Compression of common carotid did not alter the size of the tumour. A few superficial lymphatic glands felt over the swelling. No involvement of any nerves.

The diagnosis rested between a chronic tuberculous gland and an endothelioma.

Operation, February 17th.—Tumour was exposed through an incision along anterior border of sterno-mastoid. A few superficial enlarged lymphatic glands removed. The tumour was inside the carotid sheath, and in order to remove it the internal carotid artery was tied and divided and the jugular vein treated in the same way and the tumour was removed from below upwards. No great difficulty was experienced except some troublesome bleeding from the upper end of the jugular vein on account of the extension upwards towards the base of the skull. This was plugged with gauze.

On section the tumour looked like fœtal kidney, and I made a cautious suggestion that it might be a tumour of the carotid body. The following day the patient had slight headache, which lasted for six days, and a laryngeal voice, due, I have no doubt, to division of the superior laryngeal nerve—in fact, from the examination of the tumour, there is no doubt I removed a portion of the vagus. Marked divergence of the tongue to the affected side was noticed.

The plugging was removed at the end of forty-eight hours. The tongue gradually recovered, but the laryngeal voice still remains.

Many microscopical sections were cut and ultimately sent to Sir Frederick Andrewes, who has very kindly examined them and allowed me to publish his report:

"It is a so-called 'potato tumour' of the intercarotid gland, made up of chromaffin tissue. They seem to be of very low malignancy and do not give rise to metastases."

Bland-Sutton describes the tumours, and according to his account the patient I quote appears to have suffered at my hands from nearly all the possible complications following removal; but he is now very well, the only distressing complication being his laryngeal voice.

Seen on April 18th, the tongue is still pushed over towards the affected side, but can be moved towards the sound side; this condition is markedly improving. Definite right-sided abductor paralysis is present; this condition, I fear, will be permanent. Otherwise the patient is very well.

TO KOPLIK'S SPOTS.

Ere you were spied by the lynx-eye of Koplik,
Millions of you must have faded unseen;
Truly to him we are under an oblig-
Ation for noting your silvery sheen.

Points of effulgence, shine forth in your beauty,
Gracing like stars an incarnadine sky;
Lighten the weary practitioner's duty,
Flashing your message to gladden his eye.

Let the news sparkle in light-waves reflected,
Glow in each delicate pearl-tinted ray;
That he may prophesy rashes expected,
Knowing he's dealing with Measles to-day.

A.E.R.

STUDENTS' UNION.

DEBATING SOCIETY.

A general meeting of the Society was held on March 23rd at 5 p.m. The President was in the Chair.

Preliminary business.—The President and Vice-Presidents were warmly thanked for their work during the past year and unanimously re-elected.

Mr. E. Liston was elected Secretary for the coming year, Mr. H. I. Sackett being unable to continue in that capacity.

Mr. E. Gallop also resigned in favour of Mr. A. C. Maconie. The rest of the Committee were unanimously re-elected.

Debate.—"That the present examination system does not furnish a satisfactory test of medical knowledge and ability."

Mr. E. LISTON proposed the motion. He could not conceive any sane man opposing it. He dwelt upon the vast amount of detail which is necessary in order to negotiate the anatomy exams., especially the Primary. Quoting Prof. Wood-Jones he asked what a man gains when he can tell to which side a pisiform bone belongs. The study of Anatomy as required for the Primary led to the production of "well taught but wholly unlearning individuals." The Primary exam. disease has three stages, preparation, examination and recuperation, and many, he said, never wholly recuperate. If Dr. Tooth could diagnose Parkinson's disease on a 'bus, he could tell the Primary candidate a mile away. His features, like the ghost in Hamlet, seem to say: "But that I am forbid to tell the secrets of my prison house I would a tale unfold, whose lightest word would harrow up thy soul, freeze thy young blood. The "aids" series, he said, were the most certain evidence of the unsatisfactory state of the present examination system as a test of medical knowledge and ability. How sad to be confronted by cram-books at every turn while Osler moulds in the library!

Again, had the examination system brought out the great men or had it hindered them? The system was indeed far from satisfactory. "Education which does not beget a power of observation is of little use in practical medicine."

Mr. C. H. ANDREWES, in opposing, said the proposer could be likened unto a man who said that we should not eat, because of all the dangers attendant thereon. Mr. Andrewes did not consider the present system unsatisfactory, as it was impossible to examine in everything pertaining to a successful doctor. It is said that a general practitioner's outfit was 95 per cent. bedside manner, knowledge of human nature, etc., and only 5 per cent. medical knowledge. It was impossible to examine in bedside manner. Therefore it was this 5 per cent. medical knowledge which should be tested in exams.

This 5 per cent. might be classified as: (1) General knowledge, including the results of the first three years. (2) Detail, such as how to perform tracheotomy, how to conduct a breech and to know the dose of morphia. This involves memorising, and it must do men good to have to learn how to memorise. Anyone, he thought, who cannot memorise is mentally deficient, and it is good to have a system which eliminates the mentally deficient. (3) Common sense and clear thinking. (4) Power of expression. (5) Rapid thinking, and (6) application of knowledge. All these acquisitions are tested in the examinations of the present system.

Again, he did not believe that examiners were so unreasonable or so foolish as to be defeated by cunning. They, too, had been young.

In America an attempt had been made to do away with examinations, but the attempt had failed and exams. had been found necessary. It was hopeless to substitute the personal reports of those teaching for the whole or a part of the exam., because teachers were bound to be partial and misjudge the man who is thus described in "Round the Fountain": "He feareth not the scowls of the clerks but burroweth himself even into the foremost rank, whence he cocketh his head at the physician, saying: Yea, yea, verily it is presystolic." The opposer concluded an excellent speech with the remark: "ὁ δὲ ἀνεξέταστος βίος οὐ βίωτος ἀνθρωπῷ." This delivered *ore rotundo* (for the scribe must equal the orator) left an astounded House pale and gasping.

MR. D. C. FAIRDAIRN, in seconding for the motion, dwelt on three points:

(1) Reading books for exams. destroys all constructive thought and power of resource.

(2) The strain on the mind is unnecessarily great.

(3) Exams. leave moral character entirely out of the question.

It is hoped that now he has been delivered of his maiden speech he will always take part in the debates. He will find his feet only when he makes a speech without notes. This criticism might apply to Mr. H. S. BELL, who read a very amusing speech in support of the opposition. He saw in the members proposing the motion the type of men who through the ages have perpetually (and sometimes temporarily with success) attempted to break old customs and old traditions. They were, said the speaker, in a burst of hyperbole, like bacilli of decomposition. But old customs and old traditions remained. The present examination system produced the finest doctors in the world. By their fruits ye shall know them. The speaker spoke of those supporting the motion more in sorrow than in anger. He, too, had been younger once. Born a Tory he had passed through the Radical-Socialist stage like his young friends opposite. They would recover in time. Let, however, no one imagine that he was not progressive. Who, for instance, had welcomed more gladly than he the seats in the Professorial and Martha Wards?

The debate being now open to the House, D. W. Winnicott rose to point out that the opposer had made an error similar to the one that Darwin appears to have made when he propounded his theory of sexual selection. It is found that the birds or animals not chosen at first do eventually pair off and so propagate their variations as do the more attractive. In the same way those who are ploughed in the examinations go in again and again until they pass, and so there is no real selection. He thought, however, that certain exams. of the present system were very fair, and that, for instance, the M.R.C.P. exam. appeared to pick out the good men and eliminate the quacks. In any examination there will be some who get through by knowledge rather than ability.

Sir THOMAS HORDER, leaving the Chair, said he thought the third stage of the exam. disease should be called prolonged prostration. He knew only too well the men who brought their scarred cerebra round the wards and who seemed incapable of turning their passive into an active attention. One speaker had said the brainy fellow gets overlooked; he (Sir Thomas) must look more carefully in the future.

It seemed a pity to him that signing up for lectures was made compulsory, and yet to go around the wards was more or less left to discretion. He had often lectured to a full house on a subject, and demonstrated it the next day in the wards to three people.

Sir Thomas felt that the bedside manner was all the examination system had left the general practitioner. He also believed that the real expert emerges *nolens volens*.

MR. WEATHERALL, perhaps remembering the effect of previous Greek, remarked brightly "examen *τοῖς* timendum." The House, however, was not again to be so easily shaken, and appeared to treat this quotation ("the fearful exam.") with some distrust. Continuing, the speaker pointed out the necessity for exams. as a work-compelling agency, and refused to believe that sound men failed through "blue-funk."

MR. DALTON seized the handle offered him by former speakers who had spoken of the examination system being supported by tradition. He was all against tradition and full of revolution and drastic reform.

After the proposer had picked up the torn shreds of his original arguments, the House divided and the motion was carried—ayes 29, noes 27.

ATHLETIC CLUB.

At a general meeting, held March 22nd, the following were elected officers:

President.—Dr. H. Morley Fletcher.

Vice-Presidents.—Mr. T. H. Just, Mr. R. M. Vick, Mr. W. Girling Ball.

Hon. Secretary.—Mr. J. C. Ainsworth Davis.

Committee.—Messrs. A. E. Parkes, S. Orchard, L. C. Neville, N. G. Thomson, W. Holdsworth, H. C. J. Bale, M. G. Thomas, C. H. Bracewell.

The date of the sports has not yet been fixed.

RUGBY FOOTBALL CLUB.

The Second Annual Rugby Football Club Dinner was held on March 23rd, sixty-three persons being present. Sir Anthony Bowlby presided.

The evening was a complete success, and formed an appropriate finale to a successful season. Sir Anthony proposed the Club, M. G. Thomas (Captain) replying. Mr. Vick proposed Sir Anthony, Mr. Ball proposed Dr. Drysdale, and Mr. Just the visitors. Many of the visitors and members of the team made speeches, one of the most humorous being that made by Campbell Shaw. It is hoped that a still larger number will be present next year.

REVIEWS.

MANUAL OF HYGIENE FOR STUDENTS. By JOHN GLAISTER, M.D., D.P.H. Third Edition. (E. & S. Livingstone, Edinburgh.) Pp. 438. Price 9*s.* net.

No better book than the one under review can be recommended to the student on the subject of hygiene, although to be quite frank we could have wished that the new edition had been more modernised. The chapters on diets, food-taking, and food-groups are excellent, but we could remind the author that there are such things as vitamines, the existence of which has been entirely overlooked. The bacteriological references also are somewhat antiquated, and we would have thought it possible to include a comparative mortality table of more recent date than 1881–2–3. And yet the book is surprisingly good, excellently printed and well illustrated.

There are two new chapters, one on vital statistics and the other on eugenics and bionomics. The former deals with a dull subject in an interesting way, but with regard to the latter the author is hardly alive to human frailty, or for that matter to the needs of the community at large.

ESSENTIALS OF MEDICAL ELECTRICITY. By E. P. CUMBERBATCH, M.A., M.B., B.Ch (Oxon.), M.R.C.P. Fifth Edition. (Henry Kimpton, London.) Pp. 388. Eleven plates and 76 illustrations. Price 10*s.* 6*d.* net.

This book is already well known to our readers and it is just two years since the last edition appeared.

The main fresh features of the present edition include a description of three-phase currents and of slow-wave currents, also some fresh matter on diathermy. The use of the constant current in the treatment of deep-lying organs has been re-stated and many little difficulties have been cleared up by fresh explanations.

Chapter III on the sources of electrical supply is a useful guide to anyone contemplating an installation. The uses and relative advantages of the various currents are described.

Chapter XIV (46 pages) is devoted to an alphabetical list of conditions which are amenable to electrical treatment. The general practitioner would find much of interest in this chapter.

The book has a very good index. We think it is the most concise and complete general manual we know on the subject.

SURGICAL ASPECTS OF DYSENTERY. By ZACHARY COPE, M.D., M.S.(Lond.), F.R.C.P.(Eng.). (Henry Frowde & Hodder & Stoughton.) Price 12*s.* 6*d.* net.

This is a small book, but it contains the conclusions drawn from a vast amount of experience and reading. Dr. Cope himself has seen the surgical complications of between one and two thousand cases of dysentery, and judging from the copious acknowledgments in the text and from the table of references at the end, in which the works of sixty-one authors are quoted, we surmise that the author has not by any means relied on his own reasonings alone.

The book is well produced, the print large and the paper of good quality. The text is clearly arranged and the subject exhaustively treated. A much wider view of the subject is taken than would be suggested by the title, in fact, "All about dysentery, except the initial medical treatment" would be more appropriate, though less concise.

The chapters on differential diagnosis are the ones which will be of real use to the general practitioner, and it is for these valuable pages that we have no hesitation in recommending the book to physicians as well as to surgeons. There are twenty-one illustrations, including two excellent coloured plates. It is always a pleasure to read an authority who writes well and whose book is well printed.

THE THEORY AND PRACTICE OF MASSAGE. By BEATRICE M. GOUDALL-COPESTAKE. Third Edition. (H. K. Lewis & Co., Ltd.) 69 Illustrations, including 20 plates. Pp. xx + 270. Demy 8vo. Price 12*s.* 6*d.* net.

The third edition of this book contains new diagrams, a few X-ray plates, a chapter on re-education of muscles, and further specimens of questions set in the examinations of the Incorporated Society of Trained Masseuses.

The book is well known and must be already amongst the more thumb-marked volumes in the masseuse's library. In this new edition the subject is brought quite up-to-date, and the authoress seems to have a peculiar knack of explaining scientific matter in a simple way without in any way sacrificing accuracy. She makes abundant use of quotations from well-known sources.

We doubt whether the value of the book has in the past been sufficiently recognised by the medical man. It is impossible for the physician and surgeon to learn massage in the school of experience, and because of that massage is often not ordered because not thought of. In this very readable book the doctor may remind himself quickly and from a reliable source of the conditions which benefit from massage in its various forms, and as the subject-matter is well arranged he can pluck the volume from its shelf, turn up the disease or injury in question, and so inform himself in a moment with no trouble.

But the book is primarily intended for the masseuse, and as such we recommend it as well-written, interesting, accurate and complete. There are sixty-nine illustrations, including twenty plates.

RECENT BOOKS AND PAPERS BY ST. BARTHOLOMEW'S MEN.

ARMSTRONG, RICHARD R., M.D., M.R.C.P. "The Serological Characters of Disease-producing Pneumococci." *British Medical Journal*, February 19th, 1921.

BOURNE, GEOFFREY, M.D. "A Case of Complete Pneumothorax in an Infant, due to Pulmonary Tuberculosis." *Ibid.*, April 9th, 1921.

BUCHANAN, G. S., C.B., M.D. "An Address on International Organization and Public Health." *Ibid.*, March 5th, 1921.

CAUTLEY, EDMUND, M.D., F.R.C.P. "Congenital Pulmonary Regurgitation (Transposition of the Spleen)." *British Journal of Children's Diseases*, October–December, 1920.

CHRISTOPHERSON, J. B., C.B.E., M.D., F.R.C.P., F.R.C.S. "Further Notes on the Intravenous Injection of Antimony Tartrate. Leucoderma and Skin Complications: Administration of Large Doses." *Lancet*, March 12th, 1921.

——— "Bilharzia Disease in Egypt." *British Medical Journal*, April 2nd, 1921.

CUMBERBATCH, ELKIN P., M.A., B.M.(Oxon), M.R.C.P. *Diathermy: its Production and Uses in Medicine and Surgery.* London: William Heinemann.

EDRIDGE-GREEN, F. W., C.B.E., M.D.(Durh.), F.R.C.S. "The Arris and Gale Lecture on the Cause and Prevention of Myopia." *Lancet*, March 5th, 1921.

EVANS, GEOFFREY, M.D., M.R.C.P. "Vascular Change during Uterine Involution: A Study of the Condition of the Arteries in a Uterus removed Twenty-four Days after Delivery." *Ibid.*, April 2nd, 1921.

FAULDER, T. JEFFERSON, F.R.C.S. "The Relation of Diseases of Throat, Nose and Ear to General Medicine and Surgery." *The Clinical Journal*, April 13th, 1921.

FLETCHER, HERBERT MORLEY, M.D., F.R.C.P. "Congenital Syphilis." *Lancet*, March 26th, 1921.

GILLIES, H. D., C.B.E., F.R.C.S. (and W. KELSEY FRY, M.C., M.R.C.S., L.D.S.). "A New Principle in the Surgical Treatment of 'Congenital Cleft Palate' and its Mechanical Counterpart." *British Medical Journal*, March 5th, 1921.

HEWER, C. LANGTON, M.B. "Massage of the Heart and Resuscitation." *Ibid.*, February 12th, 1921.

HUTT, C. W., M.A., M.D., D.P.H. *Crowley's Hygiene of School Life*, Fourth Edition. London: Methuen & Co., Ltd.

LEVICK, G. MURRAY, M.R.C.S., L.R.C.P. "The Action of the Intrinsic Muscles of the Foot and their Treatment by Electricity." *British Medical Journal*, March 12th, 1921.

LYSTER, R. A., M.D., B.Sc., D.P.H. "Grant-bearing Public Health Services." *The Medical Officer*, March 12th, 1921.

MYERS, BERNARD E., C.M.G., M.D.(Edin.), M.R.C.P.(Lond). "A Note on Periarticular Abscess after Scarlet Fever." *Lancet*, March 19th, 1921.

——— *See also* WEBER, F. PARKES, AND MYERS, BERNARD E.

NIXON, J. A., C.M.G., M.D., F.R.C.P. "Famine Dropsy as a Food-Deficiency Disease." *The Bristol Medico Chirurgical Journal*, September, 1920.

RIVIERE, CLIVE, M.D., F.R.C.P. *The Early Diagnosis of Tubercle.* 3rd Edition. London: Henry Frowde & Hodder & Stoughton.

ROLLESTON, SIR HUMPHRY, K.C.B., M.D., F.R.C.P. "Diseases described by Medical Men who suffered from them." *Lancet*, April 16th, 1921.

SCOTT, T. BODLEY, M.R.C.S. *Why do Men Die?* London: T. Fisher Unwin.

STACK, E. H. E., F.R.C.S., and others. "Poisoning by 'Mustard' Gas." *The Bristol Medico-Chirurgical Journal*, September, 1920.

STRETTON, J. LIONEL, M.R.C.S. "Carcinoma of the Large Intestine." *British Medical Journal*, April 16th, 1921.

THURSFIELD, HUGH, M.D., F.R.C.P. "The Diagnosis and Treatment of Chorea." *The Clinical Journal*, March 23rd, 1921.

WEBER, F. PARKES, M.A., M.D., F.R.C.P. "Case of Intra-hepatic Cholelithiasis, with Acute Necrotic Changes in the Liver and Renal Convoluted Tubules following Ether-Anæsthesia." *Ibid.*, March 16th, 1921.

——— "High Blood-pressure and Life Assurance." *Ibid.*, March 30th, 1921.

——— and MYERS, BERNARD E., C.M.G., M.D.(Edin.), M.R.C.P. (Lond.). "Sclerodactylia of the Hands with Multiple Telangiectases of the Skin and Mucous Membranes." *Proceedings of the Royal Society of Medicine*, March, 1921.

EXAMINATIONS, ETC.

UNIVERSITY OF CAMBRIDGE.

At Congregations held on various dates the following degrees were conferred:

M.D.—A. G. Evans, F. J. Bradley.
M.B., B.Ch.—W. S. Sykes, A. G. Shurlock.
B.Ch.—J. L. Potts.
M.B.—F. E. Llewellyn.

UNIVERSITY OF LONDON.

Second Examination for Medical Degrees, March, 1921.—Part I. Organic and Applied Chemistry.

Pass List.—H. G. Anderson, F. A. Bevan, A. G. Chamberlain, E. E. Claxton, R. N. Curnow, J. Currie, C. S. Drawmer, F. G. France, G. S. Hale, W. Holdsworth, G. E. Hughes, R. S. Johnson, I. Landon, G. K. Loveday, G. R. Malkin, I. S. Moscow, F. D. S. Poole, B. Press, D. C. Price, H. N. Seymour-Isaacs, J. A. F. Storrs, H. Treissman, L. B. Ward, W. Wilkinson.

Part II. Anatomy, Physiology and Pharmacology, March, 1921.

E. J. Blackaby, R. S. Coldrey, F. S. Coleman, A. B. Cooper, T. Davies, J. Elgood, V. F. Farr, N. A. Jory, J. W. Joule, R. A. E. Klaber, N. E. Laurence, J. Maxwell,* W. D. Nicol, J. Parrish, R. T. Payne, J. W. Poole, R. D. Reid, D. J. Rose, P. Thwaites, H. B. White, L. A. Willmott.

* Distinction in Anatomy.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

As a result of the Final Fellowship Examination held February 11th to 19th, the following candidates were successful:

J. A. Andrews, R. R. Kerr, G. B. Richardson.

CONJOINT EXAMINATION BOARD.

First Examination, March, 1921.

Chemistry.—H. Cooper, E. L. Davies, C. W. L. de Souza, W. C. Stuart-Low, D. C. White.

Physics.—J. D. Hunt, D. D. Kenney, W. E. H. Quennell, C. W. L. de Souza, D. C. White, T. P. Williams.

Elementary Biology.—J. D. Allen, J. C. H. Baird, J. V. Bannehr, S. B. Benton, J. L. T. Davies, G. W. S. Foster, L. F. A. Harrison, A. N. Hobbs, B. L. Hodge, L. C. Neville, P. R. Rainey, H. L. Roberts, D. P. Simpson, D. Stephens, W. B. Webster.

Second Examination, March, 1921.—Part I. Anatomy and Physiology.

V. Barkin, A. J. C. Eland, G. Elliott, W. R. E. Harrison, H. R. V. S. Lauder, K. Olafson, M. S. Pembrey, R. W. Taylor, S. E. Walmsley.

Part II. Pharmacology.

W. B. Arnold, A. E. Austen, D. Diamond, K. C. J. Jones, M. S. Pembrey.

APPOINTMENTS.

GAUVAIN, Sir H. J., M.D., M.Ch.(Cantab.), appointed Honorary Consulting Surgeon to the Welsh National Memorial.

HIGGINS, T. C., M.R.C.S., L.R.C.P., appointed House Physician to the Great Northern Central Hospital, Holloway.

KEYNES, G. L., M.D.(Cantab.), F.R.C.S., appointed Assistant Surgeon, City of London Truss Society.

LYSTER, R. A., M.D., D.P.H.(Birm.), appointed a Member of the Central Midwives Board.

WELLS, W. W., M.B., Ch.B.(Oxon.), appointed Certifying Surgeon under the Factory and Workshops Acts for Bromyard.

WILLIAMS, W. H., M.R.C.S., L.R.C.P., appointed a Certifying Surgeon under the Factory and Workshops Acts for Monmouth.

CHANGES OF ADDRESS.

ATKINSON, E. M., 71, Harley Street, W. 1. (Tel. Langham 1200.)
BRAIMBRIDGE, C. V., Kakamega, N. Kavirondo, Kenya Colony, S. Africa.
CHRISTOPHERSON, W. B., Arosa, Wroxham, Norwich.
COVENTON, C. A., The Grey House, Hollington, St. Leonards-on-Sea, Sussex.
DIXON, F. J., 39, Roland Gardens, S.W. 7.
DRAWBRIDGE, W. R., St. Oswald's School, Ellesmere.
DYAS, G. E., 56, Waterloo Road, Wolverhampton.
EVANS, T. G., Beckington, Bath. (Tel. Beckington 9.)
GILES, L. T., Maveys, Brockenhurst, Hants.
HIGGINS, T. C., Great Northern Central Hospital, Holloway, N.
SHORE, T. H. G., 74, Harley Street, W. 1. (Tel. Langham 1632.)
SKEGGS, B. L., Stevenage, Herts.
STEPHEN, G., 14, Place Clemenceau, Menton, A.M. France.

BIRTHS.

BREWERTON.—On March 26th, at 73, Harley Street, the wife of Elmore Wright Brewerton, F.R.C.S., of a daughter.

CHRISTOPHERSON.—On January 2nd, to Wilfred Bayley and Mrs. Christopherson—a son.

LESCHER.—On March 25th, at 48, Kedleston Road, Derby, to Bridget, wife of Dr. F. Graham Lescher—a daughter (Bridget Mary).

OSMOND.—On April 4th, at 1, Sussex Street, S.W. 1, the wife of T. E. Osmond, M.B., late Capt. R.A.M.C., of a daughter.

WHARRY.—On April 17th, at 19, Chester Terrace, Regent's Park, London, the wife of H. M. Wharry, M.R.C.S.—a daughter.

WILLIAMS.—On March 30th, at Wednesfield, to F. S. Williams, M.B., B.S.(Lond.), and Mrs. Williams—a son.

WOODWARK.—On April 11th, at 4, Harley Street, W., to Hilda (*née* Robinson), wife of A. S. Woodwark, C.M.G., C.B.E., M.D., F.R.C.P.—a son.

MARRIAGE.

GRIFFITH—VISICK.—On April 11th, at Lyndhurst Road Church, Hampstead, by the Rev. Dr. R. H. Horton, John Richard Griffith, F.R.C.S.(Eng.), son of Arthur F. Griffith and Mrs. Griffith, of 59, Montpellier Road, Brighton, to Elsie Maud Visick, M.R.C.S., L.R.C.P., daughter of Dr. and Mrs. Hedley C. Visick, of 35, Rosslyn Hill, Hampstead.

SILVER WEDDINGS.

GREENYER—LINDSAY.—On April 15th, 1896, at Holy Trinity Church, London, by the Rev. John Haslock, M.A., Vivian Tudor Greenyer, M.R.C.S.(Eng.), L.R.C.P.(Lond.), eldest son of George Greenyer, Esq., of Hove, to Mary J. Douglas Lindsay, younger daughter of George and Ellen Lindsay, of Surrey. Present address, "Edzell," New Church Road, Hove.

SMITH—BINDLOSS.—On April 8th, 1896, at Christ Church, Brondesbury, John Anderson Smith, M.D.(Lond.), son of J. R. Smith, Esq., of Hull, to Amy Helen Maud, younger daughter of the Rev. Edward Bindloss, of Archangel.

DEATHS.

HINGSTON.—On April 5th, 1921, at 3, The Esplanade, Plymouth, Charles Albert Hingston, M.D., eldest son of the late Dr. C. Hingston, of Plymouth, aged 78.

LAURIE.—On April 22nd, 1921, at the Red Bungalow, Wadebridge, Cornwall, Caspar Robert Laurie, Lieut.-Col. R.A.M.C.(T.F.), M.R.C.S., L.R.C.P., L.S.A., aged 64.

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.*

The Annual Subscription to the Journal is 7s. 6d., 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 ADVERTISEMENT MANAGER, *the Journal Office, St. Bartholomew's Hospital, E.C. Telephone: City 510.*

St. Bartholomew's Hospital Journal.

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

VOL. XXVIII.—No. 9.] JUNE 1ST, 1921. [PRICE NINEPENCE.

CALENDAR.

Tues., May 31.—Dr. Drysdale and Mr. McAdam Eccles on duty.
Wed., June 1.—Clinical Lecture (Surgery), Mr. Rawling.
Fri., ,, 3.—Sir P. Horton-Smith Hartley and Mr. Rawling on duty.
Clinical Lecture (Medicine), Sir P. Horton-Smith Hartley.
Mon., ,, 6.—Clinical Lecture (Special Subjects), Mr. Elmslie.
Tues., ,, 7.—Sir Thomas Horder and Sir C. Gordon-Watson on duty.
Wed., ,, 8.—Clinical Lecture (Surgery), Mr. Rawling.
Fri., ,, 10.—Dr. Fraser and Mr. G. E. Gask on duty.
Clinical Lecture (Medicine), Dr. Morley Fletcher.
Mon., ,, 13.—Clinical Lecture (Special Subjects), Mr. Scott.
Tues., ,, 14.—Dr. Morley Fletcher and Mr. Waring on duty.
Wed. ,, 15.—Clinical Lecture (Surgery), Sir C. Gordon-Watson.
Fri., ,, 17.—Dr. Drysdale and Mr. McAdam Eccles on duty.
Clinical Lecture (Medicine), Sir Thomas Horder.
Mon., ,, 20.—Clinical Lecture (Special Subjects), Mr. Elmslie.
Tues., ,, 21. Sir P. Horton-Smith Hartley and Mr. Rawling on duty.
Wed., ,, 22.—Clinical Lecture (Surgery), Sir C. Gordon-Watson.
Fri., ,, 24. Sir Thomas Horder and Sir C. Gordon-Watson on duty.
Clinical Lecture (Medicine), Sir Thomas Horder.
Mon., ,, 27.—Clinical Lecture (Special Subjects), Dr. Cumberbatch.
Tues., ,, 28.—Dr. Fraser and Mr. G. E. Gask on duty.

EDITORIAL.

IN spite of the continuance of the coal deadlock almost everyone appears to have benefited from the Whitsun holiday. Where the coal can have been stored which has supplied us with transport and light for so many weeks since the miners deemed it necessary to come out on strike no one seems to know. The trains in the morning are a little congested, and perhaps it is rather more difficult to get home in the evening; but speaking frankly we don't realise there is a coal strike at all. How good it is to live in a country which takes its national disasters with such equanimity!

Unfortunately the end of May has seen Dr. Tooth on his last official walk round the wards. Retirement actually closed the term of his work here as Visiting Physician at the end of April, but his successor being on a tour of the American medical schools he kindly agreed to continue visiting for a month longer.

How many men have attended in the wards with Dr. Tooth we should hardly like to guess. Possibly his work on nervous diseases is not fully recognised by the younger generations, who have arrived at the time when many of the discoveries of Dr. Tooth's early days are taken as commonplaces.

The Hospital is proud of all those who have helped to make the world associate the name *St Bartholomew's* with what is good; among them Dr. Tooth is included. It is to be hoped that as Consulting Physician he will visit the Hospital for many years to come, and that his years of retirement will be full of happiness.

* * *

From the statement made in the May number of the Journal about the payment of patients there was an omission which may have led to some misunderstanding. We said that patients sent up to the Hospital by a doctor *for advice* would have to pay the same as other patients, no exceptions having been formulated. As a matter of fact advice and treatment are free now as hitherto, the payment required of patients on admission to the Surgery being merely a contribution towards the general working expenses of the Hospital, which include the cost of medicines, dressings, the use of anæsthetics, X rays, etc. Patients who receive advice only can reclaim any sum they may have paid.

* * *

Those interested are reminded that the Decennial Contemporary Club Dinners take place very shortly round and about the month of June. The Seventh Contemporary Club, which includes the Fifth and Sixth as well, is meeting on July 6th at 7 for 7.30 o'clock at the Trocadero Restaurant. The Eighth, whose secretaries are Mr. Waring and Dr. Drysdale, meets on Wednesday, June 29th, at 7.30 p.m. at Oddenino's

Imperial Restaurant. Dr. Hinds Howell and Mr. Elmslie, the secretaries of the Ninth Contemporary Club, announce that the dinner which was to have been held in May was postponed owing to the strike, and that it is proposed to arrange for it to take place early in July at a precise date to be fixed later.

* * *

It is interesting to note that whereas only 58 candidates out of the 171 who entered for the recent Primary Fellowship examination succeeded in satisfying the examiners, 14 out of the 29 Bart.'s men who entered were approved —about 50 per cent.

* * *

The Jacksonian Prize for 1920 has been awarded to Mr. Harold Burrows, C.B.E., F.R.C.S., of Southsea, for his dissertation on "The Results and Treatment of Gunshot Injuries of the Blood-vessels."

* * *

The Territorial Decoration has been conferred on Major W. G. Paget, R.A.M.C.(T.), attached 4th Bn. The Queen's Regiment.

Capt. E. B. Allnutt, M.C., R.A.M.C., has been made an Esquire of the Order of St. John of Jerusalem.

* * *

A course of physiology lectures arranged by Prof. Bainbridge under the auspices of the London University are being held on Tuesdays in the Medical and Surgical Theatre. Each lecture so far has been extremely well attended by Bart.'s students, and by students—men and women—from other hospitals. The first was by Prof. Halliburton on "The Cerebro-spinal Fluid."

The object of the lectures appears to be that students should hear the actual investigator lecture on his own subject, and this happy idea has been much appreciated. Reports of the lectures by Prof. Pembrey and Mr. Barcroft appear this month, and it is hoped throughout the course to include in the JOURNAL those lectures which would appear interesting when in print.

* * *

The ninth Annual Meeting of the St. Bartholomew's Hospital Women's Guild, held in the Great Hall on Viewday, May 11th, was very well attended. As always, it was a very friendly and sympathetic gathering. The hall was beautifully decorated with flowers and great branches of beech, and an excellent tea was served before the meeting. Lady Sandhurst as chairman welcomed the members and spoke with great regret of Lady Moore's resignation of the post of Hon. Secretary, which she has filled so ably for eight years.

After the necessary business of the meeting, Mr. Elmslie spoke most interestingly and at some length on the secretarial after-care work done by the Guild in the Out-patients' Departments. He said that the results of this work compare most favourably with the results in any other hospital. In the Orthopædic Department we find that now 90 per cent. of the patients receive their instruments, whereas formerly only about 50 per cent. succeeded in raising the money required to pay for the instruments, which are often very costly. The instrument makers used to suffer considerably from bad debts.

In the absence of Mrs. Crawford owing to a motor accident in France, Lord Sandhurst addressed the meeting and reviewed the work of the Guild since its foundation in 1911, through the strenuous years of the war with all its additional work for the First London General Hospital, down to the present day when the Guild, in addition to its original task of supplying clothes for the patients, has developed the new activities of which Mr. Elmslie spoke.

Lady Moore gave a warm vote of thanks to the speakers, and especially to Lord Sandhurst, for having given the Guild such an invaluable chairman in the person of Lady Sandhurst.

The meeting concluded with the singing of God Save the King.

* * *

The Annual Old Students' Dinner will be held early in October, probably on the 1st or 3rd days of that month.

* * *

STOP PRESS.

The best possible weather conditions favoured the Annual Athletic Sports, which were held at Winchmore Hill on Thursday, June 2nd. Harley Street was, as usual, well represented, but luckily this year there was no call on the professional services of any of its representatives. Mrs. Wright, who, as Dr. Morley Fletcher pointed out, has attended the Sports since she was three feet in her socks, for the first time appeared in an official capacity and very kindly gave away the prizes.

The standard reached was decidedly higher than that of last year. Quite the most exciting event was the Relay, especially its last lap, in which J. C. Ainsworth-Davis (3rd Year) took over five yards behind L. C. Neville (1st Year) and passed him by a brilliant sprint, winning for the 3rd Year by a safe margin. J. C. Ainsworth-Davis was in good form, easily winning the Long Jump with a 20-foot jump and running with beautiful style in the 100 and 220 Yards. In spite of a sprained ankle L. C. Neville carried off the Hurdles and the Hammer, and should improve greatly before the Inter-Hospital Sports. At last we have a high jumper in J. D. Allan, who jumped 5 ft. 5 in. Amongst other individual efforts which should be mentioned were the Putting of the Weight by R. D. Reid, and the Mile and Half-mile, won respectively by H. C. J. Ball and C. J. Sanderson. A full report will appear in our next issue.

SCHEME TO FINANCE THE VOLUNTARY HOSPITALS IN LONDON.

By W. MCADAM ECCLES, M.S., F.R.C.S.

THE Committee appointed by the first Minister of Health, Dr. Christopher Addison, to look into and report on the finances of the voluntary hospitals, strongly urged* the retention of the voluntary system of finance and management. King Edward's Hospital Fund for London has come to the same conclusion,† and with this twofold decision most of the lay authorities and medical staffs of the hospitals concerned agree. The problem, therefore, is how to maintain voluntary contributions so that voluntary management may remain.

In 1920, 113 London general and special voluntary hospitals spent nearly £3,000,000, while their income fell short of this by some £500,000. With this deficit unchecked the road to bankruptcy is sure.

Since 1911 these voluntary hospitals have been treating without payment as in-patients persons insured under the National Health Insurance Acts. Meanwhile the approved societies have been accumulating funds, possibly of some £7,000,000. Lord Cave's Committee suggested that some of this accumulation should be disbursed in grants to the voluntary hospitals, but it is doubtful whether the approved societies could or would part with the money in this manner. The societies are, however, desirous of providing extra "benefits" for their members.

In January this year a scheme, devised by Dr. Gordon Dill, of Brighton, was started in Sussex, and is proving remarkably successful. Its application to London, and possibly to the whole of England, is now under consideration.

In brief, it is as follows: All those whose incomes do not exceed £250 a year can become members by subscribing £1 per annum (equivalent to 4·6 pence per week), a married couple without children, whose combined income does not exceed £400 a year, can both be members for the subscription of £1 10s. for the two, and married persons with children under sixteen years of age whose combined income does not exceed £500 can themselves and their children all become members for an inclusive subscription of £2. For this yearly voluntary subscription the following facilities are to be arranged:

(1) Consultations in the patient's own homes when too ill to leave them. Consultations separate from other patients at the co-operating hospitals.

(2) A motor ambulance service.

(3) In-patient hospital maintenance and treatment.

(4) Dental treatment.

* On March 8th, 1921, in their Interim Report.

† On April 12th, 1921, in the Interim Report of the King's Fund Policy Committee.

(5) Laboratory investigations, X-ray, electrical and massage treatment.

(6) Nurses' services in the homes.

Access to all the facilities will be available only on the application of the patient's own general practitioner and with the approval of the members of the hospital staff concerned.

It is estimated that in the area of the Metropolitan and City Police districts there are some 5,000,000 persons—men, women and children—to whom the scheme applies. If all these joined as individuals, married persons, or families, the resultant income would be about £3,000,000 per annum. If as a basis for calculation it is assumed that sufficient persons join to produce an income of £1,200,000 this might be allotted as follows:

	£
Hospitals, 52/80 (including 25 per cent. to medical staff fund—£195,000)	780,000
500 nurses, 6/80	90,000
30 ambulances, 2/80	30,000
Visiting consultants, 8/80	120,000
Administration, 3/80	45,000
Reserve, 9/80	135,000
	£1,200,000

From these figures it will be seen that—

(1) The hospitals would receive £585,000 nett, or £85,000 over and above their deficit in 1920.

(2) The medical staff fund would amount to £195,000, which would be administered in any way the staffs attached to the hospitals determined. From part of this comparatively large fund a really well-organised post-graduate medical school in London might be financed.

(3) 500 nurses at £180 each per annum could be provided.

(4) 30 motor ambulances, each provided with two skilled men and costing £1000 per annum, could be at the service of the general practitioner and the hospitals.

(5) 38,000 consultations in the patients' own homes at £3 3s. could be provided for.

(6) The cost of administration and reserve contingencies are well covered.

Great advantages lie in the scheme, some of which may be mentioned, viz.:—

(*a*) To the prospective patient.

(1) Provision made during health.

(2) Free consultations at home.

(3) No payment for hospital maintenance or treatment during illness.

(4) Freedom from almoner's investigation.

(5) Dental treatment.

(6) A motor ambulance service.

(7) The feeling of satisfaction that his subscription is of help to others less fortunate.

(*b*) To the hospital:

(1) Maintenance of the voluntary system, both of income and management.

(2) An adequate income.

(3) Freedom from necessity for making appeals.

(*c*) To the general practitioner:

(1) All the arranged facilities will be obtainable only through the general practitioner.

(2) Much saving of anxiety by being able to arrange a consultation free of charge.

(3 Can maintain more direct contact with his patient.

(4) Can obtain promptly many facilities hitherto difficult or costly to procure.

(*d*) To the consultant members of the medical staff of the voluntary hospitals:

(1) A medical staff fund of 25 per cent. of the money received by the hospital.

(2) A fund from which consultants will be paid for consultations at patients' own homes.

(3) More direct relationship with general practitioners.

(*e*) To the nation:

(1) The maintenance of the voluntary system.

(2) The prompter treatment of cases of serious illness needing in-patient hospital treatment, with corresponding saving of life and shortening of convalescence.

(3) The maintenance of a supply of clinical material for medical and nursing education in the schools.

Some cogent objections have been levelled at the scheme.

The first is that the scheme would not be successful because there is not enough inducement to make a sufficient number join to produce at least £1,200,000 a year.

This may be answered by stating that the facilities offered are greater than those at present obtainable, and all these facilities will be obtained free at the time required. Further, the voluntary hospitals may have to say in the future that they can only treat without payment the really necessitous poor and members of the scheme.

Secondly, it may be thought that if the scheme is successful it would greatly diminish the number of the ordinary, voluntary and other subscriptions. This would probably be true, but the gain in income would completely counterbalance this loss, and the more so the greater the success of the scheme. If £3,000,000 came in from subscribers to the scheme this would cover the whole of the yearly cost of the hospitals in London.

Again, it is stated that if the scheme is successful it would necessitate additional beds, but, if successful to this extent, there would be money enough to provide the extra accommodation.

And, lastly, it is argued that the cost of running the scheme would be great. This is true, but not a penny of it would fall upon the hospitals, and the greater the success of the scheme the less proportionately would be the cost of administration.

No scheme put forward appears to have all the merits of this particular one conceived by Dr. Gordon Dill. If a success, it would be a tremendous boon; if a failure, it can hardly leave the voluntary hospitals worse off than they are.

The approval and co-operation of the lay authorities of the hospitals, the medical staffs, the general practitioners, the approved societies and the persons who may need the facilities should ensure the abundant success of the scheme.

DEMONSTRATION OF A CASE OF CONVERSION HYSTERIA.

By ERNEST SNOWDEN, M.B.

THE case about to be described is that of D. H—, æt. 16, an unmarried girl, who was admitted to St. Bartholomew's Hospital on May 12th, 1920, complaining of pain in the region of the left knee and inability to walk, and was treated during the month of June, 1920, in President Ward and in the Psychological Out-patient Department.

The writer is indebted to Sir Archibald Garrod and Sir Robert Armstrong-Jones for permission to publish these notes.

History.—Twelve months previous to admission the patient had complained of numbness on the outer side of the left knee; one month later this numbness became a definite pain in the same region. There was no history of strain or injury, and the onset of the condition was insidious. She then had blinking of the eyelids and twitching of the limbs, diagnosed as chorea. This lasted nine weeks. She was put to bed by her own doctor, and remained there until November 9th, 1919. She was then allowed out in a bath-chair, and subsequently was able to get about with the help of crutches. She has never put her left foot to the ground since that time.

Physical condition.—A fresh-looking well-nourished girl. She has no irregular movements, walks with crutches with the left leg held above the ground by tilting the pelvis, and with the left foot held inverted. She lies in bed with the left leg abducted, flexed at the knee, and inverted at the ankle-joint. She complains of tenderness on the outer side of the left leg. There is some spasm of the muscles of the left leg and thigh, which is increased on any attempt at manipulationor passive movement. There is no physical abnormality; the knee joint is normal. There is three-quarters of an inch wasting of the left thigh and half an inch of the left calf. Examination by the X rays failed to show any physical defect.

Mental condition.—She is composed, cheerful and intelligent. She has no anxiety about her disability, and is content to lie in bed. She states that her ambition is to work on the land.

Her condition was diagnosed as conversion hysteria from the fact that the deformity could not be produced by any physical disease, and that the patient showed no anxiety, but on the contrary showed contentment over the disability, suggesting that the presence of it was gratifying some need that was greater than her wish to live a normal life.

In approaching such a case, the physician must be prepared to accept the fact that the patient is just as definitely ill as if she had tuberculosis of the knee-joint, the illness, however, being in this case mental and not physical. His attention will thus be transferred from the limb to the mind, and consequently a serious error will be avoided which would otherwise be committed were the treatment directed towards the local condition. No attention accordingly should be paid to the patient's leg.

By conversion hysteria is meant mental disease which is manifested by apparent physical defect. In such a case there are generally two factors involved; the more important of these is known as "regression." The childish need for "comforting" and protection has persisted beyond the normal, so that, at an age when she should be becoming independent, the patient, instead of depending upon herself, still feels the need for the protection of parents, the physical disability being sufficient reason for her demanding the care and attention of others.

The extent to which this factor enters into this case will be made clear as the description of the case proceeds. The physical disability occupies the patient's attention and prevents her from dwelling upon some disturbing thought, and gives her an opportunity to satisfy her regressive tendency in a way that probably would not otherwise occur.

The second factor in such a case is the satisfaction of the self-regarding sentiment by focussing attention upon the patient, and giving her an opportunity for occupying the centre of the stage in a way that would scarcely be possible did she live an ordinary normal life. This may be looked upon as the outlet of the natural instinct of aggression, not yet directed into the paths of ambition.

Speaking generally it would appear that conversion hysterics are people who have run up against a situation with which they are incapable of dealing, and their mind, being unable to solve the problem for itself, uses some slight physical disability through which it can demonstrate its illness. What that disability is to be is usually suggested by some trivial injury or disease, which is then exaggerated out of all proportion to its real importance.

Some form of analytical examination of the patient's mind is necessary in order to discover the mental disability; and in all probability a very short form of analysis will be all that is needed in the case of a girl of 16, who was perfectly healthy, so far as could be ascertained, up to the onset of this illness.

Certain basic factors of mental ill-health will usefully serve as guides. It is certain that the patient has practised repression, *i. e.*, attempted to keep out of consciousness (to forget), some system of ideas which is coloured by some painful emotion, the repression being necessary because the idea, if allowed to enter consciousness, brings back with it the pain of the emotion. Every time there is a tendency for such a system of ideas to be recalled the patient goes through a mental conflict, which causes both mental and physical discomfort, giving rise to the intolerable situation from which she must escape.

The analysis is directed towards finding such a system or systems of ideas, which, when found, are released or brought into consciousness and dealt with by the patient at a conscious and intellectual level.

It is generally known that there are certain emotions liable to repression. These are the emotions which correspond to some of the primitive instincts, such as fear, the emotion of the instinct of the preservation of self, the sex emotion, corresponding to the instinct of the preservation of the race, anger, corresponding to the instinct of pugnacity, and some other composite emotions such as shame, jealousy, grief and so on.

It will be recognised that any of these appearing in consciousness causes "unpleasure," and that systems of ideas coloured by them would tend to be repressed.

In conducting the analysis, experience shows that it will shorten the process if the patient is questioned concerning incidents in her life, which may have to do with the painful emotions, and that they should be taken in the order mentioned. The patient will be encouraged to say if there is any danger through which she has passed; next, if there is any affair of the heart which might have been unfortunate or contrary to her social ideals; any shock or disturbance which might have caused jealousy or grief and so on.

When any complex or system of ideas which has been repressed is touched upon during the conversation, so that the repressed idea is brought towards consciousness, that fact is demonstrated by signs of embarrassment and uneasiness in the patient, accompanied by flushing or other signs of activity in the sympathetic nervous system, or by an attempt to pass rapidly on to some other subject, or by an obstinate silence.

The first interview is directed towards engaging the patient's interest and gaining her confidence. It is necessary in dealing with a patient, if the analysis is to be successful, that the patient should like the physician, for it is obvious that if his presence arouses dislike, the chances of conducting a successful analysis are very small.

The actual analysis of the patient in question can now be described:

At the first interview with the patient it was found possible by giving her instances of similar cases, illustrated by diagrams, to lead her to recognise that the illness had a mental origin. Most probably she had been all along half consciously aware of this. She had not been through any danger of any kind, and although the age of sixteen is old enough in some cases for a love affair, nothing of the kind could be discovered.

At the second and third interviews family matters were touched upon, and she gave some account of her father's death. She stated that he had been accidentally shot while in his tent. This caused considerable emotion on the part of the patient, and the interviews were closed so that the patient should not become too disturbed.

The next interview was occupied by a further talk about the father's death. The patient stated that he was accidentally killed in his tent while in charge of an anti-aircraft gun. She was living at the time with her mother in a village near his camp. This incident was subsequently confirmed by the mother, who was particularly insistent upon the idea that death was accidental.

The fifth interview was occupied by further conversation about the patient's father—his influence on her life, her affection for him, and the feeling of protection brought about by his presence. Her affection for her father appeared to have been very considerable, and to have occupied a large part of her life. She was extremely resistant, and wept unrestrainedly while talking about him.

During the sixth interview she was slightly less resistant, and towards the end of the interview said, "How could it have been accidental?" expressing thereby the belief, which she had held so long out of consciousness, that he had committed suicide.

The question of suicide was then discussed with her: how a man was only capable of such an act under strong mental disturbance which changed his mind completely, and the man who committed suicide was therefore different from, or a different part of, the man she had known all her life as her father. She might still, therefore, retain her memory of her father as it had always been, and consider the question of suicide as possible.

At the seventh interview she was able to discuss the possibility of her father's suicide with much less emotion, *i. e.* the complex was being brought into consciousness more easily and dealt with on an intellectual level.

She realised that the condition of her leg was an expression of this disturbance of mind, and was prepared to accept with confidence the idea that her leg was not to blame for the illness, and that she would now be able to walk.

At the next interview the physical defect was, for the first time, made the object of attention, and it was found that she was willing and anxious to have the capacity for movement of her left leg demonstrated. This was done by passive movements of each leg in the supine position, then by active movement on her part against resistance in the same position, and finally by getting her to stand beside the bed, first on one foot and then upon the other. Under persuasion she was able to stand on her left foot practically unsupported. She was then assured that she would walk at the next interview.

During the ninth interview she began to walk with assistance, and at this interview, so as to help the persuasion method, the fact that the leg was not to blame for her illness was strongly insisted upon.

The subsequent treatment was directed towards her learning to walk again, and in the end she was able to do so without any limp at all. It will be observed that the local treatment was not begun until the mental cause for the disturbance had been properly dealt with by the patient.

In any case of conversion hysteria local interference increases the concentration of the patient upon the limb, and tends to make the disability more prominent.

Such a symptom can be removed by hypnotic suggestion, or by forcible persuasion, which latter means that the patient's life is made so unendurable that the disability ceases to cause gratification, and becomes symbolic of pain. Such removal, without the previous analysis, by either of these methods takes away the patient's outlet, and results either in an anxiety neurosis, or in some other physical manifestation, which may be suggested to the patient by a slight ailment, and may simulate disease more closely than the original manifestation did—as, for example, colitis, or the symptoms of a gastric ulcer.

It will be asked to what degree suggestion and persuasion take part in the treatment of such a case. It is probable that they do so to a considerable extent, but the patient feels, if the case is conducted in the way described, that she is curing the condition for herself, that she understands its cause, and that the means is placed in her hands whereby any subsequent physical manifestation can be dealt with. For this reason such a cure may be considered permanent.

The chief factor in this case was undoubtedly the loss of the father's protection, brought about in such a way that the patient was made to feel that the protection which she had valued had never actually existed. She was thus thrown back upon her own resources, and had been unable to stand the strain.

Such a case stands as a model for the treatment of most cases of conversion hysteria, and although many of these will need a longer and more complete analysis, the method of cure follows a course similar to the one we have observed.

It will be noticed that the technique of the treatment is extremely simple, and that once the main features of the condition are mastered, such a treatment can be carried out by anyone of average medical training, without the case needing more care and attention than is bestowed on any illness of similar severity.

THE SECRETION OF MILK.

PROF. PEMBREY gave a lecture on the above subject on May 10th.

He said that the subject of the secretion of milk had been somewhat neglected by physiologists, which seemed to him strange in consideration of the fact that the gland which secretes it is of such importance that a large class of animals—the mammals—had been named in virtue of their possessing the gland.

Of the theories which have been put forward to explain the characteristics of the mammary gland, the one which holds that it is a modified sebaceous gland, is best supported by evolution and embryology. Moreover, the fact that caseinogen, which is so abundant in milk, is found in no other structure in the body except in the sebaceous glands, where it is found in minute quantities, is strongly in favour of the sebaceous gland theory.

It is important to bring the principles of evolution to bear on problems such as this. For instance, the duck-billed platypus is a mammal which lays eggs. Its mammary glands have no nipples, the young simply licking the specialised skin to obtain milk. The development of this mammary glandular tissue after the laying of eggs completely does away with the theory that there is a fœtal hormone causing secretion. Again, in marsupials the mammary glands develop before the placenta. Thus it is unreasonable to suppose that any property of the placenta is responsible for the secretion of milk.

There are traces of five pairs of mammary glands in the human embryo, these being in appearance like sebaceous glands, but with large branches. The changes in the mammary glands during life coincide in time with periods of activity in the body. The mammary gland remains undeveloped until puberty, when in the female it undergoes great elaboration. At the menstrual periods it enlarges, with pregnancy it develops greatly, and at the menopause it atrophies. Therefore it seems evident that the stimulating agent must be sought for in the reproductive system.

A belief in the wisdom of God in Creation or in Evolution will give similar guidance. In one or other way there has been provided a gland which supplies foodstuffs which are no direct good to the mother who secretes the milk, but which are exactly what the offspring needs. If one takes the composition of milk one finds some interesting points about each constituent, viz.:

Caseinogen is synthesised in the gland, and its formation precludes any possibility of milk being of the nature of a transudate.

Lactose is of no use to the mother; indeed it is excreted by the kidneys when it gets absorbed into her blood. But it is of great use to the child.

Fat is indeed like the adipose tissue of the animal, but there is evidence that it also is synthesised in the gland. A bitch can be fed on proteins, but its milk will be rich in fat.

The *salts* of milk bear no resemblance in proportion to the salts of blood of the mother, but resemble closely those of the offspring.

It is evident that the woman who can suckle her child and who does not do so commits a threefold crime in that she deprives the baby of the exact foods which are needful, she robs the community of a healthy child, and also she deprives herself of the benefits which accrue from lactation. How nicely the quality of the milk is adjusted to the needs of the offspring can scarcely be over-emphasised. The animals whose young grow most rapidly supply the richest milk. There can be no substitute for breast-milk speaking in the physiological sense. Examining further, it will be realised that caseinogen yields all the amino acids necessary for growth, as indeed *must* logically be true. Further, the amount of *lecithin* in the milk of various species varies in relation to the development of the central nervous system in that particular species.

There are also *antibodies*, *enzymes* and *bacteria* in breast-milk, and it is probable that even the bacteria are of value. There is no rationale for the elaborate modern toilet of the nipple before the delicate baby is allowed to suck sterile milk from the mother's breast. In fact the breast-milk is usually not sterile, and the evidence seems all in favour of giving the baby some bacteria! (Applause.) Anyway, later in the day the baby will suck its dirty little thumb and so supply its own needs.

What determines the onset of activity? Turning to comparative anatomy we have seen that neither the fœtus nor the placenta need be suspected. What structure varies in activity at puberty, menstruation, pregnancy and the menopause? The corpus luteum shows such a relationship, and probably here is to be found the factor which determines activity of the milk-glands. Additional evidence may be derived from experiments, such as that which shows that the artificial production of a corpus luteum is accompanied by mammary activity. Moreover, if the corpora lutea are removed there is no lactation, and administration of extract of corpus luteum causes activity of the breasts.

There are occurrences which this theory does not explain, such as men who have suckled babies. Probably suction, which will be mentioned later as a cause of breast activity, plays a large part in these cases. Possibly the secretion of milk by male and female babies may be due to some of the mother's corpus luteum extract having reached the circulation of the fœtus by direct transmission.

It has been found that a transplanted mammary gland secretes milk if pregnancy occurs, and this would lead one to suspect a hormone rather than a nervous influence. In another experiment the spinal cord of a pregnant bitch was

dissected out. Pregnancy was succeeded by parturition and normal lactation. A pregnant woman fell through a trap-door and sustained a complete transverse lesion of her spinal cord. In the light of knowledge of the experiment last described the pregnancy was allowed to develop. Parturition occurred without appreciation of pains on the part of the mother, and a healthy child was born and suckled at the breast. Some months later the mother died, but the child lived and grew. Even if the sympathetic nerves are severed secretion proceeds normally, though some structural change probably occurs.

The examples of nervous action on milk secretion are all explained by a nervous action on the muscle which surrounds the ducts. Thus by nervous control the gland can be *emptied* more quickly or its capacity for storing increased.

Disease has an influence on mammary activity—probably a chemical one. Of drugs pilocarpine has no influence, and probably the effect of atropine is due to the plaster and the pressure it exerts on the gland.

Once started, how is the secretion maintained? Here suction plays a very important part. If a mother has only a little milk the treatment is to put a lusty infant to suck at the breast, and the milk will come It is not biological that a woman can have a child and yet be unable to feed the child. Often, when little milk is forthcoming, the child is kept from the breast, but, since retention is the first stage of prevention, what little milk supply there was dries up. Lactation can continue for a considerable period, sometimes up to the birth of the next child.

Diet exerts a considerable influence on the secretion of milk. Probably so many animals show increased lactation in spring because they feed at that time on growing grass, which is rich in proteins—the diet which is the most stimulating to secretion. In foreign countries where wet-nurses are employed it is found one woman can rear three children easily if a sufficiency of protein and fat is taken as food. Hard exercise and muscular work have an inhibitory influence on the secretion of good milk. It is unreasonable to work a cow, and at the same time to expect her to calve and suckle and eventually to provide good meat.

There are great differences in the quality of milk in the various species, or even individual differences in one species. There are butter-cows and cheese-cows, and also cows which supply vast quantities of dilute milk which can be sold by the gallon. In breeding it is found that part of the strain for milk-producing goes through the male, so that the male is of some use even in the matter of lactation.

Another question of interest is that which probes the method of formation of milk. Fatty degeneration of the mammary epithelium or of the peripheral part of the gland-cells has been suggested, but this could not account for the gallons of milk which a cow can give. Moreover, microscopically there is not the large amount of cell division found, such as would be required if the tissue were being constantly replaced. It is necessary to assume that the mammary gland takes up protein and fats and synthesises the milk constituents.

The value of lactation to the mother must not be overlooked; indeed it is fully realised by the less educated classes. Many mothers continue lactation a long while in order to lessen the frequency of their becoming pregnant. The influence of lactation on involution of the uterus is well recognised.

We have waited too long for the millenium which was to come with increased knowledge. We should accept the guidance of biology and recognise that what is wanted is not germ-free milk, but milk containing all the substances needed by the infant, and those in the right proportions; such milk can be provided by the infant's mother.

ALPINISM.

JUDGING from the size of his audience Mr. Barcroft guessed that a wrong conception of the subject on which he was about to lecture had been formed. These lectures were on physiology; he was not there to describe the sunrise as seen from Mont Blanc, but rather he had come to speak about the effect of rarefied air on the human subject, the study of which had fascinated scientific observers for many years. The ascent of aeronauts into high altitudes over our own country brought the problems connected with rarefied air nearer home, for here the same principles obtained in the reaction of the human body and mind to an inadequate pressure of oxygen.

Anoxæmia had been classified into three groups: (1) *Anoxic*, in which group the normal blood contained a high proportion of reduced hæmoglobin; (2) *anæmic*, in which the amount of functional hæmoglobin was less than normal; and (3) *stagnant* or *ischæmic*, in which the supply of blood to a part was inadequate. It was only of the first or *anoxic* group with which the lecturer intended to deal.

By means of a chart the pressure of oxygen in atmosphere and in alveolar air at various altitudes was demonstrated, and it was seen that the alveolar air started with a handicap of about 12,000 feet. That is to say that the atmosphere had about the same pressure of oxygen at, say, 17,000 feet as the alveolar air had at 5000 feet above sea-level. Also by means of a curve the degree of saturation of blood with oxyhæmoglobin as opposed to reduced hæmoglobin at the various altitudes was shown, and from this curve it was evident that about 17,000 feet up is a critical level, above which the percentage "unsaturation" becomes speedily raised. (The term "5 per cent. unsaturated" comes from America.)

The lecturer then took the effect of altitude on the individual organs of the body in turn, starting with the *blood*. It was no matter to be passed over lightly that the hydrogen ion concentration of blood is kept constant during rest. If carbonic acid leaves the blood as it does at high altitudes the alkalinity of the blood would increase, but the urine becomes more alkaline, and so the blood remains normal. To test the effect of exercise on the PH of the blood in rarefied air the lecturer had had experiments performed with himself as the subject. He had just done 4600 foot-pounds of work in a given time in atmospheric air, by which he had reduced his PH from 7·43 to 7·35. Then he did work for the same length of time in a chamber of rarefied air, only accomplishing 2700 foot-pounds of work, and was found to have reduced his chamber PH from 7·44 to 7·36. As the experimental error is 0·02 he had reduced the PH a certain amount by doing in rarefied air about one-half the amount of work he had done to reduce his PH the same amount in atmospheric air.

The heart.—The lecturer did not believe mountaineers who state that their pulse-rates do not rise as they ascend to high altitudes. He believed that there was a strain on the heart dependent simply on the low atmospheric pressure. It seemed to him to be absurd to attempt to measure the strain put upon the heart by multiplying the output by the pressure. He preferred Rohde's method of multiplying the systolic pressure by the pulse rate. The normal syndrome of increased heart-work follows from a smaller degree of exercise in rarefied air.

Respiration, too, was increased in the air-chamber by much less exercise than was necessary to cause an equal increase in atmospheric air. Why these phenomena occur has not been decided.

The effect of work in rarefied air on *skeletal muscle* is to produce stiffness which lasts several days. The *stomach* is severely affected, and perhaps it is the stomach which determines that ascent must cease. Digestion is in abeyance.

The most noteworthy effect of climbing to high altitudes is the effect it has on the mind. It is as if the edge of the mind became clouded, the changes that occur reminding one of those produced by alcohol. Probably to this cloudiness and to the ignoring of trifles must be attributed many of the mountaineering accidents.

FROM A CONTEMPORARY.

Letter from a patient's wife who was told her husband was dying and asked for instructions about the funeral:

NATIONAL BOOT FACTORY,
WOOD LANE.

Up-to-Date Models.
Largest Boot Repairing Establishment in the District.

DEAR SISTER,

Should my husband die before Monday, would you kindly have him coffined, and arrange with Mr. Williams to bring the same to the above address, and let me know the expenses occurred thereby, and the same shall be refunded with promptitude.

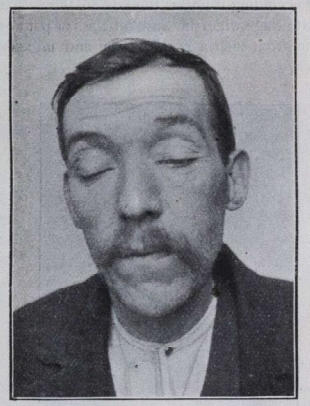
Thanking you in anticipation,

Yours sincerely,
VERA CALLAS.

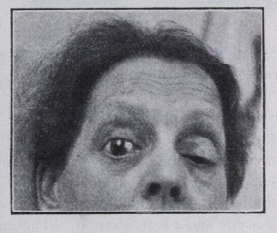
A RADICAL OPERATION FOR PTOSIS.

By T. F. ZEROLO, B.A., M.R.C.S., L.R.C.P.

I AM indebted to Mr. Foster Moore for allowing me to publish the technique of an operation for ptosis which has proved eminently satisfactory in several cases that have come under his care during the last six months.



The photographs demonstrate—a typical case before any surgical interference; a patient in whom one lid has been



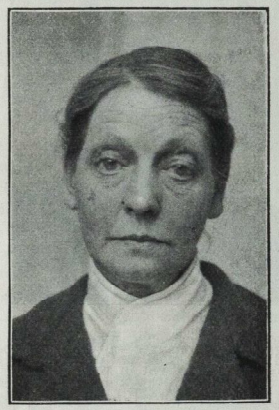
operated on; and the same case some time after completing both lids.

The operation has been performed only when no definite organic lesion, which might improve under medical treatment, could be discovered.

The cases which are most suitable for this procedure are: (*a*) congenital ptosis, (*b*) chronic pyæmic ophthalmoplegia externa, first defined by Wilbrand and Saenger, (*c*) some chronic cases of myosthenia gravis.

Paralytic cases in general are not suitable, for in them all the third nerve nucleus is usually involved, and the drooping of the lid adds to the comfort of the patient by preventing diplopia.

Of the four cases I have in mind two were children between the ages of seven and twelve years, two were adults. The adults give a history of a very gradual drooping of one upper lid extending over several years, followed by the other lid. The defect develops so slowly, and it causes such slight inconvenience till it actually interferes with sight by occluding it unless the lids are lifted, that it is only at this late stage when the hospital class of patient comes to seek relief from such a cumbersome and unbecoming condition.



The male patient shown in the photograph was reduced to raising one eyelid with the finger in order to see his way about.

The technique of the operation is as follows: The patient is prepared as for a general anæsthetic, although in suitable adults it may be performed under a local. An incision is made 4 mm. from the lid margin and parallel to it, extending over the middle half of the lid. A similar incision is made parallel to this one and 4 mm. above it. The upper incision should be a little longer than the lower, as the flaps turn up more comfortably on an oblique base (Fig. 1). The bridge of skin thus made is divided in its centre, and the two flaps thus formed dissected up from the underlying orbicularis muscle. A Graefe's knife is inserted just below the eyebrow, and carried between the skin and orbicularis muscle, to emerge immediately in front of the base of the flaps. A stitch which transfixes the apex of the flap is then threaded in the manner shown in Fig. 2; the flaps are carried through the tunnel thus made, and act as suspensory ligaments. The needle must be passed along the knife blade before the latter is removed.

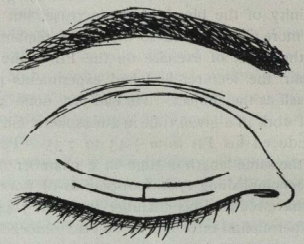


FIG. 1.

A third flap, composed of muscle only, is dissected up from one side, having its base at the centre of the incision,

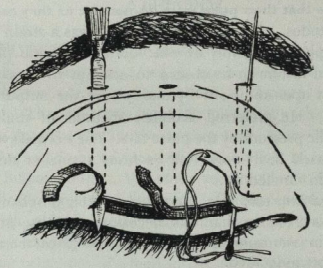


FIG. 2.

and is dealt with in a similar way to the skin-flaps; this then acts as a third suspensory ligament which supports the exact centre of the lid.

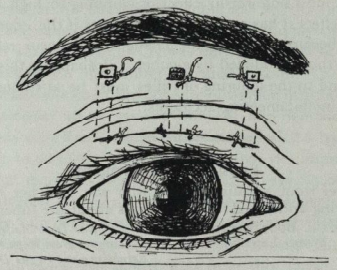


FIG. 3.

The flaps are pulled through and fixed in position by stitches when the desired effect is obtained.

The parallel skin edges are then stitched together. By removing the fixing stitches through the flaps, any alteration can be done by pulling on them or relaxing them, should this be necessary after the operation (Fig. 3).

The stitches are not removed till the fourteenth day, when any protruding piece of flap can be cut off. No dressing is necessary.

It has been observed that after this operation the tendency of the lid is to retract rather than to droop, contrary to what usually happens with other methods.

CASE OF SPONTANEOUS FRACTURE OF A MULES' GLOBE AFTER 20 YEARS: SUCCESSFUL REPLACEMENT BY A NEW GLASS GLOBE AFTER TWO ATTEMPTS.

By WILLIAM WYLLYS, M.R.C.S., L.R.C.P.

MISS C—, æt. 39, suffered from Graves' disease and in 1913 Mr. D. Day successfully removed the goitre at the Norfolk and Norwich Hospital. She came to see me in a very agitated frame of mind at 9 a.m. on May 5th, 1920, stating that the glass globe which had been placed in her right eye by Dr. Lawford of Moorfields Hospital more than twenty years ago had suddenly burst. I made an examination and found such to be the case, and realising the necessity of immediate action, procured the services of my friend and colleague Dr. Valentine Blake, who, giving a perfect anæsthetic, enabled me to clear out the pulverised glass from within the tunics and to insert a new glass globe. I sewed up the edges of Tenon's capsule carefully and then brought conjunctiva well over and sutured. All went well for eight days, when to my disappointment a small speck of glistening material appeared at the centre of the wound and I found the edge of Tenon's capsule and conjunctiva had given way at that point, where a stitch could be seen lying loosely, evidently sloughed out from pressure. A little muco-pus was to be seen, and with this inflammatory complication it looked doubtful if another attempt to perform a plastic operation was justifiable. I got Dr. Blake to see the case in consultation with me and the question of an ideal antiseptic which would not injure the tissues and at the same time rapidly subdue the inflammation, so that a further operation could be almost immediately performed, had to be settled upon. At his suggestion and on which I consider the successful result almost entirely depended, we decided to instil a solution of trimethenal allylic carbide. This was done for two days, when Dr. Blake again administered the anæsthetic. I opened up the old wound, took out the glass globe, and filled the cavity in tunics with solution of trimethenal allylic carbide, then floated in another Mules' globe and even more carefully joined up the edges of Tenon's capsule with interrupted sutures of fine silk and then closed over with conjunctiva, using again interrupted fine silk sutures. On the eighth day one of these was loose and had worked almost out so I removed it, and two days later two more, but to my great satisfaction those in Tenon's capsule had held and there was good firm healing there. The conjunctiva with its full blood supply looked well after itself, and at the end of a fortnight an excellent stump was forming. A few days later I noted "all well," perfect movement of stump, and six weeks from the operation she was wearing with comfort a new Snellen Reform glass eye, a perfect match in colour with her sound eye.

I report this case to demonstrate the possibility of undertaking successfully a plastic operation in an inflamed area if a suitable antiseptic can be found: in this instance the carbide solution proved efficacious. Also to point out that if an attempt to replace a broken glass globe fails first time, the operation can and should be repeated. From an industrial point of view the necessity of restoring a *movable* glass artificial eye in this young woman's case meant a loss of or return to her post, to which curiously enough she had been appointed many years ago because of her keen sight and comely appearance, her employers having no idea when they engaged her that one of her eyes was artificial.

Another point of interest is the fact that in cases of this sort an artificial eye can be worn over a Mules' globe for five years without being even polished. This information the patient vouchsafed and I attribute it to the better fit obtained and the movement to and fro under the conjunctiva, which does not occur after enucleation, and also to use of fresh water only in cleansing the artificial eye; and another point of interest is that Mules' operation in young people can be taken when sight has been lost from chronic disease of cornea, for as a child from her history she evidently had strumous ulceration and probably perforation of cornea.

PUSHFUL PUBLICITY.

THE new scale of payments for patients is very impressive, but we consider it might, with a little ingenuity, be much improved and extended. Surely a great institution like this Hospital should show more vigorous enterprise and initiative.

For instance, we might have some such tariff as this placarded outside the Medical Casualty Boxes:

To advice	2*d.*
Rep. advice	1*d.*
New medicine	6*d.*
Rep. medicine	2*d.*
Rep. ambo	3*d.*
To referring to H.S./D.	2*d.*
Season ticket for medicine	5*s.*

Or the Surgical Box could be run on similar lines, combining economy with sound business principles. Such a scale as the following is tentatively put forward:

To A.B. Fots (cold)	½d.
,, ,, (tepid)	1d.
,, ,, (hot)	1s.
To opening abscess (with penknife)	1d.
,, ,, (with scalpel)	2d.
,, ,, (with sterilised scalpel)	3s.
To referring patient to H.P./D.	2½d.
To tapping hydrocele	6d.
,, hernia	No extra charge.

N.B.—The dressers are strictly forbidden to receive gratuitics, as their services are already more than adequately remunerated.

Then we should soon have the different firms advertising independently. A healthy spirit of competition would thus be fostered. Why not this sort of thing?

DOES YOUR MEDICINE SUIT YOU?
If not, TRY THE TERRACOTTA FIRM.
Delicious draughts! Palatable placebos!
Hacking corfs a speciality.
We cure all complaints except "the nerves." If you suffer from this, try the heliotrope box next door.

Or this:

For unremitting investigation and attention
TRY THE MEDICAL PROFESSORIAL WARDS.
Special features: Reduced fees when needle punctures exceed 5 per day.
Ankle-jerks under local anæsthesia.
Peptone (intravenous), per pint, 2d.
Agar-agar biscuits, per pound, ½d.

And this:

For even more complete investigation
TRY THE PATH. LAB. (TOP FLOOR).

Doubtless the Surgical Side would not be behindhand. We may expect to see:

Medicine will never cure that gnawing pain!
TRY OUR POSTERIOR GASTRO-ENTEROSTOMIES. Guaranteed not to leak or kink. *Money refunded if not satisfied.*

Or this:

LET OUT THAT HEADACHE!
Where there is pus you let it out. Why not your headache?
Neolithic man knew this when he invented trephining.
Why be behind the times?
Reasonable terms. Apply—THE DELICATE EMERALD FIRM.

Or this:

Are you constantly run down and out of sorts?
Then come into our Professorial Ward and have an ABSOLUTELY ORIGINAL PLASTIC OPERATION ON THE THORACIC ORGANS.
Whatever the result, you will be immortalised in medical literature.
AUTOPSIES GRATIS.

GEMINI.

THE ROLLIER SYSTEM AND ITS APPLICATION IN AMERICA.*

By JACQUES C. RUSHMORE, M.D.,
Brooklyn, New York.

HELIOTHERAPY is almost as old as time. It is older than modern civilisation. The Egyptians used it. Herodotus advocated it. The Romans had elaborate solariums. The Incas of Mexico made use of the sun as a curative measure before the Spanish invasion. Kim—Rudyard Kipling's hero—was placed on the ground in the sunlight that he might be fully restored to health by the old women who had nursed him through his severe illness. Animal life appreciates the value of the sun in illness.

In 1902, Malgat, a physician of Nice, read his historic paper on heliotherapy. It remained for Rollier, in 1903, to first firmly establish heliotherapy. Having worked for a number of years in the clinic of Prof. Kocher he learned that surgery of tuberculosis left much to accomplished, and he went out from this great surgical clinic to establish a great non-surgical clinic for the tuberculous. At Leysin, in the Alps, at an altitude of 5000 feet, Rollier taught the world the value of the sun in the treatment of tuberculosis of the trunk and extremities.

How does the sun act as a curative agent?

We know little more than the ancients. That the action is largely chemical is fairly well established. No substance can be exposed to the sun without undergoing a chemical change (Chalons). The rays that are probably the curative rays are the N-rays of Nancy described by Blondlot. As these rays are obliterated somewhat in the low lands by the dirt in the atmosphere, a high altitude accomplishes better results. At an altitude of 5000 feet bacteria are destroyed by the sun's rays in one half the time of that required at sea level. The physiological results accomplished by sun rays are: increase in red cells, hæmoglobin and eosinophiles, with an increase in body weight. In suppurating wounds, first an increase in discharge and leucocytes followed by drying up of the discharge. The formation of sequestra are hastened. Tuberculin reaction is increased. Temperature, pulse and respiration first rise and then drop back to normal. If they remain up the treatment is contra-indicated. The patient gains in weight and there is a general whipping up of the whole economy. Muscle spasm lessens, pain disappears and the general neurotic condition of the patient clears up.

Pigmentation is essential to the success of all heliotherapy and is a fair indication of the progress of the patient. Failure to pigment, loss of weight, increase of temperature and pulse rate and hæmorrhage are contra-indication to continuance of the treatment.

* From *The Long Island Medical Journal*, November, 1920.

Heliotherapy may be practised anywhere, at a high altitude, at sea level, inland and in the midst of our great cities. Temperature of the air is not an element. In the beginning of the treatment the mid-day sun must be avoided. Exposure must not be made immediately before meals or for an hour or more after meals. Draughts must be avoided at all times and the body surface must not be chilled. When the sun passes under a cloud the body must be covered.

Heliotherapy may be local or general, but as most conditions for which it is used are systemic, general heliotherapy is the treatment of choice. At first for several days the patient is accustomed to the outside air, then the actual exposure of the body begins. The head and eyes are always protected from draughts, the feet are exposed for ten minutes three or four times a day. The second day the feet are exposed for twenty minutes and the legs up to the knees for ten minutes. The third day the feet are exposed for thirty minutes, legs up to the knees for twenty minutes, and the thigh to the middle portion for ten minutes. Having completely exposed the ventral surface of the body the patient is turned and the dorsal surface gradually exposed in the same way. In about thirty days the whole body will become well pigmented and complete exposure may be made. The patient may then be exposed for from three to six or seven hours a day. Cloudy or stormy weather interrupting the treatment before complete pigmentation, the process must be stopped and gradual exposure again be taken up. Dermatitis and sunburns are to be avoided. Deep pigmentation is the desired result. Temperature, pulse, respiration and weight are to be carefully watched. Brunettes pigment much better than blonds and certain blond types cannot take the treatment as they will not pigment and become extremely nervous.

Measures for immobilisation and traction are not to be discarded during the treatment. Split or bivalve splints are best, as the involved part may be exposed. Sinuses and wounds are best dressed over fine wire mesh so that the gauze does not come in contact with the wound, dirt from the air kept out, and the wound may be exposed.

The value of heliotherapy in pulmonary tuberculosis is a disputed point. In tuberculosis of bones and joints, adenitis and fascial tuberculosis, it is the ideal treatment. The results in peritoneal tuberculosis are reported as remarkable. Surgery, the actual use of the knife, is becoming more and more discredited. Calmot Dictum is "Le bistouri, c'est l'ennemi."

Tuberculosis of bones and joints is not a local condition, but a systemic or general condition of which the local condition, is an expression, and cure is depended on the condition of the entire body.

Local and general heliotherapy are of great value in chronic pyogenic osteomyelitis, and the literature is full of favourable reports. In arthritis deformans in conjunction with a hot dry climate it is often our last resort, and a most valuable one.

A MICROSCOPE AND ITS REVELATIONS.

(A Story without a Moral.)

ONE of the first things with which I became acquainted on becoming a medical student was a microscope. My father, with that generous enthusiasm characteristic of most fathers when their sons are commencing medicine, presented me with a beautiful specimen, having an oil-immersion and many wonderful accessories. To me it was a most awe-inspiring instrument, and, for a time, I hardly dared touch it. When I found the wonders it revealed—some real, and a few perhaps imaginary—I looked upon it as my most treasured possession, and constantly used it with a zeal worthy of the most earnest student of biology. All very pretty, so far; but the sordid part of the whole thing began before I had really ever seen a microscope. It started with Parsons. I knew Parsons fairly well; had even gone so far in fact as to borrow a matter of seven pounds from him. Now Parsons stood six feet in his socks, and was not a person to be trifled with at the best of times. He was, in fact, one of those happily rare people who, if they are owed money, become entirely changed, and almost assume the habits of the primitive forms. He had now got to the point of actually demanding his seven pounds in kind or ——!

Now I naturally gave the matter my most careful attention, and was, in fact, in the habit of wandering about the Hospital Quadrangle in the dusk of the summer evenings, thinking hard and thinking often. I was thus absorbed on one particular evening it happened to be that of "Derby" Day—when through the gloom I saw a small procession of men approaching me. Each held a microscope case in his right hand, and all trod very lightly, and looked neither to right nor to left. Thinking that I had perhaps chanced on some ultra-scientific sect, who would not wish to be disturbed in what was perhaps a semi-religious ceremony, I withdrew to a distance and watched. The procession passed through the gate and across the road. I followed, and saw them enter a low doorway and along a dark passage, where they disappeared in the darkness.

I very quickly decided what this mysterious procedure meant. It was undoubtedly a secret meeting of some microscopical brotherhood. Behind that door wonderful histological discoveries were probably being made, which would one day benefit all mankind. Ah! How I wished I might be one of them! My gaze wandered over the house and suddenly rested on something that rivetted my attention. There, shining through the dusk of a perfect summer's evening, were three large spheres, fashioned in

brass, and suspended just over the doorway the procession had entered. In a flash the whole truth came to me. In an instant I saw the meaning of many things I had not understood, and which occurred in the daily routine of hospital life. The purport of many veiled references to microscopes at the lunch table, and of many muttered asides came to me now with perfect clarity. In a flash, also, I saw the immense possibilities of my discovery.

With throbbing temples I hurried home and to bed, and dreamt of a paradise of microscopes and spheres.

Parsons was duly paid the next day, and all might have ended happily. Unfortunately, however, an over-anxious father made indiscreet inquiries about a microscope, and, after putting a leading question, extracted the whole morbid story. A painful scene followed, in which he said much about microscopes in general and mine in particular. It was infinitely worse than anything Parsons could have said to me! W. H.

BRITISH MEDICAL ASSOCIATION.

891H ANNUAL MEETING, NEWCASTLE-ON-TYNE, JULY, 1921.

IT is interesting to note the St. Bartholomew's men who will be taking part in the official and scientific work of the Annual Meeting of the British Medical Association this year in July at Newcastle-on-Tyne. Although the following list may not be complete, it shows that St. Bartholomew's is certainly not unrepresented.

Section of Medicine.—Vice-Presidents: Prof. A. J. Hall, M.D., and G. S. Haynes, M.D.

Section of Surgery.—Hon. Secretary: W. Girling Ball, F.R.C.S.

Section of Pathology and Bacteriology.—Vice-President: J. F. Gaskell, M.D.

Section of Orthopædics and Diseases in Children. Vice-Presidents: R. C. Elmslie, M.S., and H. Morley Fletcher, M.D.

Section of Neurology and Psychiatry.—Hon. Secretary: Anthony Feiling, M.D.

Section of Ophthalmology. — Vice-President: Lt.-Col. R. H. Elliot, F.R.C.S.

Section of Physiology, Therapeutics and Dietetics.—President: H. H. Dale, M.D.

Section of Venereal Diseases.—Hon. Secretary: Kenneth M. Walker, F.R.C.S.

Section of Ambulance and Red Cross.—Hon. Secretary: R. M. Vick, M.Ch.

Section of Medical Sociology.—President: Sir T. Jenner Verrall, LL.D. Vice-President: Charles Buttar, M.D.

Section of Proctology.—Vice-President: W. Ernest Miles, F.R.C.S.

Section of Urology.—Vice-President: P. J. Cammidge, M.D.

Two members of the Hospital Staff are on the Council of the Association, W. McAdam Eccles, M.S., and T. P. Dunhill, C.M.G., M.D., and several members are to read papers at the meeting, including J. H. Thursfield, M.D., on the "Anæmias of Childhood."

It would appear that the meeting is likely to be a most successful one.

SLEEP REQUIREMENTS OF CHILDREN.

THE School Medical Department of the London County Council has issued the following leaflet for the instruction of parents regarding the sleep requirements of children:

(1) Medical authorities and others agree that school-children need the following amount of sleep:

Age in years.	Hours of sleep required.
4	12
5 to 7	11 to 12
8 to 11	10 to 11
12 to 14	9 to 10

(2) Children grow mainly while sleeping or resting. Do you want your children to grow up stunted?

(3) Tired children learn badly, make little progress at school, and often drift to the bottom of the class. Do you want your children to grow up stupid?

(4) When children go to bed late their sleep is often disturbed by dreams, and they do not get complete rest. Do you want your children to sleep badly and become nervous?

(5) Sufficient sleep draws a child onward and upward in school and home life. Insufficient sleep drags it backward and downward. Which way do you want your child to go?

(6) Tiresome children are often only tired children. Will you put the truth of this to the test?

(7) Time spent out of bed means more wear-and-tear of children's clothes and boots. Why not save such wear-and-tear?

(8) A tired mother might get a quiet hour or two if the children were in bed by 6.30 p.m. Why not take advantage of this?

(9) The fact that a neighbour's child is sent to bed too late is not a good reason for sending your child to bed too late. Two wrongs don't make a right, do they?

(10) Going to bed late has now become a bad habit, which may be difficult to cure. Will you persevere till you succeed in curing it?

OBITUARY.

LT.-COL. CASPAR ROBERT LAURIE.

ON April 22nd, Caspar Robert Laurie, Lt.-Col. R.A.M.C (T.F.), M.R.C.S., L.R.C.P., passed away at Wadebridge. Col. Laurie was born in 1857 in Kent, and was educated at a private school and at the gymnasium at Kornthal, Würtemburg. In 1873 he entered a commercial office, and two years later went to Cachar, N.E. Bengal, to a tea plantation and factory under the British Indian Tea Co., Ltd. He was æt. 23 when he became a medical student at this Hospital.

After qualification with the diplomas M.R.C.S.Eng., L.R.C.P.Lond., and L.S.A., he became assistant to Dr. Cory at Buckhurst Hill, and after five years in Essex settled down at Redruth, Cornwall, where he practised from 1890 till 1910.

Since 1893 Dr. Laurie had been a volunteer or a territorial, and in 1914 he was called up for war service. He was gazetted Lieutenant-Colonel June, 1916, and served in several military hospitals.

For many years Dr. Laurie was interested in the Order of St. John. He was lecturer and examiner to the Ambulance Association, Hon. Surgeon to the Brigade, Assistant Commissioner, Hon. Associate and Knight of Grace of the Order of St. John of Jerusalem.

STUDENTS' UNION.

HOCKEY CLUB.

At the Annual General Meeting the following officers were elected:
President.—Dr. H. Morley Fletcher.
Captain.—T. E. Moody-Jones.
Hon. Secretary.—N. A. Jory.
Captain and Hon. Secretary (2nd XI).—G. Foster.

CORRESPONDENCE.

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

DEAR SIR,—While indulging in a weakness I have for overhauling the shelves of second-hand booksellers, I came across a first edition of Gee's *Auscultation and Percussion*, on the fly-leaf of which was the following inscription:

"This book, being one of the first which Dr. Gee published, is presented to Dr. Read, as a small memorial of his skill and devoted attention to Lydia Gee (the mother of Dr. Gee) in her last illness, by her sorrowing husband, William Gee. December, 1886."

I have thought this may be of interest to some of your readers.

Yours faithfully,
A. H. COUGHTREY.

THE LIBRARY;
May 24th, 1921.

RECENT BOOKS AND PAPERS BY ST. BARTHOLOMEW'S MEN.

BERRY, JAMES. "On a Further Series of 500 Goitre Operations, with Special Reference to After-Results." *British Journal of Surgery*, April, 1921.

CAMMIDGE, P. J., M.D. (with J. A. CAIRNS FORSYTH, F.R.C.S., and H. A. H. HOWARD, B.Sc.). "The Relation of the Liver to the Difference Value of the Blood." *Lancet*, May 14th, 1921.

COLT, G. H. "Babcock's Extraction Operation for Varicose Veins." *British Journal of Surgery*, April, 1921.

DOUGLAS, S. R. "The Question of Serological Races of *V. choleræ* and the Relation of some other Vibrios to this Species." *British Journal of Experimental Pathology*, April, 1921.

ECCLES, W. MCADAM, M.S., F.R.C.S. "The Early Diagnosis of Acute Abdominal Affections." A British Medical Association Lecture. *British Medical Journal*, May 7th, 1921.

——— "Outline of a Scheme to Finance the Voluntary Hospitals of London." *Lancet*, May 14th, 1921.

FISHER, A. G. TIMBRELL. "A Study of Loose Bodies Composed of Cartilage or of Cartilage and Bone occurring in Joints, with Special Reference to their Pathology and Etiology." *British Journal of Surgery*, April, 1921.

GAUVAIN, Sir HENRY, M.A., M.D., M.C. "The Non-operative Treatment of Surgical Tuberculosis." *Lancet*, May 21st, 1921.

GIUSEPPI, P. L., M.D., F.R.C.S. "The Treatment of Urethral Stricture." *British Medical Journal*, May 14th, 1921.

GORDON, M. H., C.M.G., C.B.E., M.D. "A Serological Study of Hæmolytic Streptococcic Differentiation of *S. pyogenes* from *S. scarlatinæ*." *Ibid.*, April 30th, 1921.

GRAHAM, GEORGE, M.A., M.D., F.R.C.P. "The Goulstonian Lectures on Glycæmia and Glycosuria." Lectures on Glycæmia and Glycosuria delivered before the Royal College of Physicians of London. Lecture I. *Lancet*, May 7th, 1921.

——— Lecture II. *Ibid.*, May 14th, 1921.

——— Lecture III. *Ibid.*, May 21st, 1921.

NIXON, J. A., C.M.G., M.D., F.R.C.P. "Famine Dropsy as a Food-Deficiency Disease." *The Clinical Journal*, May 4th, 1921.

RAMSAY, ROBERT A. "The Treatment of Congenital Hypertrophic Stenosis of the Pylorus by Rammstedt's Operation." *British Journal of Surgery*, April, 1921.

SPENCER, W. G. (and ARTHUR KEITH). "Intestinal Stasis followed by Cystic Dilatation of the Cæcum, without Intestinal Obstruction; with Pathological Remarks on Cysts at the Ileo-cæcal Valve and on the Cæcum Excised, with a Contribution to the Pathology of Intestinal Stasis." *Ibid.*, April, 1921.

THURSFIELD, HUGH, M.D., F.R.C.P. "Notes on Mongolism." *British Journal of Children's Diseases*, January–March, 1921.

WATKINS, J. G., M.R.C.S. "Makeshifts in Practice." *Practitioner*, May, 1921.

WEBER, F. PARKES, M.A., M.D., F.R.C.P. "A Condition suggesting Lupus Pernio in a Child." *Lancet*, May 14th, 1921.

REVIEWS.

LETTERS TO A NURSE. By A MIDLAND DOCTOR. (John Bale Sons and Danielsson, Ltd.) Price 5s. net.

Do you want to know what to give Nurse So-and-so for her birthday? This book is the ideal thing. It is a series of letters from a general practitioner to his niece who has chosen nursing as her profession, and the substance of the letters reveals the author's views on nursing and on the nurse's trials and troubles. The author has very decided views on the nurse and her job. He is not unobservant, as may be guessed when he claims to have noticed that "a nurse's digestion is equal to anything, even a breakfast of *éclairs* and coffee."

The simple explanations of various ordinary pathological states should prove of use to the probationer, who is naturally inclined to be perplexed on entering a world so entirely new to herself.

Nurses are enjoined to be merciful to the house-man at Christmas time—and, we might add, on View Day—and not to stuff him with cake and almonds. "A nurse's interior is elastic for all I know; and anyway there are many nurses. But there are few house-physicians. Be reasonably kind to him; but do *not* overfeed him." The following quotation will convey an idea of the nature of the book: "That will never do. If you don't cut the word *neurotic* out of your vocabulary you will never become a really good nurse. . . ." "Nurses who try to bribe the Sister by gifts deserve to lose their souls." "Cultivate also the 'dull' people; the people with little more than subjective symptoms. Listen to their tales of woe, which usually are very, very real and have a sure foundation. Pain has a meaning, remember . . . 'a queer fluttering' is most unpleasant, and usually frightening to the fluttered person." "Why does the average nurse make such a guy of herself when she puts on mufti? I suppose you will say that she doesn't. But she *does!*" [Not at Bart.'s.—ED.]

We recommend the book to probationers and stripes because it is both interesting and useful.

EXAMINATIONS, ETC.

UNIVERSITY OF CAMBRIDGE.

At Congregations recently held, the following degrees were conferred:

M.D.—C. R. Taylor, A. T. Edwards.

M.B., B.Ch.—W. E. H. Banks.

UNIVERSITY OF LONDON.

Third (M.B., B.S.) Examination for Medical Degrees, May, 1921.

Honours.—C. H. Andrewes (Distinguished in Medicine, Forensic Medicine, and Surgery. University Medal.)

Pass.—I. Frost, H. L. Sackett, B. B. Sharp, L. F. Strugnell, I. G. Williams, W. Pridham Wippell.

Supplementary Pass List.

Group I.—A. W. Taylor.

Group II.—G. Day.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

At an ordinary Comitia of the Royal College of Physicians, held April 28th, the following were elected:

Fellows.—A. J. Clark, A. Feiling.

Members. L. I. Braun, G. S. Buchanan, C. B. Heald, C. C. Okell, M. K. Robertson, E. B. Verney.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

First Examination for the Diploma of F.R.C.S., May, 1921.

D. C. G. Ballingall, S. M. Cohen, R. S. Corbett, R. C. Davenport, C. A. Horder, N. A. Jory, N. E. Laurence, K. W. Leon, J. Maxwell, C. M. Pearce, J. P. Ross, F. W. Watkyn Thomas, A. D. Wall, H. B. White.

CONJOINT EXAMINING BOARD.

April, 1921.

The following have completed the examination for the Diplomas of M.R.C.S., L.R.C.P.:

F. G. L. Barnes, F. C. Cozens, W. E. Hayes, R. W. P. Hosford, B. L. Jeaffreson, D. E. Jones, J. H. Le Brasseur, W. B. A. Lewis, S. C. J. Miedema, E. F. Peck, C. G. Schoneboom, E. W. C. Thomas, B. W. Thompson, W. G. D. H. Urwick.

LONDON SCHOOL OF TROPICAL MEDICINE.

The following candidates were successful at the examination held at the end of the 65th session (January–April, 1921):

Passed with Distinction.—C. T. Maitland.

Pass.—A. R. Jennings.

DIPLOMA IN PUBLIC HEALTH.

The Diploma in Public Health of the Royal College of Physicians and Surgeons has been conferred upon:

P. G. Horsburgh, C. T. Maitland, A. Woollcombe.

APPOINTMENTS.

BLAIR, C. J. L., M.R.C.S., L.R.C.P., appointed Assistant Ophthalmic Surgeon to the Royal Hospital, Richmond.

EVANS, D. B., M.R.C.S., L.R.C.P., appointed Medical Superintendent of the Rufford Sanatorium and Training Centre under the Lancashire County Council Tuberculosis Scheme.

FISHER, A. G. T., M.C., M.B., Ch.B.(Bristol), F.R.C.S., appointed Surgeon with Charge of Out-patients to the Seamen's (Dreadnought) Hospital, Greenwich.

FRY, A. P., M.B., B.S.(Lond.), appointed Assistant School Medical Inspector under the Staffordshire County Council.

GOSSE, PHILIP, M.R.C.S., L.R.C.P., appointed Assistant to the Medical Superintendent of the Radium Institute, London.

GRIFFITHS, G. B., M.R.C.S., L.R.C.P., promoted Inspector of H.M. Prisons.

MCCURRICH, H. J., M.R.C.S., L.R.C.P., appointed Resident Medical Officer to the Freemasons' Hospital and Nursing Home, Fulham Road, S.W.

RICHARDSON, G. B., F.R.C.S., appointed Resident Surgical Officer to Ancoats Hospital, Manchester.

SHURLOCK, A. G., M.B., B.Ch.(Cantab.), appointed House Physician to the East London Hospital for Children, Shadwell.

TAYLOR, A. W., M.R.C.S., L.R.C.P., appointed Casualty Officer at the Queen's Hospital for Children, Hackney Road, E.

WYLLYS, W., M.R.C.S., L.R.C.P., appointed Ophthalmic Surgeon to the East Anglian Institution for Blind and Deaf Children, Gorleston-on-Sea.

CHANGES OF ADDRESS.

BROWNE, Surg. Lt.-Comdr. E. MOXON, R.N., The Garrison, Ascension.

FEGAN, R. A., Pendyffryn Hall Sanatorium, Penmaenmawr, N. Wales.

FRY, A. P., Redcot, Enville, nr. Stourbridge.

GRIFFITH, J. R., 13, Brunswick Square, Hove.

HUTT, C. W., 35, Ennadale Road, Kew Gardens, S.W., and 193–197, High Holborn, W.C. 1.

ILLIUS, Major J. W., I.M.S., c/o Messrs. Grindlay & Co., Hornby Road, Bombay.

LANDAU, J. V., 20, Highbury New Park, N. 5.

LOUGHBOROUGH, G. T., 9, Bentinck Street, W. 1. (Tel. Langham 1393.)

MCCURRICH, H. J., Freemasons' Hospital and Nursing Home, Fulham Road, S.W. 3.

PORTEOUS, L. D., 12, Victoria Road, Leicester.

RICHARDSON, G. B., Ancoats Hospital, Ancoats, Manchester.

SHURLOCK, A. G., East London Hospital for Children, Shadwell, E.

VINTER, N. S. B., The Mildmay Hospital, Bethnal Green, E. 2.

BIRTHS.

ALLNUTT.—On April 13th, at Foxacre, Fleet, Hants, to the wife of Capt. E. Bruce Allnutt, M.C.—a daughter.

DOWLING.—On April 27th, at Myr Hall, Woodford Green, to May, wife of Dr. S. M. Dowling—a son.

STOTT.—On April 27th, at 53, Addison Avenue, W. 11, to Dr. and Mrs. Arnold W. Stott—a son.

WHITE.—On April 29th, at a nursing home, West Dulwich, the wife of J. Stanley White, M.R.C.S., L.R.C.P., of a son.

MARRIAGES.

BLOUNT—STEPHENS.—On April 30th, at St. John's, Palmers Green, by the Rev. D'Arcy Preston, Dr. Douglas A. Blount, son of the late Dr. Blount, of Wood Green, to Muriel Gladys, elder daughter of Mr. and Mrs. Ernest John Stephens, of Tregantle, Green Lanes.

COX—HARRIS.—On April 26th, at Cholmeley Hall, Highgate, Hedley Chave Cox, M.B., B.S., M.R.C.S., only son of Mr. and Mrs. Cox, of Penrhyn, Hornsey Lane, Highgate, to Frances Maude Mary, younger daughter of Mr. and Mrs. Harris, of Red Gables, Whetstone.

DOUGLAS—TILLING.—On May 18th, at St. Paul's, Knightsbridge, Harold Archibald Douglas, M.D., of 12, New Road Avenue, Chatham, son of Archibald Douglas, of Newcastle-under-Lyme, to Frieda Kathleen, daughter of T. R. Tilling, of May Dene, Newport, I. of W.

WEBER—UNGER-LAISSLE.—On March 17th, Dr. Frederick Parkes Weber to Hedwig Unger-Laissle, M.D.

DEATHS.

ELLIS.—On May 8th, 1921, at Oak Royd, Bradford, William Henry Ellis, late of Shipley Hall, Yorks, aged 76.

ROGERS-TILLSTONE.—On May 16th, 1921, of heart failure, John Monkhouse, Col., A.M.S., fifth and youngest son of the late Benjamin Tillstone Rogers-Tillstone, of Moulse, Coomb Place, near Brighton.

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.*

The Annual Subscription to the Journal is 7s. 6d., 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 ADVERTISEMENT MANAGER, *the Journal Office, St. Bartholomew's Hospital, E.C. Telephone: City 510.*

St. Bartholomew's Hospital Journal.

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

VOL. XXVIII.—No. 10.] JULY 1ST, 1921. [PRICE NINEPENCE.

CALENDAR.

Tues., June 28.—Prof. Fraser and Mr. Gask on duty.
Fri., July 1.—Dr. Morley Fletcher and Mr. Waring on duty.
Tues., ,, 5.—Dr. Drysdale and Mr. McAdam Eccles on duty.
Fri., ,, 8.—Sir P. Horton-Smith Hartley and Mr. L. B. Rawling on duty.
Tues., ,, 12.—Sir Thomas Horder and Sir C. Gordon-Watson on duty.
Fri., ,, 15.—Prof. Fraser and Mr. Gask on duty.
Tues., ,, 19.—Dr. Morley Fletcher and Mr. Waring on duty.
Fri., ,, 22.—Dr. Drysdale and Mr. McAdam Eccles on duty.
Tues., ,, 26.—Sir P. Horton-Smith Hartley and Mr. L. B. Rawling on duty.
Fri., ,, 29.—Sir Thomas Horder and Sir C. Gordon-Watson on duty.
Tues., Aug 2.—Prof. Fraser and Mr. Gask on duty.

EDITORIAL.

BEFORE the issue of the July number of this JOURNAL an Editor and a Sub-Editor will have been appointed by the Students' Union. Mr. H. L. Sackett has been nominated by the Publication Committee for the former post, and Mr. C. H. Andrewes for the latter, and it remains for the Students' Union to elect the nominees. Mr. Sackett was responsible for several of the issues in the autumn of last year, and showed himself then to be fully competent to fill the office of Editor if he is elected. Mr. Andrewes is known to readers as being one-half of the Gemini who frequently contribute to the less dignified columns at the end of the more serious articles. The Hospital expects much from this extremely sound combination.

* * *

The series of University lectures on physiological subjects has come to an end with one by Dr. Dale on "Anaphylaxis." This month is published a summary of the fifth lecture by Prof. Bayliss, and next month it is hoped that Dr. Dale's lecture will appear. We consider ourselves extremely fortunate to have had these lectures here at Bart.'s, and so to have been able to attend each one without previous emigration. Each lecture has been very well attended, and among the audience there have been many women medical students and doctors who, as visitors, are heartily welcome.

During the month Prof. F. R. Fraser has delivered four lectures on "Digitalis," illustrated by actual patients and by charts shown on the screen.

* * *

We are glad to be able to announce that although Dr. Tooth is no longer on the active staff of the Hospital he is not at present retiring from private practice.

* * *

Sir Wilmot Herringham and Mr. H. J. Waring have been appointed as Members of the Senate of the University of London for the period 1921–25. Sir Norman Moore has been re-elected a Representative of the College of Physicians on the General Medical Council. Sir Wilmot Herringham has been re-elected a Representative of the Royal College of Physicians on the Senate of the University of London. Dr. H. H. Tooth has been appointed Consulting Physician to the National Hospital for the Paralysed and Epileptic, Queen Square. Mr. Gask has been appointed Examiner in Surgery for the University of London, and Mr. Rawling has been elected to the Court of Examiners of the Royal College of Surgeons of England. Messrs. Kenneth Walker, H. Burrows, C.B.E., and A. C. T. Fisher have been appointed Hunterian Professors of the Royal College of Surgeons. Sir Robert Armstrong-Jones has been appointed a Visitor in Lunacy.

* * *

Attention of old St. Bartholomew's men is drawn to the fact that the list published in the JOURNAL each month of books and papers by Bart.'s men does not pretend to be complete. The Librarian, who compiles the list, takes great pains not to miss articles in the journals which ordinarily pass through his hands, but he is always glad to receive notices from authors themselves pointing out the name of the article and the date of the journal in which the article appears.

* * *

A Grand Carnival was held on Saturday, June 18th, in which a very large number of people from all the districts round took part. It was organised by a Special Appeal Committee of the Hospital composed of representatives

from over a hundred Trades Union Branches and Friendly Societies, etc., in East, North-East and South-East London. This Committee was called into existence by a letter which the Secretary of our Contributions Department addressed to the aforesaid Associations in January last. The chief workers were Mr. E. Crabb ("Pearly King"), Mr. J. W. Bennett and Mrs. Shead, the latter of whom acted as Organising Secretary. The gross proceeds amounted to about £700, of which nearly £600 was in coppers. It is estimated that the expenses, including the fourteen bands, will cost £100. * * *

In these days of short cuts and abbreviations most letters may stand for a variety of things. "P.M.," for instance, may mean post-merid., post-mortem, prayer meeting, pay-master, policeman, post-mantean, pin-money. "A.B.C." may mean a time-table or a linament. Even "Xd" is all mixed up with ketones and the evening paper.

But Z! "Z" can only stand for one mental conception—Mr. Zerolo. Everyone who has been connected with this institution during the last six years knows Mr. Zerolo, and grieves at the thought of his departure.

Having absorbed much from British surgery and hospital administration, he retires to Teneriffe, where he intends putting his knowledge into practice. He is taking with him a nucleus of Bart.'s nurses around whom to build up a nursing home in the world's most beautiful climate. We believe he will be successful, partly because we know "Z" himself, and partly because there must be a number of ill people who would be only too glad to know of a nursing home in so beautiful a climate, where the nursing is at the Bart.'s standard, and where the best medical and surgical advice and treatment is available. "Z.'s" friends are legion, and they wish him the best of luck in his bold undertaking.

RAHERE LODGE NO. 2546.

THE Installation Meeting of the Rahere Lodge was held in the Great Hall, St. Bartholomew's Hospital, on Tuesday, June 21st, at 5.30 p.m. Previous to the installation Eric A. Crook and Philip N. Cook were initiated by W.Bro. C. H. Perram. The charge was given by W.Bro. Ernest Clarke. The installation ceremony was performed by the Most Worshipful Pro-Grand Master, Lord Ampthill, in a most impressive manner. The following officers were appointed for the ensuing year:

W.Bro. FRANCIS CLARK, P.G.D.	W.M.
W.Bro. ELMORE BREWERTON, P.M.	I.P.M.
Bro. HAROLD PRITCHARD	S.W.
Bro. GIRLING BALL	J.W.
Bro. The Rev. R. B. DAND	Chaplain.
W.Bro. ERNEST CLARKE, P.M., P.G.D.	Treasurer.
Bro. GEOFFREY EVANS	Secretary.
Bro. ARNOLD STOTT	S.D.
Bro. WALTON READ.	J.D.
W.Bro. M. L. TRECHMAN, P.M., L.R.	D.C.
W.Bro. H. MORLEY FLETCHER, P.M., P.G.D.	Deputy D.C
W.Bro. EDMUND G. BOYLE, P.M.	Asst. D.C.
W.Bro. E. LAMING EVANS, P.M., L.R.	Almoner.
W.Bro. L. W. BATHURST	Organist.
Bro. F. A. ROSE	I.G.
W.Bro. E. P. FURBER, P.P.G.S.W., Surrey	Sen. Steward.
Bro. H. D. GILLIES	Steward.
Bro. BERNARD H. SPILSBURY	Steward.
W.Bro. A. H. COUGHTREY, P.P.G.S.B., Herts	Tyler.
Bro. E. W. HALLETT	Asst. Tyler.

A P.M. jewel was presented to W.Bro. Brewerton on the termination of his Mastership.

One hundred and twenty-four brethren and guests dined subsequently at the Imperial Restaurant. After the banquet a handsome covered two-handled cup was presented by the W.M. to W.Bro. Laming Evans from the members of the Lodge in recognition of his ten years' service to the Lodge as Secretary.

THE HISTORY OF SURGERY IN LONDON.

THERE was a very large attendance on Friday, June 17th, in the Medical and Surgical Theatre, when Sir D'Arcy Power gave a lantern lecture on "The History of Surgery in London," this being the Sessional Meeting of the Abernethian Society. Mr. C. Prance, one of the Presidents of the Society, was in the chair, and Sir D'Arcy was further supported by Messrs. Andrewes, Sackett, Wetherall and Visick. Several members of the Visiting Staff, a large number of students and many rows of sisters and nurses were present, all expecting much, Sir D'Arcy Power as a lecturer being well known. And no one was disappointed.

Mr. Prance introduced the lecturer, though, as he said, this was hardly necessary, and Sir D'Arcy arose amid loud applause.

Without notes the lecturer spoke for an hour and a half, reeling off dates as if no incident in history was unfamiliar to him, and keeping the audience the whole time interested and attentive.

The history of surgery in London really started at B.C. 297 with Epidorus and the temple of Æsculapius in Greece. The first lantern-slide showed this temple, which was a beautifully laid out hospital, with a theatre on the neighbouring hill built to accommodate 12,000 persons. There was also a snake-house, for it was considered that every snake was a reincarnation of Æsculapius, and that the presence of Æsculapius even as a snake meant healing and return to health. During an epidemic of plague in Rome, a ship was sent from Greece laden with snakes from this snake-house. While the ship was proceeding up the Tiber one of the snakes escaped, and as it was supposed that the staying of the plague was due to this snake's going round on a curative errand from house to house, a church and hospital were erected to St. Bartholomew at the place where the snake had landed.

In 1119 Rahere went to Rome. He fell ill after visiting this church of St. Bartholomew, and in his delirium he imagined that he was saved from falling from a high pinnacle by St. Bartholomew himself, whereat he vowed to build a hospital in London. By the time he had returned he knew the exact spot which it had been revealed that he should choose as a building site, a spot just outside the City gates in Cloth Fair. Now the land here belonged to the King, and Rahere's friends told him that he could never get the King's consent for the right to build. However, he was so in earnest that by some means or other he obtained permission, and built both the Hospital and the Church—St. Bartholomew's the Great. It is extremely interesting to think that the Smithfield and Little Britain gates have existed for so long without change of position. A photograph of Rahere's tomb was shown on the screen; Sir D'Arcy has never been able to satisfy himself as to the composition of the effigy of Rahere, though he and his friends have frequently scratched him.

A very early print showed three types already clearly differentiated—the physician, the surgeon and the chemist. It was insisted that in quite early times these men were laymen and not monks. A slightly later print showed the dentist, who in those days wore around his neck all the teeth he had extracted strung on a cord.

Prints showing the development of the hospital system were very interesting. The idea of a long ward with beds down the side persisted throughout, and at one end was always a model of the Cross, the ward being a kind of specialised chapel. Gradually the conception of a hospital developed, each patient becoming entitled to a whole bed, and eventually, as a print showed, each patient's bed being shut off from the ward by curtains. If one can judge from the prints shown on the screen the dress of the nurses in these early times was far from being designed for utility and simplicity.

Lastly the long line of great surgeons was traced, beginning with Thomas Vicary, through Thomas Gale, John Woodall, Richard Wiseman, Percival Potts, John Abernethy and others, down to the present day. Sir D'Arcy was limited by time alone. One felt he could have spoken for an hour on each of the men he had mentioned without tiring his hearers.

Mr. Prance said he would not have missed the lecture for a great deal. He paid a tribute to the lecturer's great speed as a surgeon, which compared well with that of any of the great men whose faces we had just seen. Mr. Prance's great regret was that at the end of the pictures of London surgeons that of Sir D'Arcy himself had been omitted.

Mr. Vick, in moving the vote of thanks, said that the enthusiasm with which Sir D'Arcy had been received by the nurses meant that when a Visiting Surgeon he had been popular with them personally, as a lecturer and even as an Examiner. It was to be hoped that he would come again and tell us more about his researches into old manuscripts and prints.

Dr. Hatfield seconded.

GONORRHŒA AS SEEN AT A PUBLIC CLINIC IN 1920.

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THE Venereal Department of St. Bartholomew's Hospital is run in connection with the Public Health Department of the City of London Corporation. The building which houses the Department is known as the St. Bartholomew's Hospital Special Treatment Centre and is situated in Golden Lane, E.C., seven minutes' walk from the Hospital itself.

This situation, outside the walls of the Hospital, is open to many objections, the chief being that patients are extremely reluctant to be warded in a building which is known to be a venereal clinic, on account of the difficulty of the necessary explanations at home, whereas if they were able to say simply that they were in St. Bartholomew's Hospital explanations would be easy, if untruthful, and many patients with arthritis and other complications who ought to be in bed and properly looked after would not, as now, refuse to come in.

Another objection to having the Department outside the Hospital is the difficulty of getting arthritis and other patients requiring electrical treatment to and from the Electrical Department.

The advantage of placing V.D. centres inside the walls of general hospitals rather than outside in special buildings was emphasised in the report of the Royal Commission on Venereal Diseases, and is a consideration of great importance as affecting the usefulness of the centres.

There is no necessity here to enter into a detailed description of the building. Suffice it to say that there is a large room where new patients are interviewed by the medical officer and demonstrated to students, with smaller separate rooms for the treatment of syphilis and gonorrhœa. The rooms concerned with gonorrhœa are two, labelled respectively "Dilatation Room" and "Irrigation Room." The personnel consists of the medical officer in charge of the Department, Mr. Kenneth Walker, the assistant medical officer, viz. myself, two chief assistants, Dr. Bonard and Mr. Bosman, in charge of the syphilis and gonorrhœa sides respectively, a variable number of clinical assistants, a house surgeon, and an orderly. A sister and four nurses live on the premises. There are two wards, a male with five beds and a female with three, but they are little used, for the reason given above.

The procedure with a new patient is as follows. The patient gives his or her name, address, and occupation to the Sister on entering. These, together with his identifica-

tion number, are inserted in a book the covers of which can be secured with a lock, and are for reference only in case of necessity. In all his further dealings with the Department the patient is known only by his number, which he has on a small ticket. This bears also the times at which the clinic is open.

The patient is seen by the M.O., his history is taken, and a decision come to whether he belongs to the syphilis or gonorrhœa side of the Department. The syphilis side treat all sores of whatever nature, and the gonorrhœa side all cases with urinary symptoms or lesions. The cover containing the patient's notes is stamped with a large G or Σ or both, and he is directed to await his turn outside the appropriate room.

MALE CASES.

The detailed examination of new gonorrhœa cases takes place in the Dilatation Room. This is a disadvantage as the patient there for the first time sees other patients having urethroscopes or Kollmann's dilators passed or someone having his prostate massaged, and it is certain that a proportion of cases do not complete their treatment on account of their having seen beforehand what is in store for them. This is very unfortunate, but is at present unavoidable owing to lack of space. Neither is it possible to divide the room up with screens owing to its long narrow shape and the hindrance that would be caused to the work by introducing additional obstacles to movement.

The general scheme of examination and treatment of gonorrhœa cases is as follows:

If the patient has a discharge, a film from it is made for subsequent examination and report by the pathologist, Dr. Bonard. The anterior urethra is then washed clear of all discharge with oxycyanide of mercury lotion 1–4000 from an irrigator placed three feet above the penis. The irrigator nozzles used are all of the single-channel Janet type. The patient then passes urine into one or two glasses, any haze of pus present then being known to come from the posterior urethra. The prostate is then examined *per rectum*, and a note made of its condition on the diagram stamped on the patient's note-sheet. All acute cases, whether of anterior or posterior urethritis, are put on anterior irrigations only for the first few weeks. The cover of their notes is stamped "Irrigation Room" and they are instructed to come up daily for irrigation, and given one of the leaflets issued by the Ministry of Health relating to gonorrhœa and its dangers. When a patient's discharge ceases, or his urine becomes clear, or when three weeks have elapsed, whichever first occurs, the orderly who supervises the irrigations brings the patient across to the Dilatation Room, where he is further examined by the assistant M.O. or the chief assistant. According to what is found he is ordered to continue anterior irrigation, commence posterior irrigation, have his prostate massaged, or his urethra dilated as the case may be. Routine prostatic massage is carried out by the orderly, and is performed as a rule twice a week, never oftener. The usual course is 8–12 massages, and if the prostate is not healthy by the expiration of this course no more are given until a month or two have elapsed.

Infected follicles, when found, are dealt with either by dilatation or by destruction with the galvano-cautery through the urethroscope. The urethroscopes used are Joly's and that devised and made by the Holborn Surgical Instrument Co., the latter being used chiefly for operating. When using this I locate the lesion under air distension, then take off the top and operate with the cautery through the open end. The posterior urethroscope used is Wossidlo's.

Soft infiltrations or strictures are treated by gradual dilatation, weekly, with straight or curved (Benique's) sounds, finishing up with Kollmann's dilators.

Vesicle cases which have resisted one course of massage are treated by the insertion of large-sized Benique sounds left *in situ* for five minutes, and followed by vigorous massage to the offending vesicle.

Epididymitis cases, if they consent to come in, which rarely occurs, are treated with fomentations and protein shock (90 and 180 million T.A.B. intravenously, 5-day interval) and subsequently in the Electrical Department by diathermy.

Arthritis cases are treated by diathermy in addition to the local treatment of the prostate, vesicles or urethra. The diathermy is given by Dr. Cumberbatch or his assistants in the Electrical Department of the Hospital.

Vaccines have been little employed, though when used Thomson's detoxicated gonococcal vaccine is that preferred.

Stress is laid on the importance of every patient being seen by the assistant medical officer or chief assistant at intervals, not longer than three or four weeks. Some patients, if allowed, would go on irrigating for months rather than have a urethroscope or sound passed, and it has been found that if put to wait their turn outside the Dilatation Room some of them will make off down the stairs and return next time to go on with their irrigations. So that now each patient for re-examination is brought right into the Dilatation Room by the orderly.

When a patient appears to be cured he is urethroscoped and told to have no treatment for a week. If the discharge does not return and the urine remains clear he is told to take alcohol freely for a week and return for the "marriage test." The marriage test consists in making films and cultures from the urethral discharge, if any, from urinary threads if present, and from the prostate and vesicle contents as expressed by massage. This is done three times in all at weekly intervals, the patient taking alcohol all the time.

A considerable number of cases were tested in addition by Thomson's provocative solution of gonococcal proteoses, but this was given up as it never revealed gonococci in any patient in whom they were not demonstrable without it.

Complement fixation tests were used occasionally in the period under review, but not often enough to justify any conclusion from the results.

These marriage tests have proved very reliable, as in no case has a man returned with gonorrhœa after passing the three tests without admitting on examination that it was a fresh infection.

The great difficulty in this, as in most public clinics, is that the majority of patients will not attend regularly, and a great proportion cease coming long before they are cured.

To turn now to the actual figures.

Four hundred and sixty-five new male cases were seen on the gonorrhœa side in 1920. In only 157 of these were gonococci found, that is 33·7 per cent. The other 308 were chiefly cases of old gonorrhœa in whom gonococci had died out, who were left with a prostatitis or stricture. Forty-four were men who wished to know if they were cured after being treated elsewhere; 42 were cases of acute urethritis in which gonococci were not found; 4 were cases for precautionary irrigation, and there were various other cases such as balanitis, paraphimosis, preputial warts, etc. Thirty-seven cases were not venereal at all and were mostly suffering from the effects of reading propaganda literature. Some of them required a great deal of persuasion to convince them that they were not suffering from a venereal disease. The proportion of these non-venereal cases to the cases in which gonococci were found was 1 : 4·2, and being so high it is fortunate that most of them were only too glad to be told that there was nothing the matter with them and that the number of the obstinate venereophobes was small, otherwise this would constitute an argument against the widespread propaganda of the N.C.C.V.D.

The average age of the cases in which gonococci were found was 27½, the extremes being 12 and 63; 59 was the greatest age at the first attack.

Marital state.—Of the gonococcal cases 48 (30·5 per cent.) were married and 101 (64·3 per cent.) single. In 8 the marital state was not noted.

Previous attacks.—It is proverbially difficult to be sure whether any particular attack of gonorrhœa is a fresh infection or a relapse of an old one, but taking into account all the available evidence, such as condition of the prostate, age of previous infection, incubation period of present attack, etc., the cases were divided up as follows.

55 (35 per cent.) were in their first attack.
89 (56·6 per cent.) had had 1 previous attack.
7 (4·4 „ „ 2 „ attacks.
6 (3·8 „ „ 3 or more „

Acute and Chronic.—Of the cases in which gonococci were found 106 (67·8 per cent.) were acute and 37 (23·5 per cent.) chronic. In 14 the duration was not noted.

Looked at in another way, of all the 179 "acute" cases gonococci were found in 59·2 per cent. and of the 188 "chronic" cases in 19·6 per cent.

The large proportion (40·8 per cent.) of acute cases in which gonococci were not found is unsatisfactory, and is no doubt partly due to the fact that many cases only came once and so the pathological examination, if not made at the first visit, could not be made at all, or if made then could not be repeated. Thus 13 acute cases have no pathological report, many of these being patients who had passed urine just before coming to the clinic so that no discharge was available.

Duration before seen. In cases in which gonococci were found the duration of the disease before the patient was seen varied from one day to 24 years, the average period in the acute cases being seven to eight days.

There were six cases in which gonococci were found in which the disease had been present over two years, viz. 3¼, 3½, 10, 11 and 24 years respectively. Only one of these cases could be fairly considered as an example of longevity of the gonococcus, viz. one of three years' duration in which gonococci were found in the prostate. The other cases were either married and so might possibly have been continuously re-infected by their wives, or else they confessed to the possibility of frequent re-infections from other sources.

Incubation.—The average incubation period in the gonococcal cases was 9·6 days, extremes 1–63; that of the non-gonococcal acute urethritis cases being 11·7 days, extremes 1–60.

Source.—The source of infection was noted in only 43 cases, as follows: Prostitute 16 cases; in seven of these (43·7 per cent.) gonococci were found. Amateur 16 cases; in five of these (31·2 per cent.) gonococci were found. Wife 11 cases; in six of these (54·5 per cent.) gonococci were found.

Prophylaxis.—On the vexed question of prophylaxis my figures throw but little light. It was only in the last four months of the year that patients were interrogated as to prophylaxis, and even then it was not done very thoroughly. The vast majority of patients took no precautions at all, but a history of some precautionary measure having been taken was given by 25 patients. Not one admitted using a condom, and they mostly seemed to feel slightly hurt that I should suspect them of using such a thing. I do not know whether such an appliance is regarded as ungallant in their circles, but that is certainly the impression I got.

Thirteen cases had washed with soap and water. In five of these (38·4 per cent.) gonococci were found. The period which elapsed before the washing was 10 hours in one case, but was not stated in the others.

Five cases had passed urine after coitus, elapsed time not stated, but presumably it was not more than an hour or two at most. In two of these (40 per cent.) gonococci were found.

Seven cases had used a solution of potassium permanganate either by injection or applied externally. In two of these (28·5 per cent.) gonococci were found. One had used the potassium permanganate 24 hours after coitus, in the other case the elapsed time was not stated.

These figures are much too small to draw reliable deductions from, but so far as they do go, they appear to show that the use of potassium permanganate is superior to plain soap and water, and that this is but slightly superior to mere micturition.

The average period which elapsed after coitus before the precautionary measures were taken was 9½ hours in the cases in which such time was noted, and it is well known that precautions taken after so long a time are often ineffectual.

Anterior urethritis.—There were 271 cases of anterior urethritis, gonococci being found in 144. They were divided as follows:

Acute anterior urethritis, 149. Gonococci found in 107 (71·8 per cent.); gonococci not found in 29 (19·4 per cent.); no pathological report, 13 (8·7 per cent.).

This figure, 19·4 per cent., for acute non-gonococcal urethritis, agrees well with Kidd's 20 per cent. for 100 consecutive cases at the London Hospital, quoted in his book "Common Diseases of the Male Urethra," and shows well how unjust it is to label every urethral discharge "gonorrhœa."

Chronic anterior urethritis, 122. Gonococci found in 37 (30·3 per cent.); gonococci not found in 77 (63·1 per cent.); no pathological report, 8 (6·5 per cent.).

Posterior urethritis.—One hundred and thirty-six cases had a posterior urethritis when first seen. Gonococci were found in 74 (54·4 per cent.) of these. Of the 144 cases with a gonococcal urethritis, 70 (48·6 per cent). were purely anterior.

Seventy-four (51·4 per cent.) were posterior as well when first seen. Only 2 (2·8 per cent.) of the purely anterior cases developed a posterior urethritis under treatment, which speaks well for the plan of confining the irrigation to the anterior urethra in the early stages. One of these two cases was under treatment with diathermy to the urethra and was irrigating himself at home and so was to an extent out of our control and observation.

Paraurethral canals.—In 3 cases (1·9 per cent. of gonococcal cases) paraurethral canals about the meatus were found harbouring the gonococcus, in 1 case without an accompanying urethritis. These foci were easily cured with the galvano-cautery under novocaine anæsthesia.

Tyson's abscess.—Abscess of Tyson's glands occurred in 2 cases, both gonococcal (1·2 per cent. of gonococcal cases). In 1 case this abscess appeared to be the point of entrance of the gonococcus into the blood-stream, as the man had a gonococcal infection of his left elbow-joint without either a prostatitis or a vesiculitis. These cases also were satisfactorily treated with the galvano-cautery.

Periurethral abscess. Periurethral abscess occurred in 4 cases. In 3 of these patients the gonococcus was present (1·9 per cent. of gonococcal cases). In 1 it was not found.

Cowper's abscess.—Abscess of Cowper's gland occurred once on the right side in a gonococcal case (0·6 per cent. of gonococcal cases).

Urethral fistula.—There was one case with a urethral fistula in the perineum. Gonococci were not found. This fistula was the result of a periurethral abscess in the course of an attack of gonorrhœa five years previously. The urethra was extensively scarred and tightly strictured in the bulb, dilatation having to start with a No. 1 English gum elastic bougie. As soon as the stricture had been dilated sufficiently to admit a No. 9 English sound the fistula closed.

Follicles.—Infected follicles (glands of Littre) were found in 6 gonococcal cases (3·8 per cent.), and also in 2 cases in which gonococci were not found. All these follicle cases yielded to dilatation except 1, in which the follicles were destroyed by the galvano-cautery through the urethroscope.

Soft infiltrations.—Soft infiltrations were found in the bulb in 3 cases, 2 gonococcal (1·2 per cent. of gonococcal cases), and in the penile urethra in 7 cases, 3 gonococcal (1·9 per cent. of gonococcal cases).

Strictures.—Strictures were found in the bulb in 13 cases, 2 gonococcal (1·2 per cent. of gonococcal cases), and in the penile urethra in 13 cases, 2 gonococcal (1·2 per cent. of gonococcal cases).

Sago-grain urethritis.—A condition which for want of a better name I refer to as "Sago grain" urethritis was found in 7 cases, 3 gonococcal (1·9 per cent. of gonococcal cases). This condition is probably identical with that termed by Frank Kidd "multiple millet-seed bodies." It is one in which the penile urethra shows, especially along its roof, a number of bodies like grains of boiled sago, many with a dimple in the middle. I take these to represent a local hypertrophy of lymphoid tissue and cannot say that I have found any treatment, up to date, which will remove them. They give rise to or are associated with a slight intermittent gleet, but when the patient is proved to be gonococcus-free and his urethra has been dilated up to its full diameter with Kollmann's dilators, my practice is to advise him to neglect any slight discharge and have no further treatment.

Prostate.—One or both lobes of the prostate were hard in 137 cases at the first visit, and in 27 of these the prostatitis was acute. Fifty-two of these cases were gonococcal (33·1 per cent of gonococcal cases).

The lobes were affected as follows: Right 23, left 32, both 82. The prostate was described as doughy at the first visit in 11 cases, 2 being gonococcal (1·2 per cent. of gonococcal cases).

The prostate was observed to become hard during treatment in 5 cases, 3 being gonococcal (1·9 per cent. of gonococcal cases).

Prostatic abscess was present when first seen in 4 cases, 2 gonococcal (1·2 per cent. of gonococcal cases), and developed during treatment in 1 case (gonococcal) (0·6 per cent. of gonococcal cases). None of these abscesses required incision. In all, prostate affected in 35·5 per cent. of gonococcal cases at first visit.

Vesicles.—The seminal vesicles were "palpable" at the first examination in 8 cases, 2 being gonococcal (1·2 per cent. of gonococcal cases). The two sides were affected as follows: right 1, left 5, both 2.

The vesicles were "thickened" in 31 cases, 9 gonococcal (5·7 per cent. of gonococcal cases); right 8, left 11, both 12.

They were "thickened and tender" in 11 cases; right 9, left 2; 5 gonococcal (3·1 per cent. of gonococcal cases). In all the 5 gonococcal cases it was the right side which was affected.

In all, the seminal vesicles were found affected in 50 cases at the first examination, and 16 of these were gonococcal (10·1 per cent. of gonococcal cases).

Lesions of the vesicles developed during treatment in 3 cases. In 1 gonococcal case the left vesicle became thickened (0·6 per cent. of gonococcal cases), and in 2 cases a vesicle became thick and tender; 1 case (left vesicle) non-gonococcal, and 1 case (right vesicle) gonococcal (0·6 per cent. of gonococcal cases).

Causes of chronicity.—Of the 37 chronic cases in which gonococci were found, the prostate or vesicles were involved in 14 (37·8 per cent.), the anterior urethra in 4 (10·8 per cent.), and both in 6 (16·2 per cent.). In 13 cases (35·2 per cent.) there was no visible lesion in the anterior urethra and no palpable one in the prostate or vesicles.

This shows how much more commonly chronicity of gonorrhœa is due to lesions behind the compressor urethræ than to those in front of it.

Epididymitis.—Acute epididymitis was found at the first examination in 24 cases Right side 11, 4 gonococcal (2·5 per cent. of gonococcal cases); left side 13, 6 gonococcal (3·8 per cent. of gonococcal cases).

Evidence of old epididymitis, such as nodules in the organ, was found in 13 cases. Right side 6, 2 gonococcal (1·2 per cent. of gonococcal cases); left side 7, 3 gonococcal (1·9 per cent. of gonococcal cases).

Altogether lesions of the epididymis were found at the first examination in 37 cases, but gonococci were only found in 15 of these (9·5 per cent. of gonococcal cases). It seems improbable that this low proportion of gonococcal cases can be correct, and one must suppose that gonococci escaped detection in a certain number. This is the more likely in that 5 of the "non-gonococcal" cases of acute epididymitis came only once, so that no second examination was possible.

Four cases developed epididymitis under treatment, 3 of them being gonococcal (1·9 per cent. of gonococcal cases). They were divided as follows: right 1, left 2, both sides 1. The non-gonococcal case was on the left side.

Arthritis.—There were 12 cases of arthritis, gonococci being found in only 6 of them (3·8 per cent. of gonococcal cases). The joints affected were left elbow, left ankle, right foot and left hand, left sacro-iliac, both feet, and 1 multiple. Only 2 of these 6 cases completed their treatment and tests. The others ceased attendance without orders, presumably as soon as their pains left them.

Most rapid and satisfactory results were obtained from diathermy to the affected joints, combined with the appropriate local treatment to the source of the blood infection, usually the prostate or vesicles, although in one case these were healthy and the point of entry of the gonococcus to the circulation appeared to be an abscess of Tyson's glands.

Other metastases.—There was one case of iritis, but gonococci were not found.

Warts.—Twelve cases had warts on prepuce or glans; in only 6 of these were gonococci found (3·8 per cent. of gonococcal cases). The warts were very satisfactorily treated by removal with the flat bladed galvano-cautery under novocaine.

Balanitis.—There were 8 cases of balanitis, 3 having gonorrhœa as well (1·9 per cent. of gonococcal cases). The majority of the balanitis cases were treated on the syphilis side.

In-patients.—Thirteen cases were treated as in-patients, 8 of them being gonococcal (5 per cent. of gonococcal cases). The average stay in the ward was 14 days for the gonococcal cases and 13 for the non-gonococcal. The cases so treated were epididymitis, arthritis, prostatic abscess, etc. A number of other patients ought to have been treated as in-patients but refused to come in, many of them for the reason noted above, viz. that the centre is known as a venereal hospital.

Urethroscopy.—Of the 157 gonococcal cases 57 were examined by the urethroscope. In 18 (31·5 per cent.) of these lesions were found, namely, infected follicles 6, soft infiltrations 5, strictures 4, sago-grain urethritis 3.

No lesions were found in the anterior urethra in the other 39 cases.

The 100 gonococcal cases which were not urethroscoped escaped this examination by ceasing attendance too soon, or in a few cases by having a meatus which would not admit the smallest urethroscopic tube. A certain number also of those who came first in December were not ready for urethroscopy by the end of the year.

End results.—The attendance of the majority of the patients was extremely unsatisfactory. To take the gonococcal cases first. Of the 157, 92 (58·6 per cent.) ceased attendance without having completed their treatment. Nineteen (12·1 per cent.) only came once: 16 (10·1 per cent.) completed their treatment but did not come for any tests of cure. Only 24 (15·2 per cent.) completed their

treatment and tests. Five (3·1 per cent.) went elsewhere, and 20 (12·7 per cent.) were still under treatment at the end of the year.

It is extremely unsatisfactory that 58 per cent. of patients with active gonorrhœa should cease their treatment before being cured.

It is difficult to specify all the causes leading to this result. Probably the largest single cause is the patient's indifference to a disease which does not cause him active inconvenience. As soon as their discharge stopped or became very slight many ceased to attend, and this in spite of the Ministry of Health's leaflet on gonorrhœa given to all the patients, and frequent personal injunctions as to the importance of completing treatment. If, as I believe, a figure approximating to this obtains in the majority of clinics, it largely reduces their value and makes it very unlikely that the incidence of gonorrhœa will ever be appreciably reduced by free treatment as apart from personal prophylaxis.

Another cause leading to uncompleted attendance is the fact that, as has been mentioned above, owing to lack of space and staff, it is necessary to examine the new cases in a room where urethroscopy and dilatation of old cases is going on. This deters certain cowardly patients from coming any more when they think they are likely to have an instrument passed.

A third cause which probably operates in some cases is the inconvenience of having to attend the clinic at specified hours, owing to its interference with the patient's work. The hours are fixed as far as possible to suit the patient's convenience, viz. in the dinner hour from 12 to 2 p.m., and in the evenings from 5 p.m. to 7 p.m.

In the new plans which are being prepared for the reconstruction of the clinic privacy will be ensured by the provision of separate cubicles, and the hours for which the clinic is open will be much longer, but only education will teach the patients the importance of completing their treatment.

Not only did most patients cease attending before they were cured, but many of those who did persevere to the end came very irregularly, so that the average time taken to cure was much longer than it would have been had they attended regularly. Thus the average duration of treatment from first to last but not including the period devoted to tests in the various types of case was as follows:

Gonococcal Cases.

Anterior urethritis (8 cases)	56 days.	Extremes	24 and 117 days.
Anterior and Posterior urethritis (4 „)	89 „	„	38 „ 115 „
Prostatitis . . (5 „)	66 „	„	39 „ 120 „
Vesiculitis . . (2 „)	151 „	„	48 „ 254 „
Stricture and periurethral abscess (1 case)	200 „		
Infected paraurethral canals . (1 „)	57 „		

Non-Gonococcal cases.

Stricture, bulb (3 cases). Average 184 days.
Stricture, penile (3 „). „ 100 „

The majority of the stricture cases, however, are still under treatment, some having been so for nearly a year.

No figures are available for epididymitis cases as not a single one of the 13 gonococcal epididymitis patients completed his treatment and tests.

The average period over which tests of cure extended was forty-five days, and that these tests, which were described above, were reliable is shown by the fact that not a single patient has so far returned with a relapse after passing the tests.

Gonococci were found at the marriage tests six times, three at the first test, and three only at the second.

One case returned with an admitted fresh infection after passing the test.

It is, of course, open to the sceptical to say that when a man did relapse after being assured by us that he was cured he would go elsewhere for his treatment. This of course is possible, but I think he would be likely to come back first to tell us we were wrong because several of the cases who have at different times come back with admitted fresh infections have at first tried to bluff us by saying that they were not cured, but hitherto all have admitted probability of fresh infection when their bluff was called.

Taking the whole of the male patients attending the gonorrhœa side, including those in whom gonococci were not found, the figures are as follows:

Total new patients	465.	
Came once only (including 37 non-venereal)	113	(24·3 per cent).
Ceased attendance before completing treatment	243	(52·2 „).
Completed treatment . . .	43	(9·2 „).
Completed treatment and tests .	123	(26·4 „).
Went elsewhere	15	(3·2 „).
Still under treatment . . .	41	(8·8 „).

(To be concluded.)

SONNET: ON SEA-SICKNESS.

Thou glutton, Neptune! Still unsatisfied
With all the treasures that thy realm doth hold,
Thou with thy trident's prong from side to side
Dost toss us, on the heaving ocean roll'd,
And rudely snatch from us our slender meal.
Thy dread command th' obedient midriff hears,
As, with a sudden spasm, we do kneel
Before thy awful presence, and, with tears
Of helpless rage, with hot and sweating brow,
Render to thee the homage thou dost ask.
But do not think that we shall always bow
Before thy throne, and do the bidden task;
Soon shall we all in airy regions fly,
And laugh at thy vain terrors from the sky.

A. E. ROCHE.

NOTES ON A CASE OF MYOSITIS OSSIFICANS TRAUMATICA.

By RODNEY MAINGOT, F.R.C.S.,
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MYOSITIS ossificans traumatica is a condition in which new bone is formed in muscular tissue adjacent to bone as a result of injury.

Two forms are usually described—an *acute* and a *chronic*.

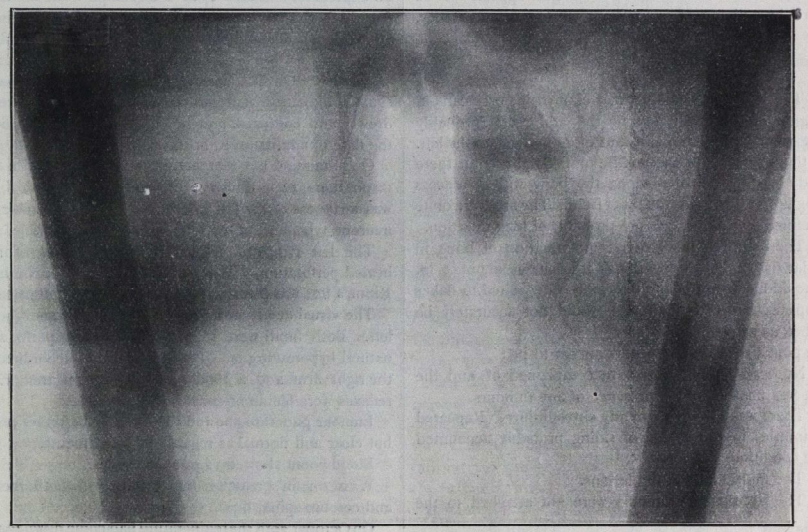
(1) In the *acute variety* there is usually a history of a *single* trauma followed by a painful swelling in the region where muscular fibres find attachment. Towards the end of the fifth week, when the symptoms have abated, a hard bone can be palpated in the substance of the muscle, the true nature of which can be ascertained by means of a skiagram. The brachialis anticus (at its point of insertion into the ulna) is the muscle frequently involved.

(2) In the *chronic* type the bony tissue forms gradually and is produced by repeated trivial injuries. The muscles chiefly affected are the adductors (rider's bone), the quadriceps, the deltoid (drill bone), and the pectorals; but isolated examples have been reported in other muscles. In this variety there are few noteworthy symptoms. The bony masses are not painful; but occasionally the patient complains of cramps, weakness or fatigue.

The pathological changes are briefly—(1) separation of the periosteum, and (2) effusion of blood into the adjacent tissues. That is to say, as the result of an injury the periosteum is torn, and the bone-forming elements are liberated and become implanted in the muscular fibres and in the surrounding tissues.

Bony tissue appears in about five to thirteen weeks. It is usually compact, but sometimes may be partly cancellous and has well-marked Haversian canals. In the early stages of the process of ossification cartilage has been observed.

The following case is one of the chronic variety of myositis ossificans traumatica:



MYOSITIS OSSIFICANS TRAUMATICA.

R. L——, æt. 50, a postman, consulted his doctor about "rheumatic pains" in the left leg. He was informed that he had a large bony swelling in his left thigh and was recommended to come to hospital for advice. The patient had not noticed the swelling.

There was no history of any trauma. Patient had been eighteen years in the army, having served in South Africa with the Scots Greys. Thirteen years ago he had been in India and had enteric fever.

Left thigh.—An oval swelling can be seen just below and external to the spine of the pubis. On abduction a prominent band can be made out stretching from the spine of the pubis towards the adductor tubercle of the femur. The movements of flexion and abduction are somewhat impaired

at the left hip-joint as compared to the right. There is no apparent wasting.

Below the spine of the pubis an oval tumour 1¼ in. by ¾ in. can be felt. It is bony hard, with a smooth surface and rounded margins. It is not attached to the skin, has slight mobility from side to side, but none upwards and downwards. It is not tender. It appears to be in the position of the origin of the adductor longus.

Proceeding downwards and outwards from this is a hard strand of tissue, very definite above but becoming lost as it is traced downwards. It is about 1 in. wide.

The *right thigh* presents nothing abnormal on inspection. The upper fifth of the adductor longus appears to be replaced by a plaque of dense tissue with bony consistency.

X-ray Reports by Dr. N. S. Finzi.

(Fig.)

(1) There are well-marked areas of myositis ossificans in the region of the upper part of the adductors (probably adductor longus) on each side, but more marked on the left. From the inner side of the middle of the right femur there is another extensive patch along the bone with a process running upwards towards the tuber ischii. The areas are quite well defined and dense, and are probably of long duration.

(2) The nature of the lesion is a formation of bone in muscular tissue. On the *left side* it excludes about 5 in. into the adductor muscles. The bone is deposited in flakes with spaces between them and would not accurately be described as cancellous.

The points that are noteworthy appear to be:

(1) No serious symptoms were complained of and the patient was unaware of the presence of any tumours.

(2) There was no history of any single injury. Repeated small injuries in the course of riding probably accounted for the condition.

(3) The multiplicity of the lesions.

(4) The fact that the tumours were not attached to the pubis.

(5) No treatment was advised.

I am indebted to Mr. J. E. H. Roberts, under whose care this case was, for permission to publish these notes.

A CASE OF CEREBRAL ABSCESS SIMULATING ENCEPHALITIS LETHARGICA.

By F. E. SAXBY WILLIS, M.B., B.S.(Lond.), and C. HAMBLIN THOMAS, M.B., B.S.(Lond.).

THE following case of cerebral abscess may be interesting as showing the slight disturbance of function which may be associated with a very large abscess in the left temporo-sphenoidal lobe, especially as the slight transient pareses, the remissions and the mental state suggested the clinical picture of encephalitis lethargica.

O. G—, a schoolgirl, æt. 12, was admitted on October 13th, 1920, complaining of pain on the left side of the forehead.

Her history was as follows: She had had "infantile paralysis" when eight months old, and had had a squint and left facial weakness ever since. At six years of age she had had a fit and had had similar epileptiform seizures off and on since. Apart from this her health had been good and she was quite intelligent, as shown by a school report in April, 1920, which said that her work was satisfactory, although she was rather backward and subject to fits of temper. She was in Standard V.

In August, 1920, she complained of left frontal headache. In September she developed a discharge from the left ear, for which she was treated. On October 6th the discharge stopped, and on the following day she fell down a flight of stairs and hurt her head and back. She did not lose consciousness. On October 8th she vomited several times and again complained of frontal headache. She appeared very drowsy and confused, and remained in this condition until the date of admission to hospital.

On admission her temperature was 103° F., pulse 80 and respirations 24. She was drowsy and stuporose. There was weakness of the left side of the face, of the lower motor neurone type, and of the left external rectus muscle.

The left tympanic membrane showed signs of an old healed perforation. The hearing was good on both sides. Rinne's test was positive and Weber's test not localised.

The visual acuity was $\frac{6}{9}$ on the right side and $\frac{6}{18}$ on the left. Both fundi were reported normal except for a slight natural hypermetropia. There was slight incoordination of the right arm and a tendency to intention tremor. The reflexes were feeble on both sides, but equal.

Lumbar puncture showed the fluid to be under pressure, but clear and normal as regards its constituents.

Blood-count showed 12,000 leucocytes.

Wassermann's reaction was negative in both the blood and cerebro-spinal fluid.

On October 20th the temperature had come down to normal and she appeared brighter. A week later the right grasp became feeble and the right leg was dragged on walking, with a tendency to fall to the right.

On November 4th she developed right wrist-drop and an extensor plantar response on the right side.

A fortnight later the weakness of the right hand and the wrist-drop had passed off; she no longer vomited, and except for general mental confusion, especially as regards time and judging distances, and a tendency to answer questions in stock phrases, she appeared very much better.

Towards the end of November she had several slight generalised epileptiform attacks, and on December 7th vomiting recommenced, and she again became very drowsy and dirty in her habits, with incontinence, and once more complained of left frontal headache, and was feverish for about a week.

Lumbar puncture again showed a normal fluid. The leucocyte count was 16,000. The vision was now found to be $\frac{6}{24}$ in both eyes, with difficulty in reading print. A report on the fundus stated that the disc edges were blurred, but that no definite papillœdema or hæmorrhages were present.

There was once more right-sided weakness of the arm and leg, and the right knee-jerk was increased as compared with the left, with an extensor plantar response.

Her mental condition varied. She usually appeared self-satisfied and at times elated, but always with a dull, expressionless face. At other times she was intensely drowsy, and even semi-comatose. She was at times irritable, rarely depressed. Her memory for past events was good, for recent events poor. She had difficulty in judging distances and naming objects, and her ideas of time and space were confused.

In January she had three convulsive attacks involving the right arm and leg. On February 1st vomiting recommenced, and from this time onwards her condition became increasingly grave.

Her discs now showed marked papillœdema and a hæmorrhage on the left side. Her visual acuity was $\frac{6}{24}$ right eye, $\frac{3}{60}$ left eye. The visual fields were contracted, especially the right temporal and both nasal fields. Her hearing was also now worse on the left side, a watch being only heard at 3 in.

In view of the rapidly increasing papillœdema and loss of vision it was decided to decompress, and in view of the possibility of an otitic infection to explore the mastoid cells first.

On February 16th a radical mastoid was performed on the left side. Evidence of old otitis media was found, but there were no signs of disease of the internal ear or of any tracks leading from it.

The left temporo-sphenoidal area was then widely decompressed and the dura found to be bulging to a moderate degree and not pulsating. A cannula was inserted and a quantity of very thin lemon-yellow pus evacuated.

The patient became collapsed and shortly afterwards died from the shock of the evacuation.

At the subsequent autopsy an enormous abscess was found, thick-walled and with a smooth lining membrane, occupying practically the whole of the left temporo-sphenoidal lobe. There was thrombosis of a leash of small vessels in a recent adhesion between the brain and dura mater over an area the size of a sixpence, immediately anterior to the left lateral sinus at the level of the superior border of the left petrous bone. No continuity could be demonstrated between the abscess and the ear cavities. The pus was sterile.

Sections cut through the brain-matter surrounding the abscess-wall in the region of the basal nuclei showed no abnormality except a patchy, perivascular, small round-celled infiltration limited to the tissue immediately adjacent to the abscess-cavity. The basal nuclei and the internal capsule were not infiltrated, and sections of the pons Varolii at the level of the seventh and eighth nuclei showed no evidence of old polio-encephalitis or recent infiltration.

We are indebted to Dr. Tooth and Mr. Scott for their kind permission to publish these notes.

A CASE OF IRREGULAR SEPARATION OF TRACHEA FROM ŒSOPHAGUS.

By REGINALD KEENE.

BABY, æt. 7 days, admitted to Darker Ward on May 14th, 1921, under the care of Mr. McAdam Eccles. Full-term male child, weight at birth 7 lb. Since birth it had not retained any food.

On admission it appeared very weak and thin. Attempts were made to "spoon-feed" it with whey. This was taken readily, but invariably after an interval of a few minutes the child became blue, spasmodic movements of the larynx occurring accompanied by marked recession of the intercostal muscles. Shortly afterwards the whey mixed with mucus was regurgitated (not vomited) in a frothy condition through the mouth or nose. The quantity of food regurgitated was always slightly less than that taken in, and the duration of retention was never more than five minutes.

On examination of the abdomen there was no visible peristalsis, and no tumour could be felt, the abdominal organs being apparently normal. Attempts to pass a rubber catheter down the œsophagus into the stomach failed: the tip of the catheter would not pass more than 3½ in. beyond the gums. X-ray examination (see Fig. 1) showed the bismuth "meal" held up in a dilated œsophagus above a stricture at the level of the supra-sternal notch. Some of the bismuth could be seen passing down the bronchi into the lungs, and a thin streak appeared to pass through a stricture into the stomach.

As the child was obtaining a minimum of nourishment attempts were made at rectal feeding, which, however, proved abortive.

The child became more and more wasted, the anterior fontanelle became markedly depressed, and over-riding of the bones of the cranial vault occurred. During this period small quantities of urine were secreted and voided, and one motion (meconium) was passed. Attempts were made to restore the fluid balance by subcutaneous injections of normal saline, and to lessen metabolism and maintain body temperature by extemporising an incubator. The child, however, grew weaker, and eventually died on May 26th, having survived for nineteen days, during which period it lost 3 lb., its weight at death being only 4 lb.

A post-mortem examination was made by Dr. Spilsbury.

Body thickly covered with lanugo. More hair on head than usual. Head small. Anterior fontanelle depressed, posterior fontanelle nearly occluded. There was over-riding of the skull-bones. Tooth germs could be felt very distinctly in each jaw, but more so in the upper jaw.

On cutting down through the skin no subcutaneous fat was found, and to judge by the sinking of the cheeks even the buccinator pad of fat (sucking-pad) had gone.

The condition of the œsophagus was as follows: It was in two portions—

(*a*) A dilated proximal portion commencing normally through the rima glottidis into the trachea, then a choice of routes lay open to it: (*a*) through the small orifice of the distal portion of the œsophagus into the stomach, or (*b*) through the trachea directly into the lungs. Thus the X-ray appearances are accounted for.

A small quantity of milk and some bile was found in the stomach.

As might be expected the lungs showed signs of extensive broncho-pneumonia.

Other coincident abnormalities were:

(*a*) A small but patent ductus arteriosus.

(*b*) A patent though valve-like foramen ovale.

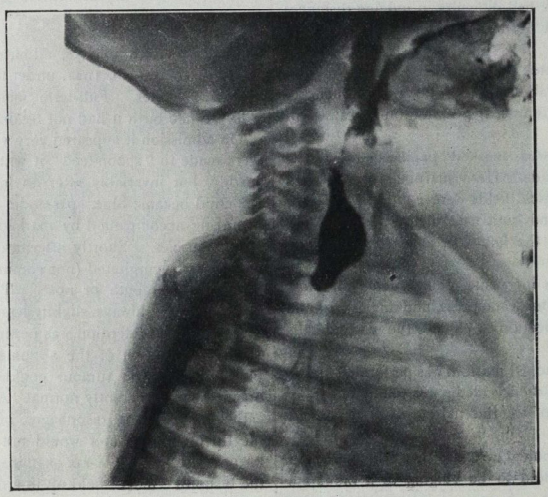


FIG. 1.—SKIAGRAM SHOWING BISMUTH "MEAL" IN DILATED PROXIMAL PART OF ŒSOPHAGUS.

but ending blindly at the level of the seventh cervical vertebra (Figs. 1 and 2).

(*b*) A narrow distal portion, opening into the posterior wall of the trachea at the same level by an opening sufficiently large to admit an ordinary silver probe. This portion gradually dilated until it gained normal calibre at the cardiac orifice of the stomach (see Fig. 3).

At first sight proximal and distal portions appeared continuous, but this was only superficial, their lumina having no direct continuity.

As is shown in the accompanying diagram (Fig. 3), food which passed into the pharyngeal end of the œsophagus was unable to reach the stomach. If, however, owing to overflow from this dilated sac some of the food passed

(*c*) A tapering Meckel's diverticulum, in the usual position for such an abnormality, but interesting in its resemblance in shape to a vermiform appendix instead of the common cylindrical type.

(*d*) The testicles appeared normal, but were pre-pubic in position and there was severe phimosis.

Sir Arthur Keith, in his *Human Embryology and Morphology* (1913, p. 250), gives the following account of the development of the œsophagus:

"The œsophagus is of double origin; the upper part is derived with the trachea from the hinder part of the pharynx (para-tracheal portion); the lower part arises from the primitive alimentary canal (retro-tracheal portion).

"Already in the third week the hinder part of the pharynx is undergoing enlargement and separation; in the fourth week by the union of lateral folds, or partitions, the trachea is separated from the œsophagus.

"It is not uncommon for children to be born with these two portions irregularly separated. The para-tracheal part ends blindly and the retro-tracheal opens from the trachea and is covered by non-striated muscle."

In an article in the *British Medical Journal* (1910, vol. i, p. 302), the same author points out that in the cases of irregular separation of trachea and œsophagus which have been examined, the break between the two parts of the œsophagus always occurs at the junction of the morphological portions.

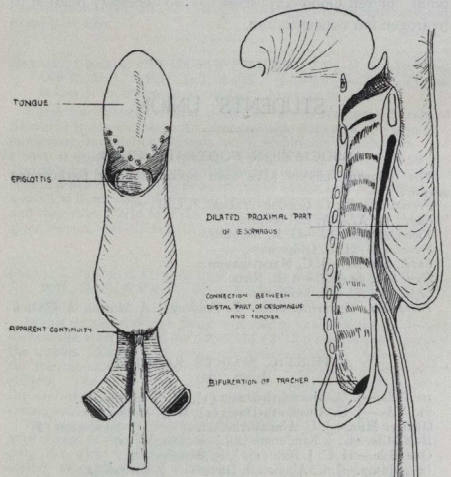


FIG. 2.—Dorsal view.

FIG. 3.—Diagrammatic sagittal section.

Keith also says that no operation has ever been attempted, and that death usually occurs in the latter half of the first week, though in one case the child lived for twelve days. In the present instance the patient lived for nineteen days.

Presumably length of life depends on the actual amount of fat stored in the fat *dépôts*, and the rate of progress of the broncho-pneumonia caused by the inhalation of the food.

In conclusion, I have to thank Mr. Eccles for permission to publish these notes, and Dr. Finzi for the use of the X-ray negative.

THE REACTION OF THE BLOOD.

THE fifth Physiology Lecture of the series was given on May 31st, when Prof. Bayliss addressed a crowded house on the above subject. He said that the subject was too big to be dealt with in one hour, but he proposed to adopt a rather critical attitude, and to point out some of the mistakes which appeared to him to be common in the writings of those who worked in this field of research. It had seemed to him that in the large amount of experiment and reasoning dealing with minute detail there had been lost some fundamentals which he would endeavour to bring to light again.

The first point he desired to make was that the blood is a heterogeneous system, containing corpuscles and proteins in the colloid state. For this reason simple mass action laws cannot be applied to blood, nor can the phenomena of blood physics be explained along mass action lines alone, although they appear to coincide ever so closely with what would occur under those laws.

A second point he would like to make was that the symbol PH really does stand for something. It is an expression of acidity. A standard of acid is taken—gram molecular weight—so that 0·1 m. stands for decimolar or decinormal acid. At great dilutions of acid, such as must be dealt with in physiology, it is clumsy to write 0·000,000,1, and easy to write 10^{-7}. It happens that for convenience in printing the 10 is omitted and the negative sign taken for granted, and simply the number 7 written as the power of hydrogen. It symbolises the concentration of hydrogen ions expressed in relation to normal strength. With the negative sign understood it is obvious that a greater concentration must be represented by a smaller number. With alkaline concentration, too, there could be used a symbol—POH—but this is not so simple a matter. The PH, or pH (as the Americans write) of water is about 7, of blood 7·45–7·55; thus blood is very slightly alkaline.

The Professor then conducted simple experiments to show that as serum became more acid when exposed to CO_2, and less acid again when exposed to the oxygen of the air, so does an ordinary solution of sodium bicarbonate. He considered it important to realise that the slight variations in the acidity of blood could be explained almost solely by the sodium bicarbonate content. What happens when an acid is run into the blood-stream of an animal is that the alkaline reserve or sodium bicarbonate is used up in neutralising the acid. No acid could circulate in the blood as such except in such circumstances which can only exist after death. The term "acidosis" means that a certain amount of the sodium bicarbonate in the blood has been used up, so that less than normal now exists. Since, roughly, the bicarbonate makes the blood more alkaline and CO_2 more acid, it

may be said that the hydrogen ion concentration is the relative proportion between bicarbonate and carbonic acid: $\frac{H_2CO_3}{NaHCO_3}$. Respiration gets rid of CO_2 to make up for the reduction in bicarbonate. This mode of regulating the blood reaction is not so effective when alkali is injected into the blood-stream, possibly because in order to act in this way respiration would have to be diminished, and the lack of oxygen might be more injurious to the animal than the increased alkalinity. By means of liver action and of kidney excretion the over-alkalinity is mended.

Lactic acid never occurs as such in the blood, but as sodium lactate; this is sometimes forgotten.

Also sometimes forgotten is the phenomenon described by Guntz, and worked out by Hamburger. If of two samples of blood one is allowed to clot and its plasma exposed to CO_2, and the other is exposed with the corpuscles present, the latter sample appears to show an enormous increase of alkaline reserve. Thus apparent increase of bicarbonate has been ascribed (1) to migration of bicarbonate from the corpuscles into the plasma, and (2) to migration of HCl from the plasma to the corpuscles. But both these views are incorrect, since the red corpuscles are impervious to all kations, including both $Na^{\cdot}$ and $H^{\cdot}$. Cl' passes through so that with $Na^{\cdot}$ and Cl' ions in the red corpuscle the $Na^{\cdot}$ are kept inside, and the Cl' ions travel out as far as they are able under the attracting influence of the $Na^{\cdot}$ ions. Thus there is a layer outside the blood-corpuscle negatively charged which determines the direction of flow of red corpuscles in an electric field. To prove that $H^{\cdot}$ ions are not excluded from the kations which do not pass through the red corpuscle cell membrane, the experiment was made of comparing the strength of solution of sodium dihydrogen phosphate with that of sodium chloride necessary to be isotonic with blood-corpuscles. The result of the experiment confirmed the view that the cell-membrane is impermeable to $H^{\cdot}$.

If there were an increase in the amount of sodium bicarbonate in the serum under the action of CO_2 there would be an increase of sodium, which is found not to be the case. The concentration of soda in plasma is not changed under the influence of CO_2. So there must be an interchange of anions on the surface. There is an increase of HCO_3' at the expense of Cl'.

Prof. Bayliss raised a protest against writing the formula

$$H_2CO_3 + NaCl = HCl + NaHCO_3,$$

since these are identical and should be written

$$H^{\cdot} + HCO_3' + Na^{\cdot} + Cl'.$$

Another interesting point was in relation to Haldane's theory that the $H^{\cdot}$ ion concentration determined the amount of respiration. It is found that CO_2 is more effective in this way than would be expected from its acidity. It is suggested that the cell membrane which is impervious to $H^{\cdot}$ ions must be permeable to CO_2, as a gas dissolved in water. Supposing this to be the case with a nerve-cell, it is evident that an ordinary acid can only act on the outside of the cell whereas CO_2 can be absorbed as a gas, and these combine with the water to form carbonic acid inside, and so act on the cell plasma in an intimate manner, by means of the hydrogen-ions of the acid.

Attention was finally directed to the confusion to which the use of the form "isoelectric point" had led. It should not be used without stating what ions are referred to. When used in connection with surfaces, the origin of the charge thereon must be taken into consideration. The "isolectric point" of red blood-corpuscles has no necessary relation to hydrogen-ion concentration.

STUDENTS' UNION.

ASSOCIATION FOOTBALL CLUB.

The following officers have been elected for the forthcoming season:

President.—Sir C. Gordon-Watson, K.C.B., etc.
Capt., 1st XI.—A. E. Lorenzen.
Vice-Capt., 1st XI.—G. R. Nicholls.
Secretary.—H. L. Oldershaw.
Capt., 2nd XI.—J. C. Macmenamin.
Hon. Sec., 2nd XI.—A. E. Ross.
Capt., 3rd XI.—S. Jenkinson.
Three extra Committee men.—E. Coldrey, J. A. Morton, A. C. Dick.

ATHLETIC SPORTS RESULTS.

JUNE, 1921.

100 Yds.—J. C. Ainsworth-Davis (1), W. S. Hinton (2).
220 Yds.—J. C. Ainsworth-Davis (1), M. J. Malley (2).
Quarter Mile.—J. C. Ainsworth-Davis (1), C. J. Sanderson (2).
Half Mile.—C. J. Sanderson (1), J. R. Beagley (2).
One Mile.—H. C. J. Ball (1), J. R. Beagley (2).
Long Jump.—J. C. Ainsworth-Davis (1), J. Parrish (2).
High Jump.—J. D. Allen (1), H. G. Anderson (2).
Hurdles.—L. C. Neville (1), H. G. Anderson (2).
Hammer.—L. C. Neville (1), F. P. O. Bridgeman (2).
Weight.—R. D. Reid.
Obstacle.—
Inter-year Relay Race.—Third Year Team { J. Parrish. R. R. Foote. J. A. W. Roberton. J. C. Ainsworth-Davis.

REVIEWS.

A MANUAL OF BACTERIOLOGY. Seventh Edition. By R. TANNER HEWLETT, M.D., F.R.C.P., D.P.H.(Lond.), F.R.M.S. (J. & A. Churchill.) Price 21*s.* net.

The seventh edition of this well-known work has appeared, and contains several alterations and additions. For instance, the salient features of the American Committee's suggestions on the classification of bacteria have been incorporated in this edition. Mutch's single-cell culture and modifications of Gram's method of staining have been introduced, and a full description of dark-ground illumination has been added to the section on the microscope. Many alterations and additions have been made in the sections dealing with antibodies and serological reactions, particularly hæmolysis, complement fixation, and agglutination. The section on the Wassermann reaction has been entirely rewritten, the Fildes and McIntosh method being the one now described.

The print is large, and there are 31 clear plates and 68 useful diagrams which make the book pleasant to work with. This new edition, which brings the subject matter up to date, should be in great demand.

HANDBOOK FOR TUBERCULOSIS WORKERS. By NOEL BARDSWELLF M.V.O., M.D., F.R.C.P. (London: John Bale, Sons & Danielsson, Ltd.) Price 1*s.* 6*d.* net.

This little handbook deals shortly with tuberculosis, its causation, manifestations and treatment, and touches upon each of the units concerned with the treatment and after-care of the tuberculous patient. The book should be read by nurses, voluntary tuberculosis workers, school-teachers, and all interested in the crusade against tuberculosis. The part of the book devoted to the after-care of the consumptive is particularly valuable and might well be recommended to medical men.

BARRIER CHARTS FOR HEALTH OFFICERS. By S. H. DAUKES, O.B.E., M.B., D.P.H., D.T.M.&H. (London: Baillière, Tindall & Cox.) In wallet 10 in. by 5 in. Price 3*s.* 6*d.* net.

These four excellent charts, published for the Wellcome Bureau of Scientific Research, deal with communicable disease in four groups—alimentary, inoculation (insects, etc.), respiratory and contact—and a chart is devoted to each group. There is a synopsis of measures available for the prevention of the diseases in each group. The charts should prove of value to medical officers of health, sanitary inspectors, and all at home and abroad who have to safeguard the public health, and they should help to make the barrier between the sick person, or germ carrier, and the healthy population as complete as possible.

ELLIOT'S TROPICAL OPHTHALMOLOGY. By ROBERT HENRY ELLIOT, M.D., Sc.D., F.R.C.S. (Hodder & Stoughton.) Price 31*s.* 6*d.* net.

In this volume Colonel Elliot sets out to enumerate, describe and discuss the treatment of the numerous eye diseases that are found in the tropics. He has been eminently successful in his endeavour and the student has at last a reliable text-book dealing with this important subject. The value of the book has been considerably enhanced by the inclusion of references to those many original papers scattered throughout medical literature.

The only adverse criticism of this volume that can justly be made is with regard to its title. It deals not with "tropical ophthalmology" only, but with "ophthalmology in the tropics," for the author includes, amongst others, a detailed description of his technique for cataract extraction and excision of the sac.

The book is well printed and illustrated. There is an index of subjects and another of names. Both are good.

OPHTHALMIC PRACTICE. By F. P. MAYNARD, M.B., D.P.H., F.R.C.S. (Calcutta: Thacker, Spink & Co.) Price 12*s.*

OPHTHALMIC OPERATIONS. By F. P. MAYNARD, M.B., D.P.H., F.R.C.S. (Calcutta: Thacker, Spink & Co.) Price 9*s.*

Colonel Maynard has recently published two companion volumes on ophthalmic practice and operations. The former is based largely on the lectures he gave to the medical students at Calcutta. It is almost entirely written from the clinical standpoint and covers the whole of the subject.

There are a few errors that might have been eliminated by more careful proof-reading. The application of the term "pyorrhœa" to any flow of pus, as on p. 69, although scientifically accurate, is misleading now that the term is almost exclusively associated with discharge of pus from the gums.

The volume dealing with operations is a second edition.

The author's views on cataract and glaucoma operations are interesting and, from one who has had such a large experience, valuable. The illustrations in this volume are not as clear as they might be. The stereoscopic photographs are badly trimmed, the centres in one case being 85 mm. apart and in another at least 3 mm. out of vertical register.

Considering the difficulties of post-war printing the general presentation of the volumes appears to be good for a Calcutta production.

THE MEDICAL EXAMINATION OF AIRMEN. By MAUBLANC and RATIÉ. (John Bale, Sons & Danielsson, Ltd.). Price 5*s.*

This book can be strongly recommended to all medical men who are concerned with the care of airmen. In time of war its value would be even greater, but this in no way detracts from its very considerable usefulness to those who are called to deal with airmen from the medical standpoint in time of peace.

The two writers have carefully refrained from excessive elaboration, and the result is one that can be easily digested and turned to practical use.

Though they rightly pass in review the more obvious clinical disabilities of airmen, such as morbus cordis, phthisis and many others, yet the main stress of the book is laid upon the correct diagnosis and estimation of fatigue of the higher centres of the nervous system.

Their methods of studying the reaction times to tactile, visual and sensory stimuli and of estimating the degree, if any, of fatigue of the labyrinthine system are interesting, instructive, and of great proved utility.

The book is strongly recommended to those interested in the subject.

RECENT BOOKS AND PAPERS BY ST. BARTHOLOMEW'S MEN.

AUDEN, G. A., M.D., M.A., F.R.C.P., D.P.H. "The Problem of the Head Louse." *The Medical Officer*, June 11th, 1921.

COOPER, PERCY R., M.D., B.Sc.(Lond.), F.R.C.S. "On Septic or Malignant Endocarditis." *The Clinical Journal*, May 11th, 1921.

CUMBERBATCH, ELKIN P., M.A., B.M. M.R.C.P. *Diathermy.* (London: Wm. Heinemann.)

GASK, G. E., C.M.G., D.S.O., F.R.C.S. "Lettsomian Lectures (abridged) on Surgery of the Lung and Pleura." Delivered at the Medical Society of London on February 7th and 21st, 1921.

—— Lecture II. "Treatment of Wounds of the Thorax during the War of 1914–19." *Lancet*, June 11th, 1921.

—— Lecture III. "The Present Position of Surgery with Reference to Diseases of the Thorax." *Ibid.*, June 18th, 1921.

HERNAMAN-JOHNSON, F., M.D., D.M.R.&E. "The Treatment of Urinary Incontinence by Electrical Methods." *Ibid.*, June 18th, 1921.

HORDER, Sir THOMAS, M.D., F.R.C.P. "The Available Remedies in Immune Therapy." *Ibid.*, May 28th, 1921.

HURRY, JAMIESON B., M.A., M.D. *The Octocentenary of Reading Abbey.* (London: Elliot Stock.)

KYNASTON, JOHN, M.R.C.S., L.R.C.P. "The Cause and Treatment of Adenoids." *Practitioner*, June, 1921.

MACKENZIE WALLIS, R. L., M.A., M.D., and C. LANGTON HEWER, M.B., B.S. "A New General Anæsthetic: Its Theory and Practice." *Lancet*, June 4th, 1921.

MARSHALL, C. F., M.D., M.Sc., F.R.C.S., and A. G. SHERA, M.D., B.Ch., M.R.C.S. "The Treatment of Cases of Syphilis having a Persistent Positive Wassermann Reaction." *Ibid.*, June 18th, 1921.

PINCH, A. E. HAYWARD, F.R.C.S. "Remarks on Radium Therapy in Uterine Cancer." *British Medical Journal*, June 18th, 1921.

PYBUS, FREDERICK C., M.S., F.R.C.S. "Urinary Stone in Childhood." *The Clinical Journal*, May 25th, 1921.

—— "Intestinal Obstruction in Childhood." *Ibid.*, June 15th, 1921.

—— "The Principles of Foreign Body Surgery." *Journal Royal Army Medical Corps*, June, 1921.

—— "Retro-Pharyngeal Abscess." *Practitioner*, June, 1921.

RIVIERE, CLIVE, M.D., F.R.C.P. "Artificial Pneumothorax." *British Medical Journal*, June 4th, 1921.

SCOTT, T. B., M.R.C.S. "Suprarenal Therapy." *The Clinical Journal*, June 1st, 1921.

TEICHMAN, Captain O., D.S.O., M.C. *The Diary of a Yeomanry M.O.* (London: T. Fisher Unwin.)

EXAMINATIONS, ETC.

UNIVERSITY OF CAMBRIDGE.

Second Examination for Medical and Surgical Degrees, Easter Term, 1921.

Part I. Human Anatomy and Physiology.—W. B. Arnold, W. F. Eberlie.

Third Examination, Easter Term, 1921.

Part I. Surgery, Midwifery and Gynæcology.—G. F. Abercrombie, F. Allen, A. O. Courtis, D. Crawford, C. Dunscombe, D. D. Evans, H. J. H. Hendley, P. B. Kittel, S. Orchard, W. Shaw, G. W. Theobald, J. P. Wells.

Part II. Medicine, Pathology and Pharmacology.—E. Donaldson, E. A. Fiddian, E. D. Spackman, S. D. Sturton, G. W. Theobald.

Examination in Sanitary Science.

The following candidates have now satisfied the examiners in *both* parts of the Examination:

E. Donaldson, H. M. C. Macaulay, *P. S. Selwyn-Clarke, A. G. Shurlock.

*Distinction in Bacteriology.

The following degrees have been conferred:

M.B., B.Ch.—H. Barbash, L. W. Batten, C. C. Okell.

B.Ch.—R. Hilton.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.

The Diploma in Public Health has been conferred upon:

J. J. Gasperine.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

At the *Final* Fellowship Examination held in May, 1921, the following candidates were successful:

K. B. Bellwood, G. W. Carte, H. Corsi, R. Coyte, S. G. Dunn, C. M. Jones, T. P. Kilner, F. W. Watkyn-Thomas.

APPOINTMENTS.

BATHO, E. R., M.C., M.R.C.S., L.R.C.P., appointed House Physician, Royal Sussex County Hospital, Brighton.

FAWKES, M., O.B.E., M.B., B.S.(Lond.), appointed Police Surgeon for the Midhurst District of the County of West Sussex.

FIRMAN EDWARDS, L., M.R., B.Ch.(Cantab.), appointed Hon. Pathologist to the Royal Isle of Wight County Hospital, Ryde.

GASKELL, J. F., M.D., D.P.H.(Cantab.), F.R.C.P., appointed Honorary Pathologist to Addenbrooke's Hospital, Cambridge.

MILLIGAN, E. T. C., O.B.E., M.D.(Melb.), F.R.C.S., appointed Surgeon, Dreadnought Hospital, Greenwich.

PECK, E. F., M.R.C.S., L.R.C.P., appointed House Surgeon to the Great Northern Central Hospital, Holloway Road, N. 7.

PRINGLE, K. D., M.B., B.C.(Cantab.), appointed Hon. Surgeon to the Brecknock County and Borough Infirmary.

SOPHIONOPOULOS, G. J., M.R.C.P., appointed Assistant House Surgeon, Jessop Hospital for Women, Sheffield.

WALKER, KENNETH, O.B.E., M.B., B.C.(Cantab.), F.R.C.S., appointed Specialist in Genito-Urinary Diseases to the Ministry of Pensions.

WOOD, W. B., M.D.(Cantab.), appointed Assistant County Medical Officer, and to act as Tuberculosis Officer, for Grays, Tilbury and Orsett.

CHANGES OF ADDRESS.

FOLLIOTT, E., Tuberculosis Institute, 10, The Parade, Cardiff.

GRIFFITH, W. S. A., 19, Cheyne Walk, S.W.

MACMAHON, CORTLANDT, 54, Wimpole Street, W. 1. (Tel. Langham 2488.)

MILLER, G. W., Vailima, 68, Killieser Avenue, Streatham Hill, S.W. 2. (Tel. 229 Streatham.)

PECK, E. F., Great Northern Central Hospital, Holloway Road, N. 7.

PRINGLE, K. D., The Bulwark, Brecon.

STRAHAN, S. S., 10, Woodville Road, Ealing, W. (Temporary.)

ZEROLO, T., "Costa" Clinic, Teneriffe, Canary Isles.

BIRTHS.

CUNNING.—On Monday, May 23rd, at 3, Upper Wimpole Street, the wife of Joseph Cunning, F.R.C.S.—a son.

HERINGTON.—On May 29th, at Spratslade Drive, Longton, Staffs., the wife of Cecil Herington, M.B., B.S.(Lond.), of a son.

KEYNES.—On June 17th, at 10, Boundary Road, St. John's Wood, N.W. 8, to the wife of Geoffrey Keynes, F.R.C.S.—a son.

LEATHART.—On June 14th, at 11, Tollemache Road, Birkenhead, the wife of P. W. Leathart, M.B., B.C.—a son.

QUICK.—On June 13th, at Varfell, Eaton Crescent, Swansea, to Hamilton E. Quick, M.B., F.R.C.S., and Ruth Quick (*née* Hellins)—a daughter (Nancy Hellins.)

SALE.—On June 1st, at Longreach, Queensland, to Olive (*née* Barrow) and John Carruthers Sale—a son.

SODEN.—On June 9th, at Tudor House, Winchcombe, Glos., to the wife of W. Scovil Soden, M.B., B.Ch.—a son.

MARRIAGES.

CONNOR—LEES.—On June 11th, at the British Embassy Church, Paris, Brevet Lieut.-Col. Frank Powell Connor, D.S.O., F.R.C.S., Indian Medical Service, Professor of Clinical and Operative Surgery, Calcutta Medical College, son of the late James Connor, to Grace Ellen, daughter of Reginald Oswell Lees, late Director, Indian Government Telegraphs.

FOX—WALDING.—On May 20th, at Holy Trinity Church, Plymouth, by the Rev. A. S. Tomkins, M.A., Edward Lawrence Fox, M.D., M.R.C.P., son of the late Henry Fox, of Fursdon, to Elizabeth Clare Walding, youngest daughter of the late Thomas Walding and Mrs. Walding, of Harrow-on-the-Hill.

GERARD-PEARSE—ANDERSON.—On June 8th, at St. Paul's Presbyterian Church, Redhill, John Ernest Gerard-Pearse, F.R.C.S., son of Mr. and Mrs. Pearce, of "The Coppice," Reigate, to Lilian Joyce, elder daughter of Mr. and Mrs. W. D. Anderson, of Parkwater, Reigate.

NOON—SOUTH.—On June 18th, at St. Peter's, Crawley, Charles Noon, F.R.C.S., only son of Samuel Bilson Noon and Mrs. Noon, to Cicely, eldest daughter of F. W. South, of Ifield, Sussex.

BROWNING SMITH—RATTIGAN.—On June 4th, Lieut.-Col. Browning Smith, I.M.S., to Edith, widow of Sir Henry Rattigan, late Chief Justice, High Court, Lahore, India.

DEATHS.

WEST.—On May 19th, 1921, at 48, St. George's Road, S.E. 1, William Goldsborough West, M.D., M.R.C.S., L.R.C.P., second son of the Rev. George West, of Horham Hall, Thaxted, Essex, aged 55.

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.*

The Annual Subscription to the Journal is 7s. 6d., 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 ADVERTISEMENT MANAGER, *the Journal Office, St. Bartholomew's Hospital, E.C. Telephone: City* 510.

St. Bartholomew's Hospital Journal.

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

VOL. XXVIII.—No. 11.] AUGUST 1ST, 1921. [PRICE NINEPENCE.

CALENDAR.

Fri., July 29.—Sir Thomas Horder and Sir C. Gordon-Watson on duty.

Tues., Aug. 2.—Prof. Fraser and Mr. G. E. Gask on duty.

Fri., ,, 5.—Dr. Morley Fletcher and Mr. Waring on duty.

Tues., ,, 9.—Dr. Drysdale and Mr. McAdam Eccles on duty.

Fri., ,, 12.—Sir P. Horton-Smith Hartley and Mr. Rawling on duty.

Tues., ,, 16.—Sir Thomas Horder and Sir C. Gordon-Watson on duty.

Fri., ,, 19.—Prof. Fraser and Mr. G. E. Gask on duty.

Tues., ,, 23.—Dr. Morley Fletcher and Mr. Waring on duty.

Fri., ,, 26.—Dr. Drysdale and Mr. McAdam Eccles on duty.

Tues., ,, 30.—Sir P. Horton-Smith Hartley and Mr. Rawling on duty.

EDITORIAL.

"THE Treasurer's Report of the Royal Hospital of St. Bartholomew for the year 1920" lies before us. It is a booklet of the greatest interest to Bart.'s men, for in it are given such intimate details of income and expenditure as enable one to gauge the business efficiency of the institution. It is as though the private accounts of an ancient and much respected friend were being revealed. Throughout, the business acumen of those responsible for the financial side of this great business of healing is demonstrated.

We believe that some of the less well-known facts from the report will be appreciated by our readers.

COMPARATIVE STATEMENT OF EXPENDITURE FOR 1914 AND 1920.

Expenditure.	1914. £	s.	d.	1920. £	s.	d.
Provisions	16,490	1	1	34,146	2	9
Board—Resident Medical Staff	640	1	9	1,785	4	6
Surgery and dispensary	9,368	11	0	27,106	14	3
Domestic	15,670	12	11	31,410	17	4
Establishment	4,527	11	2	7,828	17	1
Salaries, wages, etc.	31,732	4	10	58,224	6	0
Miscellaneous expenses	1,095	2	1	2,914	12	11
Management	2,323	9	11	4,226	4	2
Appeals	774	8	1	671	18	9
Rates and taxes	3,987	8	0	4,869	17	1
Repairs and improvements	891	5	4	2,855	9	2
Interest on loans	267	19	10	2	17	6
Allowances to officers and servants in H.M. Forces	104	3	6	—		
	87,872	19	6	176,043	1	6
Convalescent Home	3,063	5	7	605	7	3
	90,936	5	1	176,648	8	9
Repayments of instalments on Mortgage	5,072	0	0	5,072	0	0
	96,008	5	1	181,720	8	9

The Hospital and Convalescent Home cost therefore in 1920 practically twice as much to run as in 1914. We refrain from pointing the moral which has so often adorned this particular tale. The details of expenditure are always interesting and sometimes amusing.

	Meat. £	s.	d.		*Poultry.* £	s.	d.
For Hospital	2,866	8	5		1,209	14	0
For Nursing Staff	2,990	11	9		51	11	8

The balance sheet for the past year shows that the receipts exceeded the expenditure by £25,330 15*s.* 5*d.* But this apparently satisfactory condition was due to two special and non-recurring receipts, the grant from the National Relief Fund and the absorption into income of the final balance of the Peace Year Commemoration Fund. These two items together amount to more than £75,000.

The Treasurer's thanks are accorded to those concerned in two recent highly successful financial efforts, the Peace Year Commemoration Appeal and the Nurses' Home Appeal.

The number of in-patients has increased from 7,729 in 1919 to 8,971 in 1920 and the average duration of stay in hospital has decreased from 25·2 to 24·1 days.

68,604 casualty patients were registered on their first attendance in 1920 as opposed to 62,266 in 1919.

* * *

The Medical Research Council has most generously placed 330 mgrm. of radium bromide at the service of the Hospital for research purposes and the treatment of disease, subject to certain conditions as to method of use and custody.

"The extent to which treatment will be facilitated by the greatly increased supply now at the service of the staff will be readily appreciated when it is realised that the quantity of radium previously available in the Hospital was only 50 mgrm.

"The Hospital is much indebted to Dr. Finzi, the Medical Officer in Charge of the X-Ray Department, who on frequent occasions lent his private supply of radium to enable treatment to be carried out which otherwise would have been impossible."

* * *

How many times have Hospital men been asked the number of students and of nurses at Bart.'s? Here is the answer: There are 323 members of the nursing staff and 623 students of all years.

* * *

Our readers will be sorry to hear that Dr. Alex. Macphail has delivered his last lecture at the Hospital. Large numbers of his past as well as present pupils were present on June 30th to watch him demonstrate the development of the brain by the aid of elaborate models in different coloured plasticene. Afterwards he was presented with a clock by Mr. J. B. Hume on behalf of his demonstrators; and with a silver cigar and cigarette case by Mr. C. H. Andrewes on behalf of many past and present students. As the speakers pointed out, Dr. "Sandy" Macphail has earned our gratitude, not only for the originality he has introduced into his lectures, but for the friendliness and fatherliness he has always shown towards students. We wish him the best of luck and hope his duties as Inspector of Anatomy will frequently bring him into contact with Bart's.

* * *

We congratulate Sir D'Arcy Power, K.B.E., upon his election as a foreign corresponding member of the Académie de Médecine of Paris. Sir D'Arcy recently attended the Centenary Meeting of the Academy as a representative of the Royal College of Surgeons of England, and as the bearer of a congratulatory address.

* * *

Many friends will be relieved to know that Dr. Tooth is progressing satisfactorily after his operation.

We are glad to welcome Mr. Girling Ball back to his work in the Hospital, looking, indeed, in the very "pink" of health. We confidently anticipate that his recent illness will have added to that store of intimate clinical details which students have learnt to expect from him on his "rounds."

* * *

The Hospital will deeply sympathise with Miss Birch in her serious illness. Miss Birch's cheerful personality has long been a help to those around her, and we wish her well in these days of inactivity.

* * *

Dr. J. H. Thursfield has been re-elected a member of the Board of the Faculty of Medicine of the University of Oxford.

* * *

Our congratulations to Dr. Gow upon his election as Assistant Physician to the Hospital.

* * *

Mr. E. Gerald Stanley, M.S.(Lond.), F.R.C.S.(Eng.), has received the Doctorate of the Faculty of Medicine of Paris (M.D. Paris) with honours.

* * *

Our heartiest congratulations to Dr. Gerald Slot on his success in winning the University of London Gold Medal in the recent M.D. Examination. The Hospital may well be proud to have secured this year both the M.B. and M.D. gold medals. Dr. Slot has been appointed Medical Registrar at Charing Cross Hospital.

* * *

The following have been mentioned in dispatches for services during the Waziristan operations:

Major C. H. Fielding, I.M.S.
Major (T./Lt.-Col.) N. M. Wilson, I.M.S.
Major (A./Lt.-Col.) A. B. Scott, I.M.S.

* * *

Sir Humphry Rolleston has been appointed a representative of the Royal College of Physicians of London in the Court of Governors of the University of Sheffield.

* * *

The Rifle Club has won the Inter-Hospital Challenge Shield at Bisley. Points were: Bart.'s, 188; London, 163; Guy's, 158. Our congratulations to all concerned. This is the first time the shield has been won by Bart.'s since 1902, and the second time in the history of the event.

Besides being the best shot in the above contest, Mr. J. Elgood has distinguished himself by winning the thirty-first place in the King's Hundred and the Donegal Badge for the United Hospitals' Competition.

* * *

Mr. C. J. Powditch has been appointed Steward to the Hospital, *vice* Capt. C. M. Power, who has become Secretary to the Westminster Hospital.

* * *

The Professorial Units are always doing something. The Medical Unit has recently invested in a multiple stethoscope by which many students may listen to chest sounds at once through separate ear-pieces leading from one disc.

Is the time perhaps coming when a clinical lecturer may be able to ring up "Central Demonstration Ward, bed 2, right side, sixth intercostal space, mid-axillary line," and turn to his class, each member with his ear-piece attached, with a triumphant, "Gentlemen, words cannot teach you what bronchial breathing is—Listen!"

* * *

Quite a number of our staff have recently visited America. Mr. Gask returned some time ago and now we are glad to welcome back Sir Thomas Horder. Our readers will be interested in the snapshots of Sir Wilmot Herringham, Sir Walter Fletcher and Sir Thomas Horder which appear on another page, together with a separate photo of Dr. J. Stanley White, our late editor.

* * *

We are particularly anxious that the JOURNAL should represent adequately every phase of past and present Hospital life. This can only be brought about if Bart.'s men freely contribute to our pages. The senior staff is usually very good in this matter. Their contributions are full of wisdom and eagerly read, but it is to others that we wish now particularly to appeal. Those who carry the light from Bart.'s to inaccessible corners of the globe have many unusual experiences and acquire much quaint medical knowledge. Next time, therefore, that you, reader, remove an appendix with a razor and a piece of string (for such an account lies before us, and the patient recovered), send it to us, and send it quickly.

Those at Bart.'s we would remind that there is in the ordinary daily routine a great amount of interesting and important clinical material which should be recorded, and we would ask the Residents to send us along what they can. But it is notorious that the House-men at Bart.'s are a particularly busy and harried set of men. Let, therefore, the clerks and dressers boldly take their pen and write up such special cases as come their way and send us the copy. It will be good for them and good for us.

We particularly desire that the clubs and societies of the Hospital, large and small, shall be duly represented in our columns. Last winter the Rugby Football Club, perhaps our largest sports club, set an excellent example, for their accounts of matches were always in time and always well written. Copy should reach us by the 20th of the month. If, therefore, the club in which you are interested is not represented in the JOURNAL, the fault is not ours. Investigate the matter! Secretaries of clubs have often a thankless task, but we would remind them that the JOURNAL is an excellent medium for stimulating interest.

Above all do we want humorous articles of the type found in "Round the Fountain," but well we know how difficult such are to procure.

* * *

As we write these lines the summer exodus from the Hospital is beginning. We wish our readers well, for there can be no one more deserving of a holiday than he who has done a good year's work at Bart.'s.

ANAPHYLAXIS.

AN ACCOUNT OF A LECTURE BY Dr. H. H. DALE, C.B.E., F.R.S.

THE last lecture of the series of University of London Physiology Lectures which have been held at this Hospital was given on Tuesday, June 14th, by Dr. Dale on the above subject.

There has been a tendency, Dr. Dale said, to apply the name anaphylaxis to a certain complex of symptoms whenever they appear and without regard to the mode of their production. Anaphylaxis is not merely the appearance of contraction of the bronchioles, urticaria, subcutaneous œdema and circulatory collapse, nor is it, as Richet thought at first, the opposite of immunity and increased sensitiveness to the action of a naturally poisonous substance. Richet happened to be working with one of a large group of naturally poisonous substances, but it soon appeared that an animal would give the same type of reaction to a normally inert substance if it had been rendered anaphylactic to it by a preliminary injection given some weeks earlier.

The phenomenon was practically rediscovered in serum laboratories in the guinea-pigs used for testing anti-toxic sera. The animal in these experiments may get as little as $\frac{1}{1000}$ c.c. of horse serum and yet be rendered in a few weeks so acutely sensitive that $\frac{1}{100}$ c.c. of horse serum injected into its vein will kill it in a few minutes. Normally 5 c.c. of the serum can be given with impunity. As with horse serum so with any other native protein substance, animal or vegetable, provided that it is foreign to the constitution of the animal.

Of anaphylaxis it can be said:

(1) It is a condition of abnormal sensitiveness to a foreign protein, such that, whatever be the natural action of the protein, whether it is normally poisonous or normally inert, the sensitive animal reacts to it as to an acute poison of a particular type, producing a uniform complex of symptoms, which have no relation to the natural effect of the protein.

(2) This specific sensitiveness to a foreign protein is produced by a previous injection of the foreign protein, and appears after an interval of ten days or more, and, when once produced, lasts indefinitely.

(3) It is highly specific; the first injection produces sensitiveness to the protein injected and to no other.

It should be noted that the condition is produced and its existence detected by an essentially artificial procedure, the introduction of the foreign protein into the circulation by some route which avoids the alimentary canal. Swallowed in ordinary quantities a foreign protein is split up into its constituent amino-acids.

In various ways—production by parenteral injection, appearance after an interval of some days, specificity for the substance injected—anaphylaxis resembles immunity, and

this resemblance is strengthened by the phenomenon of passive anaphylaxis. Like immunity, anaphylaxis must be due to the formation in the animal of some specifically reacting substance. Therefore it was legitimate to use the terminology of immunology and to speak of "anaphylactic antigen" and "anaphylactic antibody."

An important feature of passive anaphylaxis is that it does not, like passive immunity, appear immediately the antibody is introduced into the circulation; it does not appear for some hours and it is not fully developed until after about twenty-four hours.

What is this anaphylactic antibody? The lecturer was of opinion that the evidence is strongly in favour of its being no special type of antibody, nothing peculiar to the anaphylactic condition, but the antibody long familiar to immunologists as "precipitin." The limits of specificity of the anaphylactic reaction are closely similar to those of the precipitin reaction, as the following example shows. It had been shown by several observers that each of the three proteins of a serum—so-called euglobulin, pseudoglobulin and serum albumin—evokes the formation of a precipitin which is strongly though not absolutely specific. Dr. Hartley and the lecturer found that the same is true of anaphylaxis to the proteins of horse serum. Injection of euglobulin makes the animal strongly sensitive to euglobulin, weakly to pseudoglobulin, and not at all to the albumin; and so on for the others. There are many other examples of this parallelism.

A more striking piece of evidence is derived from the phenomena of passive anaphylaxis. Although a large dose of serum of an anaphylactic animal is needed to convey sensitiveness, even of a fairly low order, an animal can be rendered highly anaphylactic by a relatively very small dose of the serum of an animal which has received a series of injections of the antigen, that is whose serum has acquired in a high degree the power of forming a precipitate with the antigen. If the anaphylactic antibody is not identical with precipitin it is something which keeps closely parallel with the precipitin in its formation. Against their being identical must be placed the fact that there is no crude formation of precipitate when serum from a highly anaphylactic guinea-pig is mixed with the protein antigen. According to ordinary methods of observation the serum of the anaphylactic guinea-pig contains no precipitin. If instead of a single injection the guinea-pig is given a series of injections at intervals too short to allow anaphylaxis to develop, its serum will be found to contain precipitin, but then the animal is not anaphylactic, but immune.

This paradox forms the core of the whole problem; it is from this point that there is a dichotomy of opinion, the theories falling into two well-marked groups.

The first of these, which fails to satisfy the lecturer, originates in a study of the different pictures presented by anaphylactic shock in different species. The guinea-pig scratches its nose, coughs, jumps, is afflicted with an obvicus impediment to its respiration and dies from asphyxia with its lungs in a state of extreme distension. The rabbit, on the other hand, dies of right-sided heart failure, and the dog presents the picture of profound circulatory collapse, with engorgement of viscera.

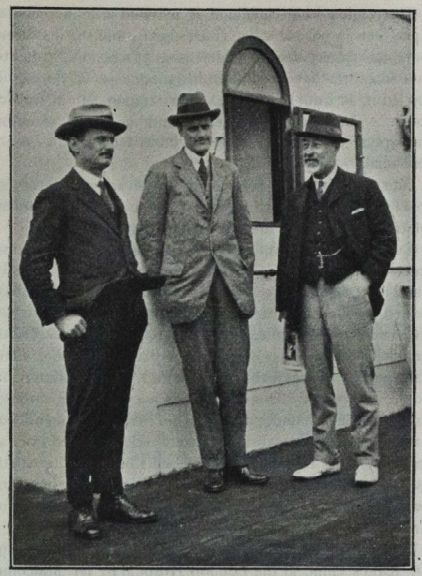
These types of reaction are faithfully reproduced in the different species by the action on normal individuals of a whole group of protein cleavage products, resulting from proteolysis by enzymes, by bacteria or by chemical agencies—even the pure, simple base, histamine, gives very similar effects, with the characteristic differences in the different species. Blood acquires, early in the process of coagulation, a toxic action of this type.

This theory supposes that re-injection of the antigen into the anaphylactic animal causes the production in the blood of a poison of this kind, and in several forms of this theory it is supposed that the hypothetical poison—the "anaphylatoxin"—is a protein cleavage-product. Evidence in favour of this "anaphylatoxin" theory is derived from the observation that when fresh guinea-pig's serum is treated for some hours *in vitro* with various substances—with the specific precipitate formed by a protein with its appropriate precipitin, with emulsions of bacteria, with agar, with starch or inulin—it acquires an abnormal toxicity such that 3–5 c.c. of it injected into the vein of a normal guinea-pig produces death in a few minutes, with symptoms more or less closely resembling the anaphylactic shock.

However interesting this anaphylatoxin formation may be, it is important to remember that the characteristic of the anaphylactic condition is not this physiological complex, varying in the different species, but *its production by a substance which normally has no such action*, and that therefore anaphylatoxin formation has no necessarily direct connection with the phenomena of anaphylaxis. Moreover, it is found that an immediate reaction, and such as would be expected on this theory, does not take place when serum from an anaphylactic animal or immune precipitating serum is injected simultaneously with the antigen, so that the two could meet in the blood. The theory offers no satisfactory explanation either for the delay in the appearance of passive anaphylaxis, or for the difference between anaphylaxis and immunity.

These two difficulties, which the lecturer regarded as fundamental to the whole problem, could be readily explained by the alternative theory, of which he has been one of the advocates.

The meaning of the delay in the appearance of passive anaphylaxis, after injection of preformed antibody, was revealed by the experiments of the late Richard Weil, of New York. Weil showed that, during the 24 hours after the injection of the antibody needed for the full development of sensitiveness, the antibody disappears almost completely from the blood. When once the anaphylactic



BART.'S AT SEA.

condition was developed, a further large dose of the same antibody immediately lowered the sensitiveness of the animal. *Antibody circulating in the blood is protective; the antibody has to get out of the blood to produce anaphylaxis.* This suggests the location of the antibody in the living cells and its reaction there with the antigen, something of the nature of a precipitation taking place in the cell protoplasm or cell membrane, as the cause of the anaphylactic reaction.

Simultaneously with Weil's experiments evidence in favour of this conception was being obtained in a totally different way. Schultz, in America, and Dr. Dale, in this country, were experimenting on plain muscle removed from an anaphylactic animal and freed from all blood. In the lecturer's own experiments he had used a horn of the uterus of a young virgin guinea-pig as a convenient, delicate strip of plain muscle, which could be suspended in warm, oxygenated Ringer's solution, so that its contractions could be recorded by a lever. The following points can be demonstrated, and were illustrated in the lecture by lantern slides.

1. The isolated plain muscle from the anaphylactic guinea-pig, free from all blood, is exquisitely sensitive to the sensitising protein, traces of which, added to the saline bath, act on it like a powerfully stimulant drug.

2. The reaction is highly specific; the muscle responds to the protein to which the animal was rendered anaphylactic, and to no other.

3. The plain muscle from an *immunised* guinea-pig, freed from blood, is as sensitive to the antigen as that from an anaphylactic guinea-pig.

4. When plain muscle, from a guinea-pig rendered passively sensitive by a previous injection of antibody, is suspended in Ringer's solution containing excess of the same antibody, the plain muscle is completely protected from the antigen; when the antibody is washed out of the bath with pure Ringer's solution the muscle at once responds to a further addition of the antigen.

Thus anaphylaxis presents itself not as the opposite of immunity, but as a particular expression of the immune condition, due to a location of the antibody predominantly in the living cells instead of in the fluids bathing them. Here is an explanation of the delay in the production of passive anaphylaxis, and of the fact that the presence of sufficient antibody to circulate in the blood renders the animal again relatively insensitive. Moreover, it becomes clear that this cellular sensitiveness is not in itself something detrimental to the animal unless the purely artificial test is made of bringing the antigen suddenly into contact with all the cells of the body by injection into the circulation. If the foreign protein is introduced by a natural

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method, as by invasion of a mucous membrane by a micro-organism, the injury caused to the sensitive cells in the immediate neighbourhood will cause a local, protective, inflammatory reaction. Anaphylaxis to the protein of an organism is not merely compatible with, but may be an important factor in immunity to infection by it. The lecturer further discussed the relationship between anaphylaxis and the well-known serum-reactions in man, and the specific idiosyncrasies to foreign proteins, such as hay-fever and horse-asthma. D. W. W.

GONORRHŒA AS SEEN AT A PUBLIC CLINIC IN 1920.

By A. C. ROXBURGH, M.D., B.Ch.(Cantab.), M.R.C.P.(Lond.),
Assistant Medical Officer to the Venereal Department, St. Bartholomew's Hospital.

(*Continued from p.* 152.)

FEMALE CASES.

Female patients are seen by me twice a week and can come up for irrigation by the nurse twice a week in addition.

Each patient after the history has been obtained is examined in the lithotomy position and a note made of the condition of the vulva, vagina, Bartholin's glands, urethra, paraurethral crypts, cervix, uterus, tubes, joints, and other organs if affected. Films and cultures are made from the urethra and cervix, and also from the ducts of Bartholin's glands if their orifices look suspicious. If negative this examination is repeated *in toto* once or twice, preferably just after a menstrual period.

The culture medium used is Gordon and Hine's trypsinised pea-extract agar, with a little fresh human blood spread on the surface of the plate. In our hands this medium, or our method of using it, has not proved satisfactory. Six times we have found gonococci in films but not in cultures made at the same time, and in three cases gonococci have been reported as having been found elsewhere while we have failed to find them. Detailed figures are given below.

The treatment adopted for the urethra is as follows. Irrigation, given by a nurse, with potassium permanganate 1–4000 to 1–2000, into the bladder, twice a week. This is supplemented after a few weeks (four in an acute case) by painting the urethra twice a week through a urethral tube with increasing strengths of silver nitrate solution, from 5–30 grains to the ounce.

Paraurethral crypts or Skene's tubules if infected are destroyed with the galvano-cautery under novocaine.

Bartholin's glands and ducts are treated similarly, free cauterisation of the duct and gland with the galvano-cautery having proved in my hands much the most satisfactory way of dealing with infection of this part, whether acute or chronic. It has not so far been found necessary to dissect out any gland.

The vagina when inflamed is mopped with acriflavine 2 per cent. in normal saline twice weekly, and this has been found satisfactory in most acute cases. Occasional patients have found the flavine solution irritating, especially when I applied it, as I did for a time, on a tampon left in for 10 hours. These patients then found an application of eucalyptus oil 10 per cent. in olive oil twice a week beneficial.

Patients with a very profuse discharge are instructed to douche themselves with a weak potassium permanganate solution, but douches are not used as a routine.

Cases of chronic granular vaginitis, affecting the fornices, which have not yielded to treatment with flavine, I have found nothing to cure except zinc ionisation, which has yielded excellent results.

Cervicitis, when acute, I treat by mopping out the cervical canal with the flavine solution on a Playfair's probe, after removing the mucus with probes wetted with a solution of sodium carbonate. This is done twice a week. In chronic cervicitis I have found iodised phenol (iodine 10, phenol 90 parts) much the most satisfactory solution. It is used twice a week, or, when the phenol produces a slough, is alternated with the flavine solution. Massage of the cervix between the blades of the Brewer's speculum is also practised in chronic cases.

The above line of treatment is based on that followed in Mr. Kidd's clinic at the London Hospital by Dr. Malcolm Simpson, under whom I had the privilege of working for some time.

It appears to me, however, that much the quickest way of getting rid of the gonococcus from the urethra and cervix is by the use of diathermy. Nine cases were sent for this purpose to Dr. Cumberbatch in the Electrical Department of St. Bartholomew's Hospital. In five cases the urethra was rendered free from gonococci in an average of 5·4 treatments given once or twice a week. In six cases the cervix was rendered free from gonococci in an average of 5·3 treatments. In one case gonococci were found in the urethra and cervix after five months' diathermy. This patient was found to be getting constantly reinfected by her husband. As soon as this was discovered and stopped she was cured by one month's further diathermy.

Diathermy, while very valuable against the gonococcus, is without effect on the other organisms which secondarily infect the urethra and cervix, so that getting rid of the gonococcus does not of necessity cure the patient's discharge. In such cases recourse is taken to ionisation with zinc or copper, of which the results are detailed below.

Endometritis and salpingitis cases, when we get them, which is seldom, I send to the Gynæcological Department.

Arthritis cases are treated as in men by diathermy to the affected joint and appropriate local treatment to the original focus.

The test of cure applied is three sets of films and cultures, each set taken as soon as possible after a menstrual period.

A number of cases of urethritis and cervicitis were treated, even though no gonococci were found, in order to reduce the patients' discharge and make them more comfortable.

To turn now to the actual figures:

Ninety-four new female cases were seen in 1920, but gonococci were found only in twenty-two of these (23·4 per cent.).

Age.—The average age of the patients in whom gonococci were found was 23½, the extremes being 16 and 38 years. (The children are dealt with separately below.)

Marital state.—Eleven of the gonococcal patients were married, eleven were single.

Acute and Chronic.—Eleven cases were acute and eleven chronic.

Site infected.—The sites in which gonococci were found were as follows:

Urethra only	11 cases
Cervix only	3 ,,
Bartholin's glands only	2 ,,
Urethra and cervix	5 ,,
Urethra and Bartholin's glands	1 ,,

Total urethral infections, 17 (77·2 per cent. of gonococcal cases)
,, cervical ,, 8 (36·3 ,, ,, ,,)
,, Bartholin's gland infections 3 (13·6 ,, ,, ,,)

A table is appended showing the comparative distribution of the gonococcus as found in the married and single women.

	Married.	Single.
Urethra	7	10
Cervix	5	3
Bartholin's glands	2	1

It is interesting as showing, in so far as such small numbers can be said to show anything, the great preponderance of urethral infections in single women, and the comparative equality of urethral and cervical infections in the married. Whether this is due to the average degree of penetration in coitus being greater in the married or to differences in the bacterial flora of the vagina I am not prepared to say, though I should favour the first explanation.

Of the married cases 6 were acute, 5 chronic.

Of the single cases 5 were acute, 6 chronic.

Duration.—The average duration of the acute cases before they were seen was ten days, that of the chronic cases eleven months.

As regards the vexed question of the finding of the gonococcus in women the following were our results:

Acute cases.	Gonococci found in urethra	.	10 times
,,	,, ,,	cervix	3 ,,
,,	,, ,,	Bartholin's glands	2 times
Chronic cases.	,, ,,	urethra	7 ,,
,,	,, ,,	cervix	5 ,,
,,	,, ,,	Bartholin's glands	once.
Acute cases.	Gonococci first found in films	.	12 times
,,	,, ,,	cultures	2 ,,
Chronic cases.	,, ,,	films	6 ,,
,,	,, ,,	cultures	8 ,,

Three times gonococci were only found in the second film and once only in the third; once they were only found in the second culture.

The above results would appear to show that films are generally sufficient for diagnosis in acute cases, but that cultures are required in chronic cases as constituting a more delicate test. In favour of this point of view is the fact that cultures detected gonococci in urethras five times and in cervices three times when films have failed to reveal them.

As against this, however, we have to put the following fact. Gonococci were found in the urethra in films in five cases and in the cervix in one case in which cultures had failed to grow them.

In one case with a positive complement-fixation test for gonococci five films and six cultures proved negative. In three cases which were sent to us with a report of gonococci having been found we were unable to find them after repeated examinations.

All of which goes to show that the detection of the gonococcus in the female is, in our hands, an exceedingly unsatisfactory proceeding, as at present performed.

I aimed at making at least two sets of films and cultures (viz. from the urethra, cervix and Bartholin's glands if required) before arriving at a negative diagnosis. The greatest number of films made in any one case without finding gonococci was 6, and of cultures 8, while the average was 2·7 films and 2 cultures.

Taking all the cases together, whether gonococci were found or not, 59 were married and 32 single. In 3 the marital state was not noted. Eighteen were acute and 67 chronic. Of the remaining 9, 6 came only for examination and in 3 the duration of the disease was not noted.

Discharge.—Sixty-seven patients complained of a discharge; in 16 of these (23·8 per cent.) gonococci were found. Of the 22 gonococcal cases 72·7 per cent. complained of a discharge.

Pain on Micturition.—Seventeen patients complained of pain on micturition; in only 4 of these (23·5 per cent.) were gonococci found in the urethra.

Of the 17 cases with gonococci in the urethra only 4 (23·5 per cent.) complained of pain on micturition.

Pain on Coitus.—Five patients complained of pain on coitus, in only 1 of these (20 per cent.) were gonococci found

(in both urethra and cervix). Two of the remaining 4 had urethral caruncles.

Pregnancy.—Twenty-seven of the patients had had previous pregnancies. In only 3 of these (11·1 per cent.) were gonococci found, viz. in 1 case in both urethra and cervix, in 1 in cervix only, and in 1 in the left Bartholin's gland. Of the 22 gonococcal cases 3 (13·6 per cent.) had had previous pregnancies and 19 (86·4 per cent.) had never been pregnant.

Seventeen patients were pregnant when seen. The duration of pregnancy ranging between the first and the eighth month. In 6 of these (35·3 per cent.) gonococci were found, in 4 cases in urethra, 2 in the cervix, and 1 in Bartholin's gland. All went elsewhere for their confinements and their after history is unknown to me.

Of the 22 gonococcal cases the 6 pregnant women constituted 27·2 per cent.

Vulvitis.—Sixteen of the patients had some vulvitis, gonococci were found in 3 (18·7 per cent.), three times in the cervix and twice in the urethra.

Of the gonococcal patients the vulvitis cases constituted 13·6 per cent. I do not suggest that the vulvitis was due to the gonococcus—it was not considered worth while to look for gonococci in the vulval discharge as it is so seldom found there in adults.

Urethritis.—Forty-six patients had a urethral discharge. Gonococci were only found in the urethra in 17 (37 per cent.).

Paraurethral crypts.—Paraurethral crypts were found inflamed in 4 cases. In none of these were gonococci found in the crypts or elsewhere.

Bartholin's glands.—There were 3 cases of gonococcal Bartholin's abscess (1 on both sides, 2 on the left side). All were acute.

There were 4 cases of Bartholin's abscess in which gonococci were not found; 2 were chronic (1 right, 1 left), 2 were acute (both left side). In only one of these cases were gonococci found elsewhere, viz. in the urethra in an acute case of eight days' duration.

So that of the 8 abscesses of Bartholin's glands seen gonococci were found in the pus from the abscess in only 4 (50 per cent.).

Cyst.—One cyst of Bartholin's glands was seen. Gonococci were not found in the cyst or elsewhere in the patient.

Palpable.—Bartholin's glands were palpable in 6 patients, on both sides in 3, right side in 2, left in 1. In none of these cases could gonococci be obtained from the ducts, and in only two of them were gonococci found elsewhere, viz. in the urethra (33·3 per cent.)

Caruncle.—Two cases of urethral caruncle were seen. One of three months' standing had gonococci in both urethra and cervix, while in the other no gonococci were found. In one case, the gonococcal one, the caruncle was easily, and apparently permanently, removed with the galvano-cautery under novocaine. The other case, of two years' duration, never came back to have the operation performed.

Warts.—Seven cases had warts about the vulva. In only one of these was the gonococcus found (in urethra and cervix) (14·3 per cent.) Five of the 7 cases had a cervicitis (71·4 per cent.) The percentage of gonococcal cases having warts was only 4·5 per cent.

The treatment to which I invariably had to come back was removal of the warts with the flat-bladed galvano-cautery under a local or a general anæsthetic. This was uniformly successful, whereas the lotion of liq. arsenicalis vin. ipecac. and spiritus vini rect. always failed, and silver nitrate is only useful for small warts and leaves a sorer raw area than does the cautery.

Vaginitis.—There were 8 cases of granular vaginitis. In 1 only (12·5 per cent.) were gonococci found (in the urethra).

Cervix.—A careful note was taken of the condition of the cervix in all cases to see if there were any clinical appearance on which one might diagnose the presence of gonococci with a reasonable probability of correctness. The results are given below.

Ext. os patent.	Ext. os patent. Gonococci found.	Ext. os patent. Gono. NOT found.	Gonococci found. Ext. os NOT patent.
25	1 (4%)	24	7
Erosion.	**Erosion. Gonococci found.**	**Erosion. Gono. NOT found.**	**Gonococci found. No erosion.**
47	5 (10·6%)	42	3
Clear mucus.	**Clear mucus. Gonococci found.**	**Clear mucus. Gono. NOT found.**	**Gonococci found. Mucus NOT clear.**
15	2 (13·3%)	13	6
Hazy mucus.	**Hazy mucus. Gonococci found.**	**Hazy mucus. Gono. NOT found.**	**Gonococci found. Mucus NOT hazy.**
18	1 (5·5%)	17	7
Muco-pus.	**Muco-pus. Gonococci found.**	**Muco-pus. Gono. NOT found.**	**Gonococci found. No muco-pus.**
20	3 (15%)	17	5

It will readily be seen that of all the conditions mentioned none is characteristic of the presence of gonococci. As might be expected, muco-pus issuing from the cervical canal is the condition most frequently associated with the presence of gonococci, but even with this gonococci are found in only 15 per cent.

A surprising feature is that perfectly clear mucus is associated with gonococci in 13·3 per cent. but hazy mucus in only 5·5 per cent.

Internal os.—The internal os was patent, *i.e.* admitted a Playfair's probe, in one case in which, however, gonococci were not found.

Endometritis.—One case was diagnosed endometritis but gonococci were not found.

Salpingitis.—No case seen.

Proctitis.—No case seen.

Arthritis.—There were four cases of arthritis. Only one was gonococcal. This was a typical acute gonococcal wrist

in which the only primary focus found was a left Bartholin's abscess. With free cauterisation of Bartholin's gland and diathermy to the wrist-joint the patient made a perfect recovery without any limitation of movement of the joint. A lot of time was wasted in this case treating the patient with vaccines and protein shock without any benefit worth talking about, while as soon as diathermy was started the improvement was immediately noticeable and went on rapidly to complete recovery.

In-patients.—Six cases were treated as in-patients, 2 being gonococcal. The average stay was seven days for the gonococcal cases and five for the non-gonococcal. As in the case of the men, several patients who should have come in refused to do so on account of the stigma attached to the building.

End-results.—Just as in the case of the men the average attendance was very irregular. Of the 22 gonococcal cases 10 (45·4 per cent.) ceased attendance before completing their treatment. Only 6 (27·2 per cent.) completed their treatment and tests of cure. Two (9 per cent.) went elsewhere and 4 (18 per cent.) were still under treatment at the end of the year.

In the 6 cases who completed their treatment and tests the average number of irrigations required was 13 and the average number of treatments by myself or my assistants was 14, that is 7 to 8 weeks' treatment if the patient attended regularly. Very few did, so the average time from first treatment to last was considerably longer.

The patients who did not complete their treatment ceased to attend after an average of two irrigations by the nurse and seven treatments by myself.

Taking all the 94 new patients, whether gonococcal or not, the figures were as follows:

Ceased attendance before completing treatment	46 (48·9%)
Completed treatment and tests	30 (31·9%)
Went elsewhere	5 (5·3%)
Still under treatment	13 (13·8%)

Electrical treatment.—During 1920 18 female cases were sent to the Electrical Department for diathermy and ionisation. This figure includes patients who began their attendance at the clinic before 1920 and so is not strictly comparable with the rest of the figures in this report. Of these 18 cases 9 were gonococcal.

Five cases of gonococcal urethritis were rendered free from gonococci in an average of 5·4 diathermy treatments.

Eight cases of gonococcal cervicitis were rendered free from gonococci in an average of 5·3 diathermy treatments.

The treatments were given once or twice a week, to the urethra by means of a metal rod inserted, and to the cervix either by a rod inserted in the canal or by a flat electrode applied to the surface.

The idea underlying the treatment is that gonococci are killed by a temperature insufficient to damage the tissues of the body, viz. about 113°F.

As noted above, the removal of the gonococcus does not of necessity cure the patient's discharge, owing to the presence of secondary infections which are unaffected by the raised temperature produced by the diathermy current. For such cases zinc or copper ionisation is used.

Of 4 cases treated with zinc ions up to date, 1 case was much improved after 4 treatments to the cervix and 4 to the vagina (this was a case of cervicitis and obstinate granular vaginitis, non-gonococcal). Two cases were much improved after 5 and 12 treatments respectively to the cervix, and one case was not improved after 4 ionisations to urethra and 4 to cervix. All the above 4 cases are still under treatment.

Six of the cases sent to the Electrical Department were not seen again.

Children.—There were only 5 new cases of female children with vulvo-vaginitis seen in 1920. All were gonococcal except one, an alleged case of rape in a girl of 7.

The treatment adopted was mopping out the vagina with a solution of acriflavine 2 per cent. in normal saline twice a week, supplemented by vaginal douches of 1-4000 pot. permang. given by the nurse twice a week.

All the four gonococcal cases completed their treatment, and all but one their tests as well. The test consisted in non-return of discharge when treatment was left off, and abscence of gonococci from three films and three cultures from urethra and vagina taken at fortnightly intervals after stopping treatment. Most cases were also tested again after three months.

Age.—The average age of the four gonococcal cases was 5 years.

Duration.—The average duration of the disease was 64 days before the patients came up for treatment.

Site.—Gonococci were not found in the urethra in any of these four cases, they were found in the vagina in all of them.

The average number of treatments required for cure was 18 treatments with flavine (extremes 10 and 22) and 20 vaginal douches with potassium permanganate (extremes 16 and 31).

These treatments, if given regularly, would have taken about 10 weeks, or 70 days. Owing, however, to the patients' irregular attendance they were spread over, on an average, 125 days (extremes 63 and 217).

CONCLUSIONS.

(1) As might be expected, the public do not make much use of public clinics for prophylactic purposes.

(2) Many patients refuse to become in-patients in a building known as a V.D. treatment centre.

(3) More than half the patients cease attendance while still infectious.

(4) If the incidence of gonorrhœa is to be reduced

appreciably by the provision of public clinics the above conditions must be combated by:

(*a*) Having V.D. treatment centres as far as possible inside the walls of general hospitals.

(*b*) Making treatment as private as possible.

(*c*) Having the centres open for as long hours as possible, at times convenient to the majority of patients.

(*d*) Impressing the public generally and patients in particular with the importance of continuing treatment until advised by the doctor to cease.

(5) In more than half the male patients when first seen the urethritis was already posterior, but treatment by anterior irrigation only for a few weeks was justified by the low percentage of complications which ensued.

(6) The supreme importance of commencing treatment as early as possible and before the disease has become posterior is shown by the fact that in the cases which came up with chronic gonorrhœa the nidus of the infection was in the prostate or vesicles more than three and a half times as often as it was in the anterior urethra.

(7) The fear of contracting venereal disease does not appear to be much of an incentive to virtue in that only one-third of the patients were in their first attack, two thirds had had the disease before.

(8) In one-fifth of the cases of acute anterior urethritis in men no gonococci could be found, which shows the unfairness of labelling all cases of urethral discharge "gonorrhœa" without pathological investigation.

(9) The test of cure in men appears to be satisfactory.

(10) Diathermy is of the greatest value in the treatment of gonococcal arthritis in both sexes, epididymitis in men, and urethritis and cervicitis in women.

(11) The urethra appears to be the site most commonly infected in women, and this preponderance is most marked in the unmarried.

(12) Gonococci are frequently present in the cervix in association with perfectly clear mucus.

(13) With the proviso that our methods of detecting gonococci in women are not yet satisfactory, the treatment of the uncomplicated case of gonorrhœa in the female is simple and satisfactory and need not take more than two months if the patient attends regularly.

(14) The treatment of vulvo-vaginitis in little girls has given in our hands very satisfactory results in the small number of cases treated.

THE LIFE OF THOMAS WILLIS, M.D.

By H. G. ANDERSON.

Being the Wix Prize Essay, 1921.

MOMENTOUS times beget great men; great men, too, seem to inspire the mediocrity around them into greatness! Rarely have these statements been so patently true as during the century in which Thomas Willis, M.D., lived and died.

Son of a gentleman farmer, he was born at Great Bedwin, Wiltshire, in January, 1621. Some ten years later the family migrated to Oxfordshire, where Thomas Willis, senior, had been appointed steward of a country estate. In due course his son was sent to a then famous grammar school in Oxford, whose headmaster, Edward Sylvester, seems to have been held in great repute. His schoolfellows here included such diverse types as John Owen, afterwards a famous Puritan divine and Vice-Chancellor of Oxford University, and the equally famous but High Church dignitary, John Fell. The atmosphere of the school was probably therefore a broad-minded one.

Some few years later he came under the patronage of a Dr. Thomas Iles, Canon of Christ Church, Oxford, by whose aid he entered this college. Matriculating in 1636, he gained his "B.A." there three years afterwards.

June, 1642, found both King and Parliament making final preparations for the Great Civil War, and Oxford became the leading Royalist centre. Willis, who had just been awarded his "M.A.," eagerly joined the King's "University Legion." He appears to have spent much of his spare time, during the unsettled years which followed, in the study of medicine. John Gaddesden, the fourteenth century physician and author of *Rosa Medicinæ*, seems to have been one of his earliest medical heroes. His interest must have been stimulated also by the presence in Oxford of the great physician Harvey, then in attendance on King Charles I.

In 1646 his father was killed during the siege of Oxford. Later in the same year the Scots' surrender of King Charles put an apparent end to the war. In the winter Willis gained his "M.B.," and was thus able to transform what had perforce been a mere hobby into a profession.

It says much for the temperateness of the Parliamentarians that he was allowed, unhampered, to settle down in practice opposite Merton College, where he formed part of a small group intensely loyal to the old *régime*. He had one of the rooms of his house fitted up as an oratory, in which his former schoolfellow, John Fell, conducted daily a Church of England service. This led to his life-long friendship with Gilbert Sheldon, founder of the Sheldonian Theatre at Oxford, and afterwards Archbishop of Canterbury.

Perhaps, in view of the events already narrated, it would be well to give a more intimate account of this famous physician.

His portrait reveals him as a plain, rather long-featured man, well over medium height. His stumpy moustache gives him a military appearance, only belied by a sensitive mouth and a pair of meditative, brown eyes. He looks the quiet, unassuming, thoughtful, precise man of his biographer's accounts.

As in Oxford, so later on in London, his orthodox, but none the less deeply religious, nature found vent in the provision of daily services in the church of St. Martin's-in-the Fields. He made a habit of giving a percentage of his weekly earnings to the poor; the whole of his Sunday fees went to relieve distress, and the last anxiety of his death-bed was the proper administration of one of his charities. He had as many friends hostile to his beloved Church of England as friendly; yet all, agnostic and Puritan alike, bore in some measure the stamp of his honest, kindly, analytical personality. Methodical to a degree, he rose punctually in time for morning prayers at 7 a.m. in winter and 6 a.m. in summer!

He was twice married, his first wife being the sister of his friend John Fell. His remarriage took place a few years before his death, and his second wife survived him.

We are told that he "kept Abingdon market," that is, was in attendance, like a modern itinerant dentist, on any in the market-day crowd who might care to consult him. His practice soon expanded, and he began to be much in demand among the rich county families living near Oxford. During a visit to one of these patients he discovered a medicinal spring in the neighbourhood of Brackley.

Consequently on the Restoration he was appointed Sedleian Professor of Natural Philosophy at Oxford University in place of the ejected Crofts, and in the same year he obtained his M.D.

In 1663 he was intimately concerned in the formation of "The Royal Society." His position and influence, therefore, among the *intelligencia* of his generation must have been, even at that time, very considerable.

Curiously enough, through some mistake in the wording of the charter, he was not elected F.R.S. until the following year, when his famous treatise on *The Anatomy of the Brain and Nerves* was published. This year also witnessed his election to a Fellowship of the Royal College of Physicians. At the invitation of Sheldon, then Bishop of London, he decided to relinquish his provincial practice, and in 1666 he moved to a house in the neighbourhood of St. Martin's Lane. His city practice flourished even better than his former one had done, and he was very soon in high favour as a Court physician. He never gained, however, State award during his life-time. It may have been owing to his hatred of James's dissolute Court, and consequent refusal to accept any honour at his hands, or perhaps his famous remark, "Mala stamina vitæ," when called in to attend one of the king's sickly sons, may have stopped award at its very source.

Willis was essentially a physician, holding surgeons to be but mechanics, called in to supplement the physician's art. Throughout his life he felt himself to be a pioneer forcing his way through uncharted seas, without compass save his desire for truth, and piloted only by his own innate genius.

Perhaps the secret of his success is contained in the introduction to his great work on *The Anatomy of the Brain and Nerves*, where he determines "not to pin my faith on the opinions of others, nor on the suspicions or guesses of my own mind, but, for the future, to believe nature and ocular demonstrations . . . that so a firm and stable basis might be laid . . ."

The circulation of the blood had already been discovered by Harvey. Harvey's physiological works have unfortunately been lost, but Willis was probably conversant with them, if not with Harvey himself, during the stay of King Charles I and his Court at Oxford. The lymphatic system had been discovered by Asclli, and in 1632 Van Leewanhoek had invented the microscope—the description Willis gives of his own instrument is that of little more than a plain magnifying lens giving a magnification of some 40 diameters.

It was on such ground that Thomas Willis commenced to lay the foundations of modern medical science. Any account of his life would be incomplete which did not give some idea of the stones he laid, as well as of the manner in which he laid them.

His earliest books covered such subjects as "the urine," "fermentation," and "fevers." In them he shows himself to be a firm believer in the zymotic hypothesis. He describes fever symptoms with exemplary accuracy, and is especially interesting in his accounts of the "London fevers," so prevalent in the days of little or no sanitation. He finds the recently introduced "Peruvian barks" satisfactory, particularly in cases of quartan fever. His description of a mysterious fever outbreak in 1658, which found many thousands of victims, brings irresistibly to mind the great influenza epidemic of 1918. He considers bleeding a good measure in severe cases; the milder cases he thinks self-curative, and, except for suitable dieting, best left alone. Coughs, in his opinion, are due to irritation of the nerves supplying the lungs. Tuberculosis, though hereditary, can be cured normally by fresh-air treatment.

His prescription of "snails and snail syrup" for lung complaints finds a parallel in the belief, still current among Belgian glass-blowers, that such diet increases lung-power!

Sulphur vapour mixed with that of frankincense and mastich is considered by him a good remedy in certain chest complaints. He also mentions the use of paper, soaked in arsenic solution, dried and smoked in a pipe—as is well known, arsenic is still used by some Swiss guides,

forced by their occupation often to breathe cold and rarefied air.

In all his anatomical work he was assisted by Richard Lower, F.R.S., who succeeded Willis after his death, and became, like him, a Court physician, much in demand, though standing severely aloof from its voluptuousness. His name remains to this day in the "Tuberculum Loweri" of our anatomy. St. Bartholomew's Hospital was the richer by £1000 for a legacy he left. With Lower was associated Sir Christopher Wren, who had begun life at fifteen as an anatomical assistant. These two carried out some very interesting, and of course original, work on the transfusion of blood. The honour of having first performed the operation on human subjects, however, rests with a foreigner.

Lower did much of Willis's fine dissection work, and it is to Wren that we owe the beautifully clear and accurate drawings of the dissections themselves. Willis was also assisted by Millengen and King, two leading doctors of their day. The first result of this partnership was Willis's *Anatomy of the Brain and Nerves*, which he dedicated to Gilbert Sheldon. This work has been rightly deemed the foundation of the physiology of the brain.

Willis recognises only dura and pia mater. He divides the dura mater into an outer or protective coat and an inner or secretory coat. He describes the way in which the brain receives its blood supply; his description of the "Circle of Willis" is too classical to need repetition. Very quaintly he pictures the choroid plexus as a "kind of lamp, suspended in the chambers of the brain."

He considers that there are nine pairs of cranial nerves:

(1) Olfactory.
(2) Optic.
(3) Motores oculorum.
(4) "Pathetics of the nerves of the eye."
(5) A fifth pair "having a large province and going to the mouth, palate and face."
(6) "A pair of small nerves going to the ball of the eye."
(7) The auditory or hearing nerves.
(8) "The wandering pair."
(9) "Many fibres which grow together into one trunk."

He is doubtful as to whether the tenth pair, "consisting of many fibres, and carried to the muscles of the neck," ought to be called the last of the skull, or first of the vertebrals.

The modern description does not quite tally with this, but it is doubtful whether modern anatomists have bettered Willis's work to any great extent.

The details of the cerebrum are given in quaint and rather involved language, but this is compensated for by the excellence of the dissecting instructions. Pons and cerebellum are splendidly portrayed; the medulla is held to be the centre of intercommunication between the brain and lower nervous structures.

Perhaps he is at his best in his description of the spinal cord and of the distribution of the various nerves given off from it.

He carefully traced the fibres of the vagus nerve to its termination and so finally cleared up the vexed question of its course.

His next important work, *A Description of the Use of the Brain and the Nerves*, incorporating some of his detailed clinical notes, appeared in 1667. He locates the faculties of "sensibility," "motion," "instincts and passions" in the cortical substance of the medulla and cerebellum. The function of the convolutions of the cerebellum he rightly considers to be the extension of the area of the cortical substance, which, he decides, is receptive in nature.

He notes ganglia, but gives no description of the sympathetic system as a whole. Such an omission is strange in view of his otherwise remarkable powers of observation.

The reason for the connection of the phrenic nerve with the brachial plexus exercised his ingenuity considerably. His explanation is, perhaps, rather imaginative. In quadrupeds, he suggests, great locomotor exertion of the fore-limbs is accompanied by the need for more vigorous respiration; man has lost the use of his fore-limbs for purposes of locomotion, but the same structure remains. This tacit assumption of evolution from a lower type labels Wilson as being many years ahead of his time.

In 1670 he published his views on three other subjects, two of them being issued in essay form. Like all his technical works, these were written in a clear and very scholarly Latin. The need for a common scientific language seems to have been more clearly recognised in his day than it is now!

In one treatise he deals with *The Pathology of Hysterical and Hypochondriacal Diseases*—perhaps the first medical step in the direction of the modern conception of the "conscious" and "unconscious" minds. He mentions the very interesting case of an idiot youth who "cried" every hour of the twenty-four punctually to the minute, wherever he might happen to be. In spite of its imperfections such a work, in an age of witchcraft, is a monument to its author. He returns later to this topic in *De Anima Brutarum*.

His two essays bore the titles of "The Ascension of the Blood" and "Muscular Motion."

In the former he represents the heat of the blood as "vital flame," conceived in, and nourished by, the mother in the embryo. "With the first breath that rushes into the lungs" after birth, "this flame" begins to burn, and the blood alters in colour; "for what did flow of a dark purple colour into the pneumonicle vessels from the right side of the heart, presently, out of the lungs, becomes crimson, and as it were of a flame colour, and so shining passes through the left ventricle of the heart, and the appending arteries." He admits that the burning of the blood is not similar to an ordinary flame, but rather comparable to that of damp wood. His contention is not so very far removed from the modern one that katabolism is essentially a slow combustion. And surely his description of the change of colour of the blood can be regarded as but a step removed from the discovery of the oxygenation of the blood?

He pictures the heart as the engine which "drives the rekindled blood all over the body, . . . where it successively renews its burning in all its particles." Not only does the heart promote the circulation of the blood, he says, but in passionate emotion it helps to moderate the burning of the blood, and so fluctuates in its action as it is swayed by "divers impulses." He did not practise auscultation, but was able to distinguish intermission from palpitation. He attributes intermittent pulse to an "irregular conveyance of animal spirits along the nerves to the heart," quoting the action of a drying-up mill-stream to illustrate his point.

He divides muscular motion into three parts:

(1) Origination of the action in the brain.
(2) Transmission of this impulse.
(3) The exertion of the motive force.

He considers that the cerebellum, which he regards as the seat of the soul, initiates voluntary movement. Having watched the contraction of living muscle-fibre, he concludes that "certain elastic particles did rush in from the tendinous ends, and intumify the fibres . . . ," then went back again on relaxation. He tried the experiment of tightly ligaturing a strip of muscle in two places, and found that the strip thus bounded was not susceptible to contractions or relaxations of the neighbouring parts—in fact the ligaturing appeared to have shut out the "intumifying particles."

It was in this year that his wife died of pulmonary tuberculosis. Three winters previously his daughter had fallen a victim of the same complaint; and shortly after her death his son showed signs of the disease and had to go to Montpelier—the Mentone of those times. His wife, however, had steadfastly refused to leave London, or to allow him to give up his work; and so came to pay the penalty of her devotion to him and his career.

He was desolated by his loss, and it was as a means of relieving his overwrought mind that he began, and in 1672 completed, what he regarded as his *magnum opus*, *De Anima Brutarum*.

This work contains some excellent comparative anatomy: especially striking, for example, is his description of the earthworm. The whole book is illustrated by beautiful copper-plates.

He attempts to prove that man and beast have in common what he terms a "corporeal soul"; that man is singled out for mastery over brute creation by reason of his possession of a "rational soul"; that in most men the "corporeal soul" is the stronger.

This essay of a purely medical man into philosophy surely compares very favourably with the ventures of many modern self-styled psychologists into the same realm?

At about this time he also published a book on the treatment of scurvy—well worthy of attention even in these days.

His last book, *Rational Pharmacy*, was not published until after his death. In it he goes, with great detail, into the structure of the respiratory organs. The descriptions of the two circulations, the pleuræ, the circular muscle-fibres of the bronchioles and the four coats of the trachea might be selected for special note; but he also gives a most careful description of the larger structures which play a part in respiration.

He deals fully with the stomach and intestines; and in view of the success of his description of these organs it seems unfortunate that he has paid so little attention to the liver, kidneys, and pancreas.

On November 25th, 1675, after a short illness Thomas Willis succumbed to pneumonia.

So passed away one of the decemvirate of the world's best physicians. Few could read his life and works without conceding him this position.

He stands alone as the founder of a school of scientific medicine which has lasted up to the present time.

His two great aims were—first to discover the causes of disease, then, having done so, to remove them. His prescriptions were founded upon a basis of painstaking observation of the physiological action of the drugs used. He never allowed himself to become an automaton, nor did he treat his patients as such. His whole life bears witness to the fact that honesty of thought, of sentiment, of method, of speech, is the best policy.

Surely few Englishmen have so richly deserved their last resting-place in Westminster Abbey as did this brilliant physician, Thomas Willis.

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ANON.

DECENNIAL CLUBS.

THE Annual Dinner of the "Seventh Contemporary Club" was held on its usual date—the first Wednesday in July—at the Trocadero, and was attended by sixty members. Dr. W. Gripper, of Wallington, was in the chair.

The Eighth Decennial Contemporary Club met at Oddenino's Restaurant on June 29th when some forty members sat down to dinner. Though the number of those attending was adversely affected by the restricted railway facilities, a very enjoyable evening was spent. Sir Percival H. S. Hartley occupied the chair, and his speech in proposing the health of the Club was all that it ought to have been—informative without being stodgy, reminiscent without being maudlin, polished and flavoured with a delicate wit.

STUDENTS' UNION.

ST. BARTHOLOMEW'S HOSPITAL RIFLE CLUB.

The present season has in many respects been highly satisfactory.

Match conditions this year were altered to allow of the use of aperture sights and slings. Some difficulty was at first experienced in obtaining aperture sights, but eventually three of the Club's rifles were so equipped.

The number of members turning out to practise has been very disappointing. Consequently the team has several times been handicapped by the necessary inclusion of unreliable shots.

The highest aggregate score was made by J. Elgood, who won the Donegal Badge given for United Hospitals competitions.

At the Bisley meeting the Hospital were successful in winning the Inter-Hospital Challenge Cup. This competition consists of 10 shots, without sighters, at 600 yards by teams of 5.

The aggregates were: Bart.'s, 188 points; London, 163; Guy's 158. Individual scores were: Elgood, 46; Jory, 41; Mellous, 41; Bennett, 31; McMichael, 29.

It is hoped that this success will arouse more interest in the Club next season, and encourage more members to turn out at Bisley, so that the team shall not again be handicapped by lack of material.

LAWN TENNIS CLUB.

INTER-HOSPITAL CUP.

ST. BARTHOLOMEW'S HOSPITAL *v.* U.C.H.

Won: singles 4 matches to 2, doubles 4 matches to 2, 2 unfinished.

The following represented the Hospital: W. D. Urwick, R. F. Johnstone, R. R. Powell, C. F. Roupell, P. A. Smuts, W. E. Cody.

ST. BARTHOLOMEW'S HOSPITAL *v.* KING'S COLLEGE HOSPITAL.

Won: singles 5 matches to 1, doubles 4 matches to 1, 4 matches unfinished.

The following represented the Hospital: R. F. Johnstone, R. R. Powell, J. G. Johnstone, P. A. Smuts, W. E. Cody, H. Summers.

Guy's are the opponents in the final, which will be played before the end of the month.

This season the Second VI has undoubtedly shown a keener spirit and more enthusiasm than that displayed last year.

We have had more fixtures and in consequence more tennis. I need hardly add that the standard of play at the end of the season showed great promise.

Then we entered on the Inter-Hospital Cup-Tie matches, hoping naturally to beat all comers.

Our first match was against the London Hospital, and we won 8 matches to 5 with 2 unfinished.

Singles.—B. Gibson did not play Evetts. C. Stuart Lowe lost to Stead, 3–6, 5–7. J. Joule lost to Brown, 3–6, 6–8. K. Loveday lost to Ackerman, 3–6, 6–3, 4–6. J. Jory beat Williams 6–3, 9–7. A. Dingley lost to Greenwall, 5–7, 5–7.

Doubles.—C. Stuart Lowe and K. Loveday beat Evetts and Brown, 6–1, 6–0; beat Stead and Ackerman, 7–5, 7–5; beat Williams and Greenwall, 10–8, 6–4. R. Gibson and A. Dingley beat Evetts and Brown, 6–3, 3–6, 6–2; beat Stead and Ackermann, 7–5, 6–2; beat Williams and Greenwall, 6–3, 6–3. J. Joule and N. Jory drew Evetts and Brown, 7–5, 2–6, 2–0; beat Stead and Ackerman, 5–7, 0–6; beat Williams and Greenwall, 6–3, 6–4.

The match was very keenly contested and had it not been for our doubles' superiority the result would have undoubtedly been in favour of the London Hospital.

We then met Guy's in the semi-final and were beaten 9 matches to 1.

Singles.—R. Gibson lost to Laver, 0–6, 0–6. C. Stuart Lowe lost to Lewis Phillips, 3–6, 4–6. K. Loveday lost to Morgan, 2–6, 3–6. H. Russel lost to Shollum, 1–6, 6–3, 4–6. J. Joule lost to Schlimmer, 3–6, 3–6. A. Dingley beat Gordon, 6–3, 6–4.

Doubles.—C. Stuart Lowe and K. Loveday lost to Laver and Bekker, 3–6, 4–6. B. Gibson and H. Russel lost to Shollum and Gordon, 3–6, 6–3, 2–6. J. Joule and R. Dingley lost to Lewis Phillips and V. Morgan, 1–6, 7–9.

The result was undoubtedly a great disappointment to those who played. Why? Because we felt that although we had met a team better than our own, we were capable of a more creditable fight, and

think the reasons are three—firstly we lack confidence in our play, secondly we lack regular practice as pairs in the doubles, and thirdly we had devoted too much of our time to doubles and left the singles almost without consideration.

C. Stuart Lowe and K. Loveday have been together the longest and as a couple have improved tremendously in their combination. They are quite sound overhead but there is much room for improvement in their low volleying. Their placing at times is to be envied but at times it is not.

C. Gibson and H. Russel have unfortunately not had much practice together. Both players have that fortunate asset of getting past the mid-line and up to the net as soon as possible to volley and "kill," an example to be followed by other members of the team. Gibson, who is comparatively speaking a beginner at tennis, has shown form during the season which if developed should make him the most promising of the younger players at the Hospital.

A. Dingley and J. Joule are another couple who have suffered from lack of practice together. Both are very steady on fore and back-hand drives but lack speed and the power to win strokes.

A. Liesching and N. Jory, who have played as a double couple in many of the matches, have shown splendid fore-hand drives, but are inclined to hug the back line, which is a very bad policy.

Other matches played during the season:

May 11th. U.C.H., away, lost 3–6.
„ 14th. St. George's Hill L.T.C., away, lost 0–9.
„ 18th. Middlesex Hospital, home, won 7–2.
„ 27th. Marlborough L.T.C., away, lost 3–6.
June 4th. Pinner L.T.C., away, won 7–2.

Two fixtures were scratched by Bart.'s and two by outside clubs.

CORRESPONDENCE.

DEAR SIR,—Attention has again been drawn to some curious figures among the results of the census.

It appears that there are again several thousands of young women aged 25 in excess of those aged 15 at the last decennial count.

The explanation offered, namely, that this excess is due to a desire on the part of the fair sex to appear younger than birth certificates allow, seems to me not only inadequate but highly indelicate.

As a fervent supporter of the theory of abiogenesis, I would suggest that we have here in the appearance of these few thousands of unaccountable young ladies, a splendid example of the production of individuals "*de novo*" and a final refutation of the dictum "*Omne vivum ex vivo.*" Should the difficulties in obtaining satisfactory explanations from these young ladies be surmounted abiogenesis must inevitably come into its own.

Yours truly,
"X."

REVIEWS.

PRINCIPLES OF GENERAL PHYSIOLOGY. By W. M. BAYLISS, M.A., D.Sc., F.R.S. Third Edition. Revised. (Longmans, Green & Co.) Pp. xxvi + 862. Price 28*s.* net.

This standard work on physiology is too well known to need any introduction to our readers. The present edition does not materially differ from the last, the most important addition being a special chapter relating to capillary circulation, concerning which much important work has been recently published. Numerous references to further discoveries have been inserted, and the text throughout the whole book has been carefully revised.

As in previous editions the illustrations are excellent. A summary of each chapter is very valuable for purposes of revision, and is an arrangement which other authors might copy with advantage.

AN ATLAS OF NORMAL LABOUR. By G. DRUMMOND ROBINSON, M.D., B.S., F.R.C.P. (William Heinemann, Ltd.) Pp. 104. Price 25*s.* net.

The book under review consists of a series of photographs and diagrams illustrating normal labour, the photographs for the most part being reproduced from a series of moving pictures taken for teaching purposes. A number of photographs are also included which demonstrate Sylvester's and Schultz's methods of artificial respiration.

No doubt the book will have its uses, and to a certain extent this direct appeal to the eye will impress the student. A careful scrutiny of the pages, however, has not impressed us, as most of the illustrations are to be found in the admirable text-books which are available to the medical student of to-day.

MANSON'S TROPICAL DISEASES. Edited by PHILIP H. MANSON-BAHR, D.S.O., M.A., M.D., M.R.C.P. Seventh Edition. (Cassell & Co., Ltd.) Pp. xvi + 960. Price 30*s.* net.

When thinking of diseases of warm climates we are apt to do so in terms of "Manson." The book is undoubtedly the authority on the subject. The incidence of the Great War has done much to direct attention to tropical medicine. Much that before was vague and hypothetical has become precise, and been either contuted or confirmed.

Apart from the war zone, tropical medicine has attracted a large number of scientific workers in all parts of the world, and this means added data.

The subject of tropical fevers, for example, has greatly expanded, and the present edition contains no less than twenty-three chapters devoted to this group of diseases. Technical details chiefly concerned with protozoology, medical zoology and laboratory methods are included in a series of admirable appendices at the close of the book.

No medical men contemplating work in the tropics can afford to be without a copy of this admirable compilation, which, if anything, has been enhanced under the present editorship.

DIATHERMY. By E. P. CUMBERBATCH, M.A., M.B., M.R.C.P. (William Heinemann, Ltd.) Pp. x + 193. Price 21*s.* net.

The value of diathermy in medicine and surgery has been conclusively demonstrated during the ten years in which it has been used in this country. No one has contributed more to this advancement than Dr. Cumberbatch, the chief of the Electrical Department in St. Bartholomew's Hospital. The nucleus of the present work is based on a series of articles contributed to the *Archives of Radiology and Electrotherapy*, and what makes it particularly valuable is the fact that the book is largely the result of the author's own experience and investigation. In all there are eight chapters, including sections on the Production of High Frequency Currents, the Diathermy Machine, the Physiological Effects of Diathermy, and the Uses of Diathermy in Medical and Surgical Practice.

The book is certainly the most complete account of the subject we have yet seen.

CHINA AND MODERN MEDICINE: A STUDY IN MEDICAL MISSIONARY DEVELOPMENT. By HAROLD BALME, F.R.C.S.(Eng.), D.P.H. (London: United Council for Missionary Education.) Pp. 224. Price 5*s.* net.

There are few British subjects who know China better than Mr. Harold Balme, F.R.C.S., President of the Shantung Christian University, Tsinan, China. This little book is an attempt to trace the progress of medical missions and medical education in China from the early part of the last century to the present time. It is also a plea for the development of the true scientific spirit in medical missions as opposed to the view that, since the whole of China cannot yet be medically treated on reasonably efficient Western lines, it is better to rest contented with quantity rather than quality in medical practice.

We believe that the author has proved his case. The advent of the Rockefeller Foundation has increasingly shown the Chinese what true medical training is, and in so far as Christian missions fall short of the highest efficiency, to that extent will their message be lowered in the eyes of the Chinese. It is pleasant to find that throughout the book the name of St. Bartholomew's Hospital is often honourably mentioned in connection with men who have gone from us to work in the Chinese mission field. China herself has awakened, and for the next twenty years is in most urgent need of the best trained and most intelligent men from our Medical Schools. The sacrifice is great. The past has shown that, if the case is presented to them, the best men are willing to make the sacrifice.

The author is a great advocate of team-work, and a most useful appendix furnishes advice for those contemplating a life on the mission field. Another appendix gives an amazing list of original work recently published by missionaries in China. The book is racily written, and from the point of view of information to the future medical missionary who hopes not to sacrifice the spirit of scientific research, strikes new ground.

"Ophthalmic Operations" and "Ophthalmic Practice," both by Lt.-Col. F. P. Maynard, I.M.S., were stated in our last issue to be published by Messrs. Thacker, Spink & Co. of Calcutta at 9*s.* and 12*s.* respectively. We learn that these books are published in Great Britain by Messrs. E. & S. Livingstone at 21*s.* net and 25*s.* net.

RECENT BOOKS AND PAPERS BY ST. BARTHOLOMEW'S MEN.

CHANDLER, F. G., M.A., M.D., M.R.C.P. "The Significance of Albuminuria." *Practitioner*, July, 1921.

COMPTON, ALWYNE T., F.R.C.S. (and FRANK HEBER, M.R.C.S., L.R.C.P.). "Two Cases of Acute Hæmorrhagic Pancreatitis and One Case of Pancreatic Abscess." *Lancet*, July 16th, 1921.

COOPER, PERCY R., M.D., B.Sc.(Lond.), F.R.C.S. "Three Cases of Encephalitis Lethargica." *Clinical Journal*, July 13th, 1921.

——— "On the Cultivation of the Senses of Smell and Taste and their Employment in Practical Medicine." *Ibid.*, July 20th, 1921.

DAVIS, HALDIN, M.B., B.Ch., B.A., F.R.C.S. *Skin Diseases in General Practice.* Second edition. London: Henry Frowde and Hodder & Stoughton.

DOUGLAS, S. R. (and ALEXANDER FLEMING). "On the Antigenic Properties of Acetone-Extracted Bacteria." *British Journal of Experimental Pathology*, June, 1921.

DUDFIELD, REGINALD, O.B.E., M.A., M.B. "The Necessity of Notification of Measles." *Lancet*, June 25th, 1921.

ELLIOT, ROBERT HENRY, M.D., B.S., Sc.D., F.R.C.S., Lieut.-Col. I.M.S. (ret.). *The Care of Eye Cases.* London: Henry Frowde and Hodder & Stoughton.

FEILING, ANTHONY, M.D., F.R.C.P. "On Fits, Epileptic and others." *Practitioner*, July, 1921.

FRASER, FORBES, C.B.E., F.R.C.S. "Some Problems in Surgical Treatment of Abdominal Conditions." *Bristol Medico-Chirurgical Journal*, March and June, 1921.

LEITCH, J. N., M.B., B.S.(Lond.) "Some Uses of the Infrequently Interrupted Faradic Current." *Archives of Radiology and Electrotherapy*, March, 1921.

POWER, Sir D'ARCY, K.B.E. "Eponyms Colles's Fracture." *British Journal of Surgery*, July, 1921.

——— "The Palliative Treatment of Aneurysm by 'Wiring' with Colt's Apparatus." *Ibid.*

PYBUS, FREDERICK C., M.S., F.R.C.S. "The Tonsils." *Clinical Journal*, July 6th, 1921.

——— "Adenoids." *Ibid.*, July 13th, 1921.

——— "Inguinal Hernia in Childhood." *Ibid.*, July 20th, 1921.

SPENCER, W. G. "Suppurating Teratomatous Cyst in the Splenic Region" (with Pathological Report by J. A. BRAXTON HICKS, assisted by SEAGER THOMAS and confirmed by S. G. SHATTOCK). *British Journal of Surgery*, July, 1921.

VINES, H. W. C., M.B. (W. R. GROVE, M.D., and H.W.C.V.). "The Control of Hæmorrhage by Intramuscular Injection of Calcium Chloride." *British Medical Journal*, July 9th, 1921.

WORTH, CLAUD, F.R.C.S. *Squint.* Fifth edition. London: Baillière, Tindall & Cox.

EXAMINATIONS, ETC.

UNIVERSITY OF OXFORD.

Second Examination for Medical Degrees, July, 1921.

Materia Medica and Pharmacology.—W. Champneys; E. F. Chapman, R. V. B. Emmons, H. A. Gilkes, R. F. Johnstone.

Pathology.—W. Champneys.

Forensic Medicine and Public Health.—C. H. Terry, C. J. L. Wells.

Medicine, Surgery and Midwifery.—D. G. T. Kerr Cross, W. E. Hayes.

The degree of *D.M.* has been conferred on G. K. Bowes.

UNIVERSITY OF CAMBRIDGE.

Third Examination for Medical Degrees, Easter Term, 1921.

Part II. Medicine, Pathology and Pharmacology.—W. Shaw (omitted from list published in July issue).

Diploma in Medical Radiology and Electrology.

The following were successful in *Parts I and II.*—F. M. Allchin, W. Garton, D. B. McGrigor, P. J. Olivier.

UNIVERSITY OF DURHAM.

The degree of *B.Hy.* and the *Diploma in Public Health* were conferred on M. D. Mackenzie.

UNIVERSITY OF LEEDS.

The *Diploma in Public Health* has been conferred on W. S. Sykes.

APPOINTMENTS.

BARNES, E. B., M.R.C.S., L.R.C.P., appointed Senior House Surgeon, Royal Infirmary, Preston.

BELLWOOD, K. B., O.B.E., F.R.C.S., appointed Surgeon, Seamen's Hospital Society, Royal Albert Dock.

BOWER, H. J., M.B., B.Ch.(Cantab), appointed Heart Specialist to Ministry of Pensions, Southampton. Also Assistant Medical Superintendent to the Royal Mail Steam Packet Company, Southampton.

SLOT, G. M. J., M.D., B.S.(Lond.), M.R.C.S., L.R.C.P., appointed Medical Registrar to Charing Cross Hospital.

CHANGES OF ADDRESS.

BARNES, E. B., The Royal Infirmary, Preston.

BELLWOOD, K. B., 32, Weymouth Street, W. 1.

BOWER, H. J., "Cranmere," 112, Highfield Lane, Southampton.

CANE, L. B., Bungay, Suffolk.

HAMILTON, LT.-COL. W. G., I.M.S., Presidency Jail House, Alipore, Calcutta.

KINGDON, J. R., Holmwood, Coombe Road, Croydon.

KING, MAJOR H. H., I.M.S., c/o The National Bank of India, 26, Bishopsgate Street, E.C. 2.

MARTIN, J. N., Brent Tor, Westward Ho!, N. Devon.

MAWHOOD, R. H., Green Meadows, Ascot.

SHORE, L. R., 6, Beaufort Mansions, Chelsea, S.W. (Tel. Kensington 5582).

SHRUBSALL, F. C., 15, Well Walk, Hampstead, N.W. 3.

STOTT, A. W., 58, Harley Street, W. 1. (Tel. Langham 1534).

WHITE, C. PERCIVAL, The Becketts, Hartley Wintney, Hants.

WHITEHEAD, F. E., S.M.O., Berbera, B. Somaliland, *vid* Aden.

BIRTHS.

COOKE.—On June 18th, at Berkshire Villa, Ventnor, to Evelyn, the wife of Reginald T. Cooke, M.R.C.S., L.R.C.P.—a daughter.

BOWER.—On July 10th, at "Cranmere," 112, Highfield Lane, Southampton, the wife of Harold J. Bower, M.B., B.Ch.(Cantab.)—a son.

MARRIAGES.

EDWARDS—JONES.—On June 25th, at Bryn Du C.M. Church, Llanfaelog, Anglesea, Thomas Peters Edwards, M.D., B.S.(Lond.), D.P.H.(Cantab.), "Ardwyn," Ruthin, N. Wales, to Eveline, daughter of the late D. H. Jones, of Carnarvon, and of Mrs. Jones, Morianfa, Rhoscigt, Anglesea.

SHORE—MCCALLUM.—On June 29th, at St. Margaret's Church, Putney Park Lane, by the Rev. Percy George Wallis, Lewis Rudall Shore, M.C., M.A., M.B., Capt., R.A.M.C., son of Dr. and Mrs. Shore, of Upper Norwood, to Christina, younger daughter of the late R. A. McCallum, of Putney, and Mrs. McCallum, of Thrale Hall, Streatham.

DEATHS.

DODD.—On June 28th, 1921, at 136, Harley Street, W., Henry Work Dodd, F.R.C.S., aged 61.

BATSON.—On July 5th, 1921, at 4, Marine Terrace, Rodwell, Weymouth, William Lascelles Batson, M.R.C.S., L.R.C.P., fourth son of the late Thomas Batson, aged 69.

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.*

The Annual Subscription to the Journal is 7s. 6d., 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 ADVERTISEMENT MANAGER, *the Journal Office, St. Bartholomew's Hospital, E.C. Telephone: City 510.*

St. Bartholomew's Hospital JOURNAL.

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

VOL. XXVIII.—No. 12.] SEPTEMBER 1ST, 1921. [PRICE NINEPENCE.

CALENDAR.

Tues., Aug. 30.—Sir P. Horton-Smith Hartley and Mr. Rawling on duty.

Fri., Sept. 2.—Sir Thomas Horder and Sir C. Gordon-Watson on duty.

Tues., ,, 6.—Prof. Fraser and Mr. G. E. Gask on duty.

Fri., ,, 9.—Dr. Morley Fletcher and Mr. Waring on duty.

Tues., ,, 13.—Dr. Drysdale and Mr. McAdam Eccles on duty.

Fri., ,, 16.—Sir P. Horton-Smith Hartley and Mr. Rawling on duty.

Tues., ,, 20.—Sir Thomas Horder and Sir C. Gordon-Watson on duty.

Fri., ,, 23.—Prof. Fraser and Mr. G. E. Gask on duty.

Tues., ,, 27.—Dr. Morley Fletcher and Mr. Waring on duty.

Fri., ,, 30.—Dr. Drysdale and Mr. McAdam Eccles on duty.

EDITORIAL.

AS we go to press the Hospital appears somewhat dull and deserted. People are either away on their holidays, or just back, or just off. The post-graduates have gone. The South Block is still closed for cleaning. Housemen bewail a shortage of beds and a shortage of *locums*. But we all hope to recover from our holidays during the course of this month, and to settle down to another year of strenuous work.

* * *

The post-graduate course in the latter half of July seems to have been most successful; it should be even more popular next year. We understand that many more men applied to come than could be catered for, and that considerable numbers had to be turned away.

Readers will observe elsewhere in our columns the views of two members of the class on its merits and demerits. Their criticisms are on the whole very encouraging, and there is no need to discuss here the advantages many must have gained from brushing up forgotten knowledge or acquiring new tips. Apart from this, such of the post-graduates as were old Bart.'s men must have renewed many old friendships. Many were the hearty hand-shakes one saw in the Square at 1.30. Perhaps present students wondered at first who the old fogeys were who invaded the Dining-Hall at lunch-time, but we soon realised their identity, and took them temporarily to our bosoms.

No one can do otherwise than regard such a course as an excellent institution. Doubtless the experience gained from this year's course will enable the powers that be to make next year's even better.

* * *

We are sorry to hear that Mr. Charles Ernest West is resigning his position as Aural Surgeon to the Hospital, and is retiring to the seclusion of Cornwall. His absence will be felt by many who have worked with him or learnt from him.

* * *

We have much pleasure in announcing that the Privy Council has appointed Sir Frederick Andrewes to be a member of the Medical Research Council. Bart.'s can now claim two representatives on the Council, the other being Sir Walter Morley Fletcher, the Secretary to the Council.

* * *

Our congratulations to Dr. R. L. Mackenzie Wallis on gaining the Raymond Horton Smith Prize for 1920 at Cambridge for the best M.D. thesis of the year. The subject of the thesis was "Diseases of the Pancreas, with Especial Reference to the Diastase in the Urine." At the same time we congratulate him on the birth of a daughter, a notice of which event appeared in the *Times* on the same day as the announcement of the prize.

* * *

The following changes have taken place in the Professorial Unit: Dr. Graham has been promoted to First Assistant; Mr. Lyon-Smith has been appointed to be Second Assistant.

* * *

Dr. H. H. Dale has been awarded the Baly Medal of the Royal College of Physicians.

* * *

Prof. F. Bainbridge has been appointed an Examiner in Medicine for the London University, and Dr. P. Hamill an Examiner in Pharmacology. Mr. H. J. Waring has been elected Chairman of the Brown Animal Sanatory Institution Committee.

* * *

At the Royal College of Physicians Sir Humphry Rolleston has been elected as a Censor. Dr. W. Aldren Turner and Dr. H. Morley Fletcher have been appointed Examiners in Medicine; Dr. J. D. Barris an Examiner in Midwifery; and Dr. H. Thursfield an Examiner for the Murchison Scholarship.

* * *

Dr. P. S. Selwyn-Clarke has received the thanks of the Rt. Hon. the Secretary of State for the Colonies for services rendered in connection with the outbreak of smallpox in the Accra District, Gold Coast Colony, last year.

* * *

We are pleased to see that Mr. Adams, late of the Steward's office staff at this Hospital, has been appointed Secretary of the London Temperance Hospital.

* * *

Old Bart.'s students are reminded that the Old Students' Dinner takes place on Monday, October 3rd, 1921, in the Great Hall at 7.30 p.m. Dr. W. S. A. Griffith will be in the Chair. Sir Charles Gordon Watson and Mr. R. M. Vick are the Hon. Secs. They cannot arrange seats (except at the high table), but a plan of the table will be kept at the clerk's office during September, so that seats can be secured by those attending. Orders and miniatures will be worn. Tickets are 30/- (inclusive of wine), and will be sent on receipt of a cheque on application to Sir C. Gordon Watson, 82, Harley Street, W. 1.

* * *

The Roll of War Service of the University of London Officers' Training Corps has just been published by the Military Education Committee of the London University. 665 officers who were members or former members of the contingent gave their lives during the war. 1726 honours and distinctions were gained by 1068 officers, including 5 V.C.'s, 50 D.S.O.'s and 544 Military Crosses. Altogether 4276 old cadets served in the war, including 589 in the Royal Army Medical Corps. St. Bartholomew's comes fourth in the list of colleges arranged in order according to the number of cadets contributed and second of the medical schools: 230 went from this Hospital, 235 having gone from Guy's. Men who served in the O.T.C. may like to know that the Roll (price one guinea) may be obtained from the O.T.C. Headquarters, 46, Russell Square.

* * *

The Lawn Tennis Cup has, alas, been lost to Guy's. Details, and a discussion of the reasons why, will be found elsewhere in the number. We heartily endorse the appeal there made to the Students' Union for the provision of hard courts which would enable men to play in the winter.

* * *

Hobbs, the famous Surrey cricketer, is organising a cricket match between an England eleven and sixteen North London cricketers in aid of St. Bartholomew's Hospital. The match will take place at Lord's, probably on September 24th. The date will be announced definitely later. At the same time a cricket-bat signed by all the members of the last England test team will be raffled (tickets 1s. each).

* * *

The contract for the Hospital colours has now been definitely placed with Messrs. Paget & Co., 48, 49, 50, Aldersgate Street (just through Bartholomew Close); and they now have the colours ready—ties, sashes, blazers, etc.

* * *

The Nursing Staff again competed for the *Nursing Times* Lawn Tennis Challenge Cup. They defeated Colindale Hospital, Hendon, in the first round, winning 15 games out of 18. In the second round they met St. Mary's, Paddington, and were again victorious, winning 14 games. The third round was *v.* Guy's at Honor Oak, but they were unfortunately beaten by 3 games. The finalists are now Guy's and the London Hospital.

* * *

We should like to associate ourselves with the protest made in the last number of the *Guy's Hospital Gazette* against the freedom with which students are encouraged to give their blood for transfusions. In any individual case a man obviously cannot refuse to give a pint of blood to save a patient who would probably die without it. But it is a bad principle that anæmic patients should be revivified by the blood of students (who, after all, are a hard-worked set of men) rather than by that of professional donors (as in most large American hospitals).

* * *

We greatly admire the new telephone box placed under the motto "ὁ βιος βραχυς" etc. at the entrance to the School buildings. Life is indeed too short to wait hours for one's turn to telephone, as happened constantly under the old arrangements.

DR. THOMAS DOYLEY: AN ELIZABETHAN MEDICAL OPINION.

By Sir D'ARCY POWER, K.B.E.

THE following medical opinion has lately come into my hands through the kindness of Mr. Rollo L. Clowes, Record Clerk at the Duchy of Cornwall Office in Buckingham Gate. It is endorsed, "Medical Diagnosis and Prescription by Thomas Doyley (1548?–1603). Paper; f'cap folio." There is no heading, nor is there any indication of the person to whom it refers, nor of the doctor to whom it was addressed. The manuscript runs:

"Omnes functiones principes, nempe ratio, memoria et imaginatio, omnesque facultates animales vizt motus voluntarius et sensus functionesque vitales ut spiratio et pulsus, sunt integrae et illaesae.

Naturales facultates concoctio nimirum et distributio laeduntur et depravantur.

Ventriculus ob cruditates non concoquentes, mesaraicas humoribus crassis infarciens chili ad jecur transitum impediens, sanguificationem in hepate et assimilationem in partibus solidis, pervertit et impedit.

Scopus curationis est ut ventriculus bene concoquat et ut mesaraicae chilum ad jecur bene distribuant et ut jecur purum sanguinem ad solidarum partium nutritionem praeparet.

Ventriculus roborantibus et ut bene concoquat, meseraicae de obstruentibus ut bene distribuat, jecur utrisque ut corpus nutriat sunt reparanda.

Non est adhuc hydropicus, non tument hypochondria, non distenditur abdomen, non habet febrem lentam, urina est potui quantitate proportione respondens nec habet colorem intensum, tument pedes et impressionis vestigia ostentant ob assimilatricem facultatem debilem spiritibus naturalibus deficientibus, nulla insensiti perspiratione recreatis aut exercitio depuratis. Uberrima est messis remediorum nec ulla curandi difficultas si aegrotus medicamenta non fastidiret.

Quamobrem utendum medicamentis alimentosis et alimentis medicamentosis quae nec medicamentose sapiant nec ventriculus fastidiat.

Utatum potu medicato cum agrimonia, betonica, scabiosa, sambsucho salura et radicibus aperitivis in cervisia recenti incoctis cum Zarza.

Eisdemque herbis aut earum plurimis in brodiis utatur cum radice china, et Zarsa parillia et inspissentur pulpa hordiata.

[*Signed*] THO: DOYLEYUS."

I translate it thus: All the chief functions, like reasoning, memory and imagination, and all the animal faculties, viz. voluntary movement and the senses, as well as such vital functions as breathing and the pulse, are intact and undamaged.

The natural faculties, especially digestion and distribution, are injured and depressed.

The stomach perverts and hinders because the crudities are not digested, stuffing the mesaraics with the thickened humours of the chyle, hindering the passage to the liver, the blood-formation in the liver, and assimilation in the solid tissues.

The line of treatment is to make the stomach digest well and the mesaraics distribute the chyle satisfactorily to the liver, so that the liver may prepare pure blood for the nourishment of the solid parts.

The stomach must be treated with strengthening remedies to make it digest better; the mesaraics with cleansing medicines, to enable them to distribute better, and both they and the liver must be put into a better state to nourish the body.

As yet there is no dropsy, the flanks do not swell and the abdomen is not distended. There is no slow fever and the urine is proportionate to the amount drunk, and it is not highly coloured. The feet are swollen, and the persistent impressions show on account of the weak assimilative power with defective vital spirits. If the patient does not turn against the medicines there is a very fertile harvest of remedies, and there is no difficulty in curing him if you can get a return of the insensible perspiration or stimulation of the purifying functions.

To this end he should be treated with nourishing medicines and medicated foods which do not taste medicinal or nauseate the stomach.

Order for him a medicated drink of sage with agrimony, betony, scabious and elder together with the aperient roots infused with sarsa in new beer.

And order these herbs, or a good many of them, in broths thickened with barley meal, with china root and sarsaparilla.

THO: DOYLEYUS.

There is a good deal of interesting information still available about Dr. Thomas Doyley. He was the third son of John D'Oyly, of Greenland House, in the parish of Hambleden, Bucks. His mother was Frances, daughter of Andrew Edmonds, of Cressing Temple, Essex, who had been a maid of honour to the Princess Elizabeth. On his father's side he came of a family long established in Oxfordshire. He was born about 1548, and was elected a Probationary Fellow of Magdalen College, Oxford, in 1563. He took his B.A. in 1564 and his M.A. in 1569, but with five other candidates was unsuccessful when he supplicated for his M.B. degree in 1571. He then left Oxford and travelled abroad with Anthony, a brother of Francis Bacon, the Bacon and D'Oylie families being already allied by the marriage of Sir Robert D'Oylie—Dr. Doyley's eldest brother—with Francis Bacon's half-sister Elizabeth. During this

period Dr. Doyley must have made himself a competent Spanish and French linguist, for he was employed—as letters at the British Museum show—by Robert Dudley, Earl of Leicester, as one of his intelligence officers in the Low Countries. In 1581 he graduated M.D. at the University of Basle, and became attached to the English force at Antwerp in a medical capacity. The following letter, written to the Earl of Leicester, gives an interesting account of some of his experiences. The English is modernised:

"Right Honourable and singular good Lord, my humble duties premised. Having by many difficulties rid myself out of the hellhounds of Dunkirk and arrived at Calais, where I may boldly write unto your honour the unlucky event of our journey.

"These are to advise your honour that putting out from Graveline the 13th October (1585), the 14th of the same we were taken not far from Dunkirk, our pilot, sailing of his course, bending too much southward. At the taking of us there were two men of war, the one called the Lowe haane, the other the Sleux water having two prizes in his company. Our ship being heavy and full-freighted both on the upper and the nether deck so that we could make no fight. So that we yielded and were rifled of all our goods and apparel unto our doublets and hose with their daggers at our throats and brought to the common jail. And after our being there an hour came the underbailiff and sergeant-major of the town with their poignards to our breasts stripping us stark naked, searched us again and took away such money as the mariners failed of. There we remained from Sunday until Monday having nothing said unto us. That day we were examined, before the Governor, the Bailiff, the Burgomaster, the pensioner and others, of our own estate, of Her Majesty's actions in Flanders, of your Honour's coming over. And then this examination signed with our own hands was two days later sent to the Prince of Parma to Antwerp, whose resolution we must attend. The same day fortnight he [*i. e.* the messenger] went he returned. After four days' consultation upon the Prince's letters we were called to the Town House and there told by the Bailiff that the Prince had declared our goods confiscate and our bodies to be set to ransom. We demanded if he had declared us enemies? They answered, No, but we were therefore put to our ransom because enemy's goods were found in our ship, namely the Earl of Oxford's, which they proved by Letters of My Lord Treasurer's to him, wherein he wrote of Her Majesty's grant of the commanding of Horsemen, which letter one of the Earl of Oxford's Chamber brought over in our boat, with his money, apparel, wine and venison, etc. Then were we severally put to our ransom and rated at their pleasures. Merchants, mariners, ship and all. My ransom with my charges in prison was 500 gulders which by the means of Mr. Hudson and Mr. Beal, merchants, I discharged. . . . I escaped well because they found nothing in my chest but 4 physick and astronomic books. All letters and notes for your Honour's business I drowned out of a porthole when they entered the ship, which Mr. Stephens by no means could do his trunk being overwhelmed with sundry packs. . . . I mean, God willing, presently to take shipping for Flushing. We durst not go from Dunkirk to Ostend, the quarters being broken no passport or drome would warrant us. Thus humbly commend my dutiful service to your Honour I wish the same felicity in all affairs the 12th November, 1585. From Calais. Your Honour's most affectioned and dutiful servant Tho. Doyley."

The letter is endorsed—"To the Right Honourable my very good Lord and Master The Earl of Leicester give these."

Doyley's employment abroad must, however, have been intermittent for he was admitted a Licentiate of the College of Physicians in May, 1585, and he may then have heard that Dr. Timothie Bright—the father of modern shorthand and author of the abridgment of *Foxe's Book of Martyrs*—was beginning to lose interest in medicine, was thinking of resigning his office of physician to St. Bartholomew's Hospital and intended to enter the Church. At any rate Doyley decided to settle in London, was elected a Fellow of the College of Physicians in February, 1588, and when Dr. Bright resigned at Michaelmas, 1591, Doyley presented a letter of recommendation from Queen Elizabeth. He was appointed in Dr. Bright's place to the exclusion of Dr. Wilkinson who could only produce letters from Sir Christopher Hatton, the Lord Chancellor.

Doyley had also found time to begin "A Spanish Grammar conformed in our Englishe Accydence. With a large Dictionarye conteyninge Spanish, Latyn and Englishe wordes, with a multitude of Spanishe wordes more than are conteyned in the Calapine of x languages or *Neobrecensis Dictionare*. Set forth by Thomas D'Oyley, Doctor in Physick, with the confirence of Natyve Spaniardes." The dictionary was sufficiently advanced to be licensed at Stationers' Hall to John Wolf on October 19th, 1590, but finding that Richard Percivall had already made considerable progress with a similar dictionary Doyley very generously handed over his materials which were incorporated in *Bibliotheca Hispanica*, published in 1591, Percivall making an acknowledgment in handsome terms of the help given by Doyley.

Doyley was incorporated M.D. at Oxford in December, 1592, and served as Censor of the College of Physicians in 1593, 1596 and 1598.

Sir Norman Moore gives some extracts from the records of St. Bartholomew's Hospital which show that he lived within the walls of the Hospital, and was held in respect by the governors. In 1592 he was allowed 3000 billets and three loads of coal, in lieu of which he petitioned for, and was granted, five pounds that he might buy for himself at the best time of year. He asked, a few months later, that a storey might be added to his house, but his request was postponed owing to lack of money, though the Governors ordered that some of his rooms should be boarded and mended. Still a few months later he complained of being "annoyed by diverse of the poor inhabitants in the Close who hang their beddings and beastly rags upon the rails before his door, and by some of the sisters who have emptied foul vessels under his chamber window, and by the people of Smithfield who wash their bucks in the Close. The porter was ordered to warn all these offenders." There was further ground for complaint, for on August 16th, 1594, the Hospital minutes record that "Doctor Doyley physician complained of diverse the Inhabitants dwelling within this precinct of St. Bartholomew's which have access at unreasonable hours to the well within the Court, and do wash and beat their bucks to the great disquiet of certain persons of great worship which lie in his house. It is therefore ordered that from henceforth the inhabitants which dwell within the Court where the well is shall wash and beat their bucks before their own doors and not at the same well. And that all others which dwell without the Court or yard shall not be suffered at any time to wash their clothes or beat their bucks there. But shall be restrained by the Porter of this house for the time being." In 1597 the Governor of Dunkirk was a prisoner in his house within the Hospital, and it is to be hoped that Doyley did not revenge upon him the indignities which he had suffered at the hands of the Dunkirkers in 1585. In 1598 he accompanied Sir Robert Cecil to France, and in 1600 the Hospital granted him a lease of the "Antelope," an inn in Holborn.

He married Anne, daughter of Simon Perrott, M.A., of North Leigh, Oxfordshire, a former Fellow of Magdalen College, by whom he had issue three sons and three daughters. Dr. Doyley died in the spring of the year 1602–3, and was buried near his wife in the church of St. Bartholomew's-the-Less. He was succeeded as Physician to the Hospital by Dr. Ralph Wilkinson, who had applied for the post twelve years earlier when Dr. Doyley was appointed, and Dr. Wilkinson in turn was succeeded by Dr. William Harvey.

NOTES ON THE PAROXYSMAL FORM OF AURICULAR FIBRILLATION: A SHORT DESCRIPTION OF FIVE CASES.

By E. P. HICKS, M.B.

AURICULAR fibrillation is generally looked upon as a permanent condition, though a few text-books teach that in rare cases it may be paroxysmal in nature. But the recognition in this Hospital of at least five cases in the last few months suggests that it is not so rare as is commonly supposed, and a collection of the cases reported previously supports the view. Krumbhaar found it in 7·5 per cent. of his series of cases of auricular fibrillation, Mason in 7 per cent., Fahrenkamp in 3·5 per cent., Lewis in 10·5 per cent., Levine in 14 per cent. Cohn found it in 12 out of 125 cases of lobar pneumonia, 7 of whom had no digitalis. If one accepts these figures and considers how common is auricular fibrillation, the conclusion is that the paroxysmal form is not rare.

From its nature the condition is difficult of diagnosis. If the paroxysms are few they may easily be missed. If the rate of the fibrillating heart is infrequent, the pulse may feel quite regular to the finger. Again it is common for a heart, when it begins to fibrillate, to beat at a high rate, which later, with or without treatment, falls considerably, and the irregularity may be so slight that the pulse may feel regular. This may give the impression of an attack of fibrillation which has been replaced by normal rhythm. In fact the only certain proof is by electro-cardiagram, though a polygraph tracing in many cases may be accepted as strong confirmation. In my series of cases the majority are proved by electro-cardiograms. The diagnosis of the remainder depends on polygraph tracings.

How does paroxysmal auricular fibrillation differ from the more usual form? The following statements are based on the consideration of five cases in this Hospital and 32 cases recorded in the literature of the subject.

Sex.—In eleven cases in this series the sex is not stated. Of the remaining 26, 17 are male and 9 female—a ratio of 2 to 1. In 189 cases of auricular fibrillation collected by Lewis, 114 are male and 75 female—a ratio of 1·6 to 1. This shows that the incidence of the paroxysmal as well as of the permanent form tends to fall more heavily on men than on women.

Age.—Lewis has shown that in auricular fibrillation the age-incidence varies according as the condition is subsequent to rheumatic fever or chorea, or to other causes. In only thirteen cases in my series is there any statement about rheumatic fever, but these I give below. The figures are percentages of the total number.

Age.	Rheumatic fever.		Non-rheumatic.	
	Paroxysmal.	Permanent. (Lewis.)	Paroxysmal.	Permanent. (Lewis.)
0–10	...	0	...	0
10–20	15	3	...	0
20–30	7·5	18·5	...	0
30–40	15	15	7·5	1·5
40–50	...	16	7·5	4·5
50–60	...	7	30	12
60–70	...	3·5	7·5	13
70–80	7·5	0	...	3
80–90	...	1·5	...	2

It will be seen from this table that both forms agree in this, that, roughly speaking, the rheumatic cases occur before 40, the non-rheumatic after 40. The average age of all my cases is 50·2 years.

ÆTIOLOGY.

The above figures are compiled from a series of 37 cases. In examining the ætiology I have added 19 cases described by Levine in which a diagnosis is given, but no further details. All these were proved by electro-cardiograms. The diagnoses of these 56 cases were—

Myocardial disease	12
Arterio-sclerosis and raised blood-pressure	10
Rheumatic fever	7
Hyperthyroidism	6
Auricular flutter	4
"Active digitalis therapy"	4
Valvular disease	3
Pneumonia*	3
Post operative*	2
Syphilis*	1
Chronic alcoholism*	1
Cancer of œsophagus*	1
Hydrogen sulphide poisoning*	1
No diagnosis	1

In the case of hydrogen sulphide poisoning, a chemical poison caused an attack of fibrillation which lasted a few hours, and apparently never returned. Analogous to this are the cases of pneumonia; when the poison was removed there was no more fibrillation observed. The same is true of two at least of the cases of hyperthyroidism. In one case of hyperthyroidism (A. S—) fibrillation disappeared after thyroidectomy. In the other (E. P—), a case diagnosed as colloid goitre, the pulse before operation appeared regular to palpation; fibrillation appeared a few hours after the operation, and was probably connected with the absorption of thyroid secretion. In many of the cases in the series it is impossible to speak with any certainty about the presence or absence of a toxin. But in others there is a toxin which can be identified, the removal of which has been followed by cessation of the attacks of fibrillation. In these the period of paroxysmal fibrillation was short and in this type the prognosis is good. In most of the others it was long—in some many years. In many fibrillation eventually became permanent and the patient died. And it is possible that many cases of permanent fibrillation are preceded by a period of paroxysmal fibrillation.

Four cases are attributed to excessive enthusiasm for digitalis. No other account of these is given. In connection with this it may be said that digitalis is known to have a tendency to induce fibrillation in cases of auricular flutter.

* In these there is no mention of any cardiac abnormality other than fibrillation.

SYMPTOMS.

The commonest symptoms are palpitation and dyspnœa. Besides these there are many others: a choking sensation, dizziness, cold extremities, increased frequency of micturition, faintness, weakness, sweating, constriction in the præcordium and epigastrium. Some patients have no distinctive symptoms. Though the symptoms are constant in each case, yet there is great variation between the different cases. Heitz says: "C'est qu'en effet chacun fait sa crise avec son temperament."

TREATMENT.

No treatment has any marked effect in stopping or preventing attacks. Digitalis should be avoided for the reason given above. Rest is obviously desirable. Heitz recommends either ice or hot cloths to the præcordium, with bromide and valerian. Pilocarpine has been recommended, but does not seem to have produced any constant beneficial effect.

Lewis has emphasised the connection between regular paroxysmal tachycardia, auricular flutter and auricular fibrillation. In this conection it is interesting that three cases in my series showed alternations of regular tachycardia with paroxysms of fibrillation. Two of these are reported by Lewis; the third is a case (E. B—), described below:

DESCRIPTION OF CASES.

1. A. S—, female, æt. 45. Admitted to Lawrence Ward under the care of Mr. Dunhill, September 27th, 1920, No. 3087.

Diagnosis.—Exophthalmic goitre and auricular fibrillation.

Symptoms date from April, 1919.

On admission had well-marked signs and symptoms of exophthalmic goitre.

October 14th 1920: Removal of right lobe of thyroid by Mr. Dunhill.

November 2nd: Removal of part of left lobe.

Both operations under local anæsthetic.

Section of gland showed exophthalmic goitre.

October 27th: Electro-cardiogram showed auricular fibrillation. A few days later electro-cardiogram showed normal rhythm.

January 24th, 1921: Electro-cardiogram showed normal rhythm.

2. E. P—, female, æt. 54. Admitted to Lawrence Ward, under the care of Mr. Dunhill, May 26th, 1921, No. 7595.

Diagnosis.—Colloid goitre with retrosternal lobe.

Enlarged thyroid for thirty years. Increasing difficulty in breathing for three to four years. Before operation the pulse was 80, regular, but no electro-cardiogram was taken.

May 31st, 1921: Partial thyroidectomy by Mr. Dunhill under local anæsthesia. Was observed to be fibrillating the same evening. This continued at intervals till June 6th. Since then pulse was regular till discharge on June 11th.

June 3rd: Electro-cardiogram showed auricular fibrillation.

June 6th: Electro-cardiogram showed normal rhythm with premature contraction, probably of auricular origin.

3. E. B—, male, æt. 13. Admitted to Rahere under the care of Dr. Thursfield, June 4th, 1921, No. 5399.

Diagnosis.—Mitral regurgitation, rheumatic myocarditis, ? pericarditis, paroxysmal tachycardia, paroxysmal fibrillation.

May, 1921: Rheumatic fever.

June 3rd: Some days after getting up attack of throbbing sensation in chest.

June 6th: Electro-cardiogram showed: (1) Normal rhythm; (2) auricular fibrillation; (3) premature contractions, probably of ventricular origin; (4) regular paroxysmal tachycardia, rate 230, probably of auricular origin.

June 20th: Electro-cardiogram showed normal rhythm interrupted by premature contractions.

4. E. C—, female, æt. 17. Admitted to Colston under the care of Dr. Drysdale on January 11th, 1921, No. 2542.

Diagnosis.—Rheumatic fever, double mitral disease, paroxysmal auricular fibrillation, acute nephritis.

Past history.—1911: "Rheumatism," treated at home.

1912: Chorea, treated at home.

1916: "? Rheumatism," tachycardia. In Mary Ward for four months. Mitral stenosis developed while an in-patient.

Condition on admission.—December, 1920. Complained of pains in wrist, shoulders and knees. Joints were swollen and tender. Also blood in urine. Treated at home with sod. sal. gr. 40–60 daily.

January 11th, 1921: Admitted to Colston. At this time A.C.D. extended to the right 2 in. in the third and fourth spaces, and to the left $4\frac{3}{4}$ in. in the fifth space. There were systolic and presystolic murmurs at the apex. The pulmonary second sound was accentuated and reduplicated. She complained of shortness of breath and cough. There was no œdema of the feet, no enlargement of the liver, no ascites discovered. There was no præcordial pain.

February 13th: Onset of præcordial pain.

February 14th, 9 a.m.: Sudden onset of palpitation. No distress; no cyanosis. Ventricular rate 196, completely irregular. She vomited once.

12.30 p.m.: Electro-cardiogram showed auricular fibrillation. The presystolic murmur was no longer heard, but no other change was discovered in the heart.

7 p.m.: Pulse appeared regular on auscultation, ventricular and radial rates were both 120. No palpitation; no pain. She did not notice if cessation of palpitation was sudden or gradual.

February 17th: Electro-cardiogram showed normal rhythm. No further irregularity observed up to discharge on March 31st.

March 7th: "In uncentrifuged specimen of urine there is now only an occasional red blood-cell."

5. C. S—, female, æt. 58. Admitted to Colston Ward on March 24th, 1921, under the care of Dr. Drysdale.

Diagnosis.—Intrathoracic goitre, paroxysmal auricular fibrillation, monilia infection of lungs.

Past history.—For thirty years "chronic bronchitis."

For two years weakness, loss of weight, streaks of blood in sputum, loss of appetite, night sweats.

Eighteen months ago attack of "bronchitis, influenza, pleurisy."

For six months attacks of fainting and palpitation.

Condition on admission.—Heart: A.C.D. extended to the right, 2 in. from the middle line in the third and fourth spaces, and to the left $5\frac{1}{2}$ in. in the sixth space.

Apex-beat palpable in the sixth space $5\frac{1}{2}$ in. from the middle line, heaving impulse, no thrill. Pulsation palpable in epigastrium. There was a systolic murmur at the apex, not conducted. Pulse 112, regular.

Liver dulness not enlarged. Slight œdema of ankles.

A skiagram of the chest showed "? intrathoracic goitre." The tumour was removed, and was histologically an exophthalmic goitre.

March 31st, 5 a.m. to 6.30 p.m.: Attack of palpitation with sensation of choking. No pain. No cyanosis. Attack of unconsciousness of few seconds' duration. Ventricular rate 145, completely irregular. Electro-cardiogram showed auricular fibrillation.

April 1st: Ventricular rate quite regular.

A few days later electro-cardiogram showed normal rhythm. The attacks of palpitation were repeated every few days. On March 6th, during an attack, the patient was observed to be unconscious for about five seconds. There was cyanosis, but no movements suggesting a fit.

I am indebted to Dr. Drysdale, Dr. Thursfield and Mr. Dunhill for permission to publish these cases.

TWO CASES OF EXTROPHY OF THE BLADDER.

By GEOFFREY S. ROBINSON, M.A., B.M., B.Ch.(Oxon.),

Assistant Surgeon, Royal Infirmary, and Visiting Surgeon, Highfield Hospital, Sunderland.

CASE 1. E. A. L—, æt. 58, a married woman, was admitted to Highfield Hospital in a moribund condition.

The past history, obtained from her second husband, was that she had had "an ulcer of the navel" since birth, which had gradually become larger, and that she had never been

able to "hold her water." She had been able to do her house-work quite well, but had never been strong. Menstruation had been regular; there had been several miscarriages at about the third month, but no full-time pregnancies. She usually suffered from a mild chronic bronchitis. Some days previously she developed an attack of acute bronchitis with much hard cough and while in bed about 4 a.m. on January 26th, during a fit of coughing, she felt something give way in her stomach. She steadily became worse, and in the afternoon a doctor was called in, who stated that she was a hospital case, she having a falling of the womb.

The condition on admission at 4.30 p.m.—The patient was very collapsed, complaining of pain in the abdomen, and unable to give any clear history of her illness. On examination her heart was found to be normal, the sounds were weak and the rate 90 per minute; there was some acute bronchitis with a hard, frequent cough. On inspection of the abdomen several coils of small intestine were seen protruding through an opening in the middle line of the hypogastrium, and the peritoneum covering the intestines was lustreless, covered with purulent discharge, dirt and fluff from her clothing. No dressing had been applied, a urine-soiled petticoat being in direct contact with the bowel. No umbilicus was seen. The abdomen was rigid and tender to the touch. The patient was somewhat restored by a rectal saline with 5 per cent. glucose and 1 c.c. pituitrin; hot bottles and blankets and a hypo. of morphia sulphate $\frac{1}{4}$ gr. with atropine sulphate $\frac{1}{150}$ gr. was given.

An operation was performed, when the patient was restored, under local anæsthesia with $\frac{1}{2}$ per cent. novocaine with adrenalin and light general anæsthesia with 3 per cent. chloroform in ether. The protruding bowel was carefully cleaned with normal saline; it was found to be intact, and it was very easily replaced within the abdominal cavity. Both ureters were seen passing urine in jets at the sides of the tear in what was recognised as the posterior wall of an extrophy of the bladder, which had a much thickened and ulcerated border of a horse-shoe shape. It was impossible to bring the edges of the tear together, and as her condition was so hopeless, a large pack of gauze wet with saline was applied and the patient returned to the ward. She lived till the afternoon of the next day.

A partial post-mortem examination only was allowed and this revealed that the anterior wall of the bladder was absent; the posterior wall was ruptured in the middle line, and all around where the bladder joined the normal skin the edge was thick and ulcerated, suggesting a malignant growth. A report from St. Bartholomew's Hospital Clinical Research Department stated that "The growth can be seen invading fat and has the structure of carcinoma arising from bladder epithelium. There is considerable chronic inflammation." The abnormal, nearly circular area was 100 mm. or 4 in., and the tear 65 mm. or $2\frac{1}{2}$ in. in diameter. There was no urethra, and the vagina and rectum pointed directly forward. The vagina was short and led to a small uterus on which were several small subperitoneal fibroids. The tubes and ovaries were normal for her age. There was a gap of nearly 90 mm. or $3\frac{1}{2}$ in. between the pubic bones. The other organs were not examined.

An excellent plate of this condition is to be found illustrating the paper of C. H. Mayo, M.D., in vol. ii, p. 1095, of *Contributions to Medical and Biological Research*; dedicated to Sir William Osler.

CASE 2.—T. S—, æt. 49, an unmarried male general labourer, was admitted to the same hospital a few days after Case 1.

The past history was that as a boy he had an operation on his bladder as he could not hold his water. This had not been quite successful, and he had had to wear a urinal all his life since. He had been able to work hard, and had not been laid up because of his bladder condition.

Condition on admission.—He was a strong, well-made and healthy-looking man. All his other organs were normal except for the extrophy. In the median line and at the root of his penis there was an aperture about 25 mm. or 1 in. in diameter leading into a small bladder. The skin of the lower abdomen showed scars of a former surgical operation. There was a condition of complete epispadias, with a penis about 37 mm. or $1\frac{1}{2}$ in. long. The bladder was quite small and the urine leaked through this opening all the time. He had no control. There was no sign or symptom of cystitis or nephritis, and the urine was normal to ordinary tests. He had worn for many years a soft rubber urinal applied firmly to the lower abdomen by a belt and perinæal band, and also to the thigh. With this in place he could do his work comfortably without soiling his clothes. He refused any further operation and left as soon as his urinal had been repaired.

A POST-GRADUATE'S REFLECTIONS.

ONE warm evening in July I was meditating where and when I should take a holiday, and I was gently tearing up some of the many chits and prospectuses that people delight to fire off on us. I lit on that of the "St. Bartholomew's Hospital Post-Graduate Course." Like Mr. Wemmick's "Here is a church, suppose we get married," the inspiration came—Why not learn something and mix it with a holiday? I impulsively wrote off to the Dean, and was courteously accepted. Hence this "loose sally of the mind, an irregular undigested piece" of composition, as Dr. Johnson would define the essay. This initial courtesy was the beginning of all the future courteousness and kindness we met with from lecturer, student, resident, porters, and our manager, one Bridle, the Morris of our past, as far as we could see a worthy successor in embryo. This was all very refreshing after the post-bellum go to H— attitude early in the year. We all appreciated this, from the veteran Bart.'s man to the man who had never been to Bart.'s.

There are, and were here, several types of post-graduates. There was my own class, the set that combined holiday with more or less interest in the work; the men who did the course keenly, taking notes on everything and missing nothing; a third, who willy-nilly had to meet the needs of the latest new cottage hospital; and a fourth, who came to study a speciality. I may say at once this class had to look out for itself independently of the course and make friends with the various specialists. This was quite easy as soon as they knew where to go. Every help was given them. But for them there must be special courses, and they, even as possibly Bart.'s specialists themselves must at present, travel to America or Vienna (as in the old days). Possibly we shall see a special centre in London. I deal chiefly with the first three classes.

Now, it is easy to pick holes in a course suitable for all the types of men we were. There were well-nigh as many views as there were men to hold them. Perhaps a good plan would have been to get each applicant to state the sort of thing he wanted—we might have had meetings amongst ourselves and have pooled the results; there might have been an intermediary between us and the lecturers to discuss procedures, etc. Sometimes the lecturers did ask us what we wanted to have. It may be said many of the lecturers had no sort of idea of the needs of the man in general practice, yet they were there to teach the truth as they knew it, not to teach us what most of us knew already, how to manage the foibles and subtleties of human nature and the tact needed in dealing with it. After twenty-five years of general practice (how I hate "G.P."—it connotes a sort of slur) I am convinced the proper way is not to waste time worrying about unpalatable advice and the consequent fuss, but to go straight to the point and get it done. In country practice, at least, being top dog for the present, we calmly and kindly give our advice, and, if necessary, retire. The general practitioner is the man behind the guns, is self-reliant and ready for any emergency, and rarely makes the mistakes that formed such excellent openings and themes for some of the lectures! (Someone thought he might give a lecture to the lecturers on the difficulties and emergencies of general practice.)

But as a matter of fact there was no difficulty at all in getting our views listened to, and the second string of lecturers (when it was the second string, with possibly one exception) gave us all we wanted, and the majority of us came away happy and illuminated and the better equipped to do good work. Personally I got a sort of mental dyspepsia, and have only now settled down to sort and analyse my new knowledge. One man said, "I knew most of the stuff before, and what I learnt fresh I can't work." He said he could not get or interpret a cardiograph or X-rays, nor do test-meals nor analyse cerebro-spinal fluid. He, as I do, sends his specimens after collection, and trusts to experts to report honestly and correctly. This is sound as far as classes 1 and 2 were concerned. Probably the course of bacteriology was no use to anyone except for general interest.

It is difficult to individualise the good things on the menu. Most of us were delighted with the lectures on vaccines; we found there was no tremendous enthusiasm on their results at Bart's. The food lectures made us hunger for more. All enjoyed the lecture on arthritis, and what we heard from Mr. Harmer on radium and diathermy for advanced cancer about the jaws. In the electrical department I learnt the valuable tip M.A.P., and have no longer to look up my pole for ionization. We should have liked more on gynæcology and obstetrics, and some of us hoped for a lecture on the technique of surgical operations and on the primary treatment of wounds.

We had an invaluable lecture on the general examination of the nervous system instead of on encephalitis lethargica. This from asking for it. We were always patiently listened to and always answered after the lectures. Possibly the class was too large. I think we did our best not to hustle each other and interrupt; when we did it was from over-zeal. [Incidentally it was very funny how we regarded each other for a time, then said, "Why, you must be so-and-so. Now I hear you are the mayor or a J.P., or the great man in such and such a region. You joined same year as I did. You were H.S. for so-and-so."]

Several of us learnt for the first time about artificial pneumothorax, about the new and hopeful reactions in asthma. The venereal clinic was a bit hard to fix in with the luncheon interval at first, but we soon worked it and enjoyed the rushed meal, excellently catered. I expect—always using myself as a type—several of our lecturers will get a large crop of consultations; our asthmatics, irregular hearts, advanced cancers and neurasthenics will be swarming into the West End of London, but we shall ourselves cure our corneal ulcers with the pure carbolic! The eye clinic was, of course, difficult to work. In those well up in eyes, as the modern G.P.(!) is, lectures were sufficient and much enjoyed. Most of us won't touch psycho-analysis more than we did before, but we had a good introduction to it in the Dream Interpretation from Sir Robert Jones and his assistants. We learnt a lot about trusses. There must be much more to add, and if I were to collect the views of my post-graduate friends I should find I had left much out that deserved praise. I mean to indicate the sort of things for the benefit of intending candidates and as some appreciation of what we had.

The class who wanted to study special subjects had only to follow some of the various surgeons and physicians. Personally I cut some lectures and spent two mornings watching the excellent team-work of "T.s and A.s" in

the throat department. I was much impressed by the skill in enuclcation, although as a "slicer" I still funk the somewhat bloody new radical plan of removal. Another wanted to see skins, and he did; another wanted to see a modern operation, and the various theatres were at his disposal. But, as I said before, to do the things himself a special clinic must be necessary.

On the whole, I repeat, the course was inclusive and apt for the needs of the majority of us, and I can't see how, unless the managers knew beforehand what we wanted, it could have been dealt with otherwise. It was a great chance of a holiday of pleasure and profit. Work was generally over by five, and then the men who didn't take their notes, and needed to unify them, were able to get off to theatre or concert or sleep, and so home, as Pepys would say. I expect the Dean will or did see about suitable rooms. I feel sure notes of each lecture should be taken, otherwise there is lack of concentration, my mental dyspepsia, and even slumber!

A post-graduate course these days must be necessary for all of us, teachers included, even if with the prevalent conditions of general practice we may not feel inclined to do more than essential work, and are dead beat by the multitudinous certificates to be filled up; yet we ought to know what *can* be done (text-books are frequently futile and mere copies of each other); we ought to do our best to fulfil our contract; we ought to encourage within ourselves that æsthetic sense of the best possible. Medicine and its components seem to me to travel by leaps and bounds. We can't afford conscientiously and financially to lag behind, however successfully we bluff. We need not get old and rusty prematurely. In our lonely and self-reliant lives (I speak of general practitioners without assistant and partners, whose wives do the dispensing) the sides of the grooves get deeper and deeper. We get dirty and rusty wallowing in the mire of ignorance, indolence and negligence. A course in London, and at Bart.'s in particular, redresses and revivifies.

The practitioner must have a periodical brain-dusting. I quote from Sir Wm. Osler, more or less correctly. Back to the hospital—back to the laboratory for rehabitation, rejuvenation, reintegration and resuscitation, "Save for the trip, deny all luxuries, harken not to the voice of old Dr. Hayseed." What about the wife and the babies if you have them? Leave them. "Heavy as are your responsibilities to those nearest and dearest, they are outweighed by the heavier responsibilites to yourself, to the profession and to the public." We are, I think, getting fresh capital for them too, and we may save to combine their holiday with ours—pleasant, as the cynic may say it be, to get away from them!

(This is not from Osler.) To be a bit more human, my wife joined me after the first week and shopped hard. At this period my own work fell off. Debenham & Freebody need a firm hand when our partners start their post-graduate work! Then my children came to London from school and throughly enjoyed Waterloo! I thought I detected a gleam of intellect when Cleopatra's Needle wanted a visit. But I found the cause of this was due to the fact of a tube between Oxford Circus and Charing Cross!

One reflection more—as the Divine sermonises:

> "How much the fool that hath been to Rome
> Exceeds the fool that hath been kept at home"

At least he may exceed the former fool. W. H. M.

[Readers will note a letter on the same subject in our correspondence columns.]

ON HEALTH AND UNHEALTH.

By KENNETH ROGERS, O.B.E., M.D.(Lond.).

THE Teutonic barbarians (who at least bequeathed to us our great language with its wealth of strong monosyllables) probably did not trouble themselves to look too much below the surface, and so regarded an individual as *healthy* unless he had some very obvious disability. This is shown by the very word *health*, derived from the Anglo-Saxon hāl (*whole*), that survives in the world *hale*, as also the word *heal* (to make whole), suggesting that originally the only recognised *un*health was the loss of some anatomical detail, as a finger or a leg.

I imagine that in those simpler days health, or wholeness, was looked upon as the usual and proper condition of an individual and unhealth as the exceptional; here, in these C3 days, are we not sometimes inclined to take the opposite view?

We dwell so much in an atmosphere created by various modern discoveries—the circulation of the blood, the wonders of the various processes of digestion, the complicated arrangements by which the nervous system enables us to carry out even the simplest act, and the part played by countless micro-organisms all around and within us—that we are inclined to marvel at each day accomplished without some accident or trouble in one or other part of all this complicated gear, and to deem *un*wholeness, disease, (or, to use the more proper English word, sickness), the usual condition, and *wholeness*, or ease, the exceptional.

It is indeed true that perfect ease, of both body and mind, is not readily attained or preserved—largely owing, perhaps, to the artificial state of excitement in which we keep our unfortunate brains, ever puzzling over a thousand and one needless subjects, whereas their one and only essential work is really to think out and direct the means of obtaining the next meal, and of avoiding undue risks in the process.

The medical profession ever looks upon health with something of envious wonder, and concentrates all its attention upon sickness in its sundry forms.

Do we, of the great army of physicians and surgeons, by *treatment* of unhealth (once definitely established in the citadel of the body), with all our wonderful modern armament of drugs, costly apparatus, and ponderously conceited text-books, really advance the *average* little span of life of our generation by a single week?

Unhealth or disease is the failure of health, and all our costly hospitals exist merely to deal with the failures of Nature's protective arrangements; health or wholeness must be sought and maintained by placing the people in a suitable and disease-avoiding environment. A remarkable and not fully appreciated triumph of the war, that indeed made its continuance possible, was that won by *preventive* medicine, and in *prevention*, *not* in cure (or making whole), which is nearly always beyond the means of our limited powers, lies the hope of the future. Better prevent ten men from spitting out tubercle bacilli than build a hundred costly sanatoria to deal with the failures of protection; rather prevent the taking of syphilis than run expensive institutions in which its manifestations may be duly labelled; better prevent mosquitoes from breeding in the stagnant pools than clumsily drench their victims with quinine!

This leads us directly to the paramount importance of early diagnosis, of intelligent dealing with the early and slight deviations from health, in other words with the important and great mass of cases which are rarely, if ever, seen in hospitals—for these deal almost entirely with well-marked cases of disease, in which the correct label is comparatively easy to select, and too frequently of but little use to the individual when tied around his neck.

We need to think more of *health* and less of *unhealth*: at present we doctors, doubtless encouraged by a highly receptive community, are a most potent source of unhealthy suggestion to it. The doctor should rather be the apostle of health, everywhere striving to teach all and sundry, who are less instructed, the way to avoid unhealth, than the priest of disease, waiting to open the dark doors with all the old ceremony and ritual so that the stricken may depart in a fashionably correct manner.

It is easy to throw stones, but believe me, my far more deserving fellow labourers patiently hoeing in the fields of disease, I am rather striving to show some of the missiles that rain down on *my own* medical conscience, and I will now end with the Anglo-Saxon equivalent of "Chin-Chin"—"Wes hāl" (Be you of good health!).

CATS AS DISEASE CARRIERS.*

A RECENT Note regarding a case of diphtheria in an elderly lady, where investigation and autopsy of her two pet cats demonstrated undoubted Klebs-Loeffler infection and tracheal ulceration with pseudo-membrane in one and a less characteristic lesion in the other, brings up again the question of the *rôle* which these pestiferous creatures play in the transmission of disease. One feels a deep sympathy for the woman in the case. She placed her confidence, her affection, in a cat, and it repayed her by giving her diphtheria. There are those who would rejoice to think that her folly brought its reward, but we prefer to think of her as the trusting victim of misplaced confidence. The cheering thing about this unfortunate affair is that autopsies were performed. This presupposes the death of the cats, though some enthusiastic feline strafers insist that many, if not most, cats can recover from an ordinary autopsy without material disturbance. Authenticated cases are rare, however. It would be interesting to have dependable figures on whether the recent outbreak of poliomyelitis in Boston—212 cases since July—is coincident with any notable increase of distemper among Boston cats. If the studies of several bacteriologists showing that the germ of distemper is pleomorphous and assumes the characteristics of the poliomyelitis organism when grown on human media, and *vice versâ*, have been sufficiently verified, it would leave little doubt that the cat is a dangerous housemate for baby to fondle. It is baby who fondles pussy most, and baby is the most frequent poliomyelitis victim—father is very seldom stricken, presumably because most of his fondling is done with the booted foot. The dog, too, is subject to distemper, and if an enlightened public opinion eventually bans the cat, his fate will be determined after the reasoning of the W.C.T.U.—first alcohol, then tobacco. The Boston epidemic is curious in that it has been confined largely to the better class of homes; families in which the children are few and so there is a more favourable atmosphere for pets. In all seriousness, the *rôle* played by animals as carriers of disease has not received the wide attention and intimate study it deserves. Animal parasitology has revealed the plague-bearing rat flea, the typhus louse, the tse-tse fly and the mosquito, and has even tried to cast suspicion on the ubiquitous bed bug, but the essential, often ephemeral illnesses of cats, dogs, and particularly the migratory creatures are too little known.

* From *Long Island Medical Journal.*

THE SNAG.

A HOSPITAL out-patient department. A dozen or so medical students occupied the crescent of chairs which, with the physician's desk and the patients' couch, formed the whole furniture of this bare rectangular room. The students were a little annoyed when the physician, in an attempt to be interesting, turned to the importance of summing up a patient's general features as the latter enters the consulting-room. Examinations, like a sword of Damocles which is absolutely certain to fall, hang over the medical student and make him intolerant of irrelevances.

"Will you, Greyson, tell us, when the next patient has taken his place, what you consider can be said from inspection about his general features?

Now Greyson was a shy, undiscovered youth, rather shaggy in the head and unkempt in the matter of clothing. If known to any at the hospital—he had recently arrived from a lesser university—it was for his ignorance of all kinds of facts and for his inability to retain in his memory doses of drugs or mnemonics, such as for the symptoms of lead poisoning. When asked to speak he was frightened and flushed considerably. He took everything so seriously that it was no easy matter for him to sum up a man's character at a glance. Indeed he had often found such a task impossible, and had discovered on many occasions that his most sure guesses about people had turned out to be quite wrong. It did not occur to him to do as many would have done and to say: "Probable history of alcohol—considerable quantities in youth. Now drinks his tea too strong. Had rickets when a baby, etc. . . . ."

Greyson stood up nervously and leant against the testing table, upsetting a bottle of ozonic ether, all the time keeping his eyes and attention riveted on the approaching patient. After waiting till the man had been directed to his place in the crescent and had arranged his shirt over his back, he commenced in a low deliberate voice: "A man of between 50 and 60, not tall, thinner than he was, hair absent on top and becoming scanty in front. He looks worried. Although not weatherworn his face shows deep lines which would make one believe he might be over 60, and yet his agility is that of a man of 40. I like the lines radiating out from his eyes: he has had a happy home I am sure. His clothes, quite good material, well made—yet old, with safety-pins for buttons and large unmended tears! Where is the good wife that caused those lines to radiate out from the eyes, who used to replace the buttons and mend the tears? And then, why are you getting so thin? Yours is not the cachexia of cancer nor the wasting of continued fever; worry has caused your thinness, neglect of yourself. . . . . ."

Enough, enough—how bored the students were! And so you would have been if you had had an exam. to sit in a fortnight.

Another student, who was clerking that day of the week, commenced to take a history. "What are you complaining about?" "I don't know, doctor: I just feels tired and melancholy. Of course I have pains like everyone, but I don't mind 'em. Grin and bear it, I says. And grinned and bore it I 'ave these score o' years wi' no murmur. But, doctor, I feel no interest in life is left, that I need a tonic to carry me over till to-morrow. Maybe I'll feel better then." "But don't you complain of something? Pain, you said—what pain? Where do you get pain?" "Nowhere p'ticular, s'far as I c'n tell—just anywhere. But that's not what I come about. Just feel like a tonic."

The clerk could not find the patience necessary for this patient, said he was not a dispensary, and mentioned to a fellow clerk that he had been snagged. However, he continued to write down what facts he could elicit. "Occupation?" "Been a watchmaker all my life I 'ave, well known in the Woolwich Road as the honest watchmaker . . ." "Married?" "Aye, that I were! Cleverest mechanic I ever knew, she was. For many a long year we did the work half a-piece, and no work there were to beat hers, there weren't. And she died o' the drinking diabetes, she did; lost 5 stone in a year, and went to sleep one morning in a chair, and never to wake. I lost my right 'and when I lost my wife, I did," added the watchmaker, a little huskily, but with enormous conviction.

"Any children?" "Aye, sir; a boy, as straight as they make 'em, a signaller in the Navy; expecting 'im 'ome any day now on leave. 'Ad a daughter too, sweet temperament she 'ad; she died two years after 'er mother. Spat 'er lung up in the shop, she did! The doctor gave her three days and she lived thirteen weeks, she did, and that'll show you what a strong constitution she had . . ." He was rather a loquacious fellow evidently. He himself didn't know what he was complaining about. Called in for a bottle of medicine on his way home. Give him Hst. Gent. c Rheo. and tell him not to worry.

D. W. W.

TO AN EXAMINER.

(But no personal reference is intended.)

Pass me! I'll bless you throughout my life!
Fail me? The deed you'll rue!
Pass me! I'll introduce you to my wife!
Fail me—*and* children too!
Pass me! I'll purr like a cat for glee!
Fail me? My blood will boil!
Pass me! I'll toast you in *Eau de Vie*!
Fail me—in *croton oil!*
Pass me! Was ever such luck as mine?
Fail me? Ten tries I've had!
Pass me—*if only for Auld Lang Syne!*
Fail me? You *have?!* You CAD!!

F. G.

STUDENTS' UNION.

GOLF CLUB.

STAFF *v.* STUDENTS.

The match of Staff against Students was played off on Wednesday, July 27th, 1921, at Hanger Hill.

The singles were played before tea.

Results:

(1) Mr. J. Ness-Walker *v.* Mr. Roxburgh. Match halved.
(2) Mr. J. Potts *v.* Mr. Wade. The latter won by 6 and 5.
(3) Mr. A. W. Brown *v.* Mr. Rose. The latter won by 3 and 1.
(4) Mr. Parkes *v.* Dr. Graham. The latter won by 4 and 3.
(5) Mr. Gordon *v.* Mr. Foster Moore. The former won by 6 and 5.
(6) Mr. Hammond *v.* Mr. Corbett. The latter won by 6 and 5.

The Staff thus won 4 games to 1.

The match between Mr. Roxburgh and Mr. Ness-Walker was very close. The former was round in 82, the latter in 83, bogey being 78. Foursomes were played after tea:

(1) Messrs. Ness-Walker and Gordon *v.* Dr. Graham and Mr. Roxburgh. The former pair won easily by 6 and 5.
(2) Messrs. Potts and Brown *v.* Mr. Rose and Mr. Wade. The latter pair won easily by 5 and 3.
(3) Messrs. Parkes and Hammond *v.* Mr. Foster Moore and Mr. Corbett. The latter pair won by 4 and 3.

The Staff were 1 up on the foursomes, and thus won the whole match by 6 games to 3.

Dinner at the club-house was kindly provided by the Staff. Mr. Ness-Walker proposed the health of the Staff and thanked them for their hospitality; he hoped the students would do better next year. Mr. Rose in reply expressed the surprise of the Staff at the result. He thanked the Hanger Hill Golf Club for their kind permission to use their course. A very pleasant evening was spent.

A. W. BROWN (*Hon. Sec.*).

LAWN TENNIS CLUB.

The season opened with a very good list of fixtures and on paper a very good 1st VI, as all the members of last year's team that won the Inter-Hospital Cup were eligible to play except J. G. Johnstone, who had gone back to Oxford.

The only newcomer was D. T. Brown, a very tall man, standing about 6ft. 3in. It was soon recognised that he would be a great asset to the team. His service is of the American type, bounces very high, and he gets a tremendous amount of work on the ball. His ground shots are also good, and on his day he would be a very difficult man to beat, but like many others he is inclined to be erratic. All the rest of the team showed slight improvement on last year's form, especially C. F. Roupell, who is regarded as a coming young player, as is evidenced by the fact that he is partnering the Hon. F. M. B. Fisher at Bournemouth and other tournaments.

Our difficulties started with the first match and unfortunately continued throughout the season, as we were not able to turn out our full strength on any single occasion. This sort of thing is absolutely fatal to any side, as it is essential in doubles to settle the pairs as early as possible in the season and thus enable them to become acquainted with each other's game, and so acquire that combination which adds 15 or 30 points to their game. I feel sure that the only way we can get the Inter-Hospital Cup back is for every member of the team to throw aside personal engagements and regard the Hospital matches as his first duty.

The following is the result of the last two matches of the season:
St. Bartholomew's Hospital *v.* Galleny L.T.C., won 5–3.
St. Bartholomew's Hospital *v.* Cumberland L.T.C., won 5–3.

INTER-HOSPITAL CUP.

First Round.

ST. BARTHOLOMEW'S HOSPITAL *v.* ST. GEORGE'S HOSPITAL.

Walk over.

Second Round.

ST. BARTHOLOMEW'S HOSPITAL *v.* U.C.H.

In this we were represented by W. D. Urwick, R. R. Powell, C. F. Roupell, P. A. Smuts, W. E. Cody and R. F. Johnstone. This match was played on the U.C.H. ground at Perivale and the wind was so bad that good tennis was really out of the question. They turned out with full strength, including Dr. Fyzee, the Indian Davis Cup player, who won his single and two doubles.

Singles.—Roupell lost to Fyzee, 4–6, 2–6. Cody lost to Kahn, 5–7, 3–6. Urwick beat Hanzell, 6–8, 12–10, 6–1. Johnstone beat Duck, 6–1, 6–2. Smuts beat Rhodes 6–4, 2–6, 6–3. Powell beat McCalmont, 6–3, 6–1.

Doubles.—Johnstone and Urwick lost to Fyzee and Kahn, 3–6, 5–7; beat Rhodes and McCalmont, 6–2, retired. Powell and Roupell lost to Fyzee and Kahn, 5–7, 5–7; beat Rhodes and McCalmont, 6–1, 6–2. Smuts and Cody beat Rhodes and McCalmont, 6–2, 6–3; beat Hanzell and Duck, 4–6, 6–4, 6–3.

St. Bartholomew's Hospital 8 matches, U.C.H. 4, 3 unplayed.

Semi-Final.

ST. BARTHOLOMEW'S HOSPITAL *v.* KING'S COLLEGE HOSPITAL.

Here we had a fairly easy victory by 8 matches to 1.

Singles.—R. F. Johnstone beat Playfair, 6–2, 6–2. R. R. Powell beat Rayner, 6–3, 6–4. J. G. Johnstone lost to Peacock, 6–3, 7–9, 3–6. H. Summers beat Goldsmith, 6–0, 6–2. P. A. Smuts beat Dauncey, 6–1, 7–5. W. E. Cody beat Kohnstan, 6–2, 6–0.

Doubles.—J. G. Johnstone and R. R. Powell beat Peacock and Rayner, 4–6, 6–3, 6–4. R. F. Johnstone and P. A. Smuts beat Playfair and Goldsmith, 6–2, 6–3. Cody and Summers beat Dauncey and Kohnstan, 6–3, 6–3.

Final.

ST. BARTHOLOMEW'S HOSPITAL *v.* GUY'S HOSPITAL.

This match was played on the U.C.H. ground at Perivale. It was a very windy day and we unfortunately had to turn out without J. G. Johnstone and W. D. Urwick.

Singles.—C. F. Roupell beat Jackson, 6–1, 6–0. D. T. Brown beat Daneel, 6–1, 6–2. R. F. Johnstone beat Neser, 6–1, 6–1. R. R. Powell lost to Muick, 3–6, 6–8. P. A. Smuts lost to Jacobz, 5–7, 0–6. W. E. Cody lost to Keyter, 2–6, 2–6.

Doubles.—D. T. Brown and R. R. Powell lost to Jackson and Daneel, 7–9, 4–6; lost to Jacobz and Muick, 4–6, 4–6. R. F. Johnstone and C. F. Roupell lost to Muick and Jacobz, 2–6, 6–8; drew with Keyter and Neser, 6–2, 6–8. P. A. Smuts and W. E. Cody lost to Jackson and Daneel, 1–6, 3–6; lost to Keyter and Neser, 2–6, 6–4, 3–6.

As one can see there was not much in the score, and to my mind our defeat was due to lack of that necessary combination which can only be obtained by constant practice; I say this without wishing to depreciate the ability of the Guy's team, as they turned out a very good, well-balanced side that gave one the impression of having played the whole season together.

In conclusion I should like to bring to the notice of the Students' Union the fact that the Hospital is very badly in need of at least two hard courts, with the result that the members of the team turn out for the first match of the season not having touched a racquet for four or five months. I sincerely trust that for the good of the Hospital the Students' Union will take up this matter and remedy it as soon as possible.

REVIEWS.

THE RAT AND HOW TO KILL HIM. (London: John Bale, Sons & Danielsson, Ltd.) Price 6*d.* net.

It may surprise some to learn that there is an Act of Parliament dealing with the destruction of rats and mice, and that this Rats and Mice (Destruction) Act, 1919, imposes fines of five to twenty pounds on those who fail to destroy such vermin on their premises. Besides spreading diseases, rats destroy food which has been valued at £66,000,000 per annum, or enough to maintain a large hospital for 500 years. This little book is published for the Incorporated Vermin Repression Society, and contains valuable information on the various methods available for destroying rats. The book should be read by all whose premises are infested with rats.

THE CLINICAL EXAMINATION OF THE NERVOUS SYSTEM. By G. H. MONRAD-KROHN, M.D.(Christiania), M.R.C.P.(Lond.). (London: H. K. Lewis & Co.) Pp. xvi and 135. Cr. 8vo. 6s. net.

This small book by an eminent Norwegian neurologist consists of a detailed account of the clinical methods available for examining nervous cases. Few methods are described which are unfamiliar to readers of English text-books, but new details are given about many, and common pit-falls are pointed out. Particularly useful are the details given for testing the cerebration of the patient, for distinguishing hysterical from gross organic disturbances, and for examining cases of aphasia. In the last connection, when one reads that "the patient is asked to shut his eyes and tell what he hears . . . imitation of various animals (dog, cat, etc.)," one wonders whether Dr. Monrad-Krohn always carries out his own tests as a routine. A book which should be useful to the budding neurologist, though the average student will hardly find it worth his while to purchase it.

PROSTHETIC DENTISTRY: A TEXT-BOOK ON THE CHAIRSIDE WORK FOR PRODUCING PLATE DENTURES. By DOUGLAS GABELL, L.R.C.P., M.R.C.S., L.D.S. (London: Henry Frowde, Hodder & Stoughton.) Demy 8vo. Illustrated. Price 12s. 6d. net.

This book should be of the very greatest utility to the young practitioner. It deals in a very concise yet detailed and masterly way with a subject which, being at the same time difficult to the novice and important to his success in practice, has nevertheless been hitherto strangely neglected in the dental literature of this country.

The manner in which the author expounds his subject leaves no doubt in the reader's mind that all he says is sound doctrine, based on a large experience combined with a complete mastery of the principles involved, keen powers of observation and deduction, and exceptional ingenuity in overcoming the difficulties and harmonising the many conflicting elements to be met with in this difficult subject.

Out of a book so good from cover to cover it is difficult to select passages of super-excellence, but we would particularly commend the chapter on "taking the bite," and also those sections dealing with springs and the design and retention of partial dentures. In these latter spheres the author is responsible for much original thought and work, and displays great ingenuity.

It is the extremely practical nature of the treatise that especially appeals to us. In text-books of this kind, when describing methods, so many authors make no mention of the innumerable little practical difficulties and points of technique with which the reader is immediately confronted when he attempts to put these methods into practice. Mr. Gabell, however, does not regard such details as too insignificant for his notice; and almost every page of his book abounds with the most valuable little practical hints.

The book has a very good index, making reference easy. There are also some useful synopses or "memoranda" of the various processes described, and it is well illustrated. We regard it as one of the most useful technical treatises a novice can invest in on commencing practice, and it is worth the perusal of all who take an interest in this subject.

AIDS TO CHEMISTRY. By WILLIAM PARTRIDGE, F.I.C. (London: Baillière, Tindall & Cox.) Pp. 280. Price 6s. net.

This little book, as the author remarks in his preface, is intended for students who have already been "put through a course of chemistry." It is a useful *précis* of the more elementary parts of the subject, both organic and inorganic, and is sufficiently well written to be easily readable. It is entirely a "theoretical" text-book, practical details being scrupulously omitted "for want of space." It is too concise to be of much use to the absolute beginner, but, to a student with the preliminary examinations in close proximity, it should prove quite valuable.

SANITARY LAW AND PRACTICE. By W. ROBERTSON, M.D., D.P.H., and CHAS. PORTER, M.D., B.Sc. Fifth Edition. (The Sanitary Publishing Co., Ltd.) Price 18s. 6d. net.

The fifth edition (revised) of this well-known work on public health has just been published, and contains new material on housing and the Ministry of Health Act. Except in the introductory chapter, no attempt has been made to alter references to the Local Government Board.

The Public Health Act and other Acts bearing on the health of the nation have been so frequently amended that it is absolutely essential for the student to have some book in which the sections of the various Acts bearing on the subject being discussed are brought together. The book deals with each subject in an excellent way for the student working for a public health qualification: a summary of each section of the various Acts bearing on the subject under consideration is first given, and this is followed by a description of the ways in which the sections may be administered.

The book is full of practical suggestions, and contains many diagrams and illustrations which will prove useful to the student. The main public health legislation applying to Scotland and Ireland is given, in addition to that for England and Wales. The more one reads, the more one is struck by the excellent way in which each subject is treated.

The book may be recommended to all health officials and to students working for examinations in Public Health.

BAILLIÈRE'S NURSES' COMPLETE MEDICAL DICTIONARY. Second Edition. Edited by CONSTANCE M. DOUTHWAITE. (London: Baillière, Tindall & Cox.) Price 3s. net.

The second edition of this excellent little book has been edited by one who received her nursing training at this hospital. The pronunciation of each word has been given, whilst at the end are found several valuable appendices dealing with the abbreviations commonly used in general practice; with poisoning by various drugs and the appropriate treatment, etc. The definitions of terms are on the whole good, the number of words included is admirable. Every page will be instructive to a probationer and we doubt if even a sister would be particularly chatty about such subjects as "succinum," "abasia," or "matico." There seem to be few important omissions, though surely "Diathermy" now deserves a place in such a book as this, and the Carrel-Dakin treatment has come to stay. A work we confidently recommend to the Nursing Staff.

SURGICAL WARD WORK AND NURSING. Fourth Edition. By ALEXANDER MILES, M.D., F.R.C.S.(Ed.). (London: The Scientific Press, Ltd.) Pp. 418. Price 10s. 6d. net.

The author states that this book is intended as a handbook for nurses and others. Its value to nurses we do not for a moment doubt, but it is to "the others" that we wish particularly to commend the work. The junior student enters the surgery and is compelled immediately to apply lotions of whose composition he usually has but the vaguest idea. The why and the wherefore of a hundred methods is hidden from him and often there is a tendency against inquiry, if only to avoid being a constant worry to those around him. To such we recommend the book. Admirably illustrated with pictures of instruments in use in the surgery, its aim is a description of the various methods of surgical treatment. There are some mistakes (usually apparently through carelessness of revision) and some omissions. The book badly needs an account of the fitting up of a Maurice Sinclair's frame, and amongst minor ailments is not the treatment of varicose ulcers by Unna's paste worthy of mention? The chapter on fractures is the poorest of an excellent book, one which fills a distinct gap in the voluminous literature now provided for both nurse and student.

DISEASES OF THE THROAT, NOSE AND EAR. By Dan McKenzie. (London: Wm. Heinemann [Medical Books], Ltd.). Pp. 646. Price 42s. net.

The book before us is a luxuriously printed and carefully compiled account of the author's subject. It has been written from a practical rather than an academic standpoint, and the accounts of the various operations met with are particularly praiseworthy. Nor does the writer hesitate to state his case when he believes that time-honoured descriptions, carried on from text-book to text-book, are wrong. Thus, in his description of lateral sinus thrombosis he indicates the rarity of the "booby" symptom-series of tenderness, swelling and a feeling of a "cord" in the course of the internal jugular vein in the neck. This attitude makes the book well worth reading, for it indicates an alertness in the writer's mind not always found in such works. Such subjects as rhinomycosis—which have recently been worked upon—are discussed.

But good as the book is, to whom can we commend it? To the young specialist, perhaps, as a work of reference, and to the general practitioner for the same reason. But to the student the price will be prohibitive. The man to whom the book will be of most value—and whom we heartily recommend to purchase it—is he who is sitting for one of the higher surgical examinations. To him it will be of the greatest use.

A MANUAL OF SURGICAL ANATOMY. By C. R. WHITTAKER, F.R.C.S.(Edin.), F.R.S.E. Third Edition. Revised and enlarged. (Edinburgh: E. & S. Livingstone.) 8vo, pp. xi + 429. Price 15s.

The third edition of this manual has been revised and enlarged by the addition of some eighty pages, and includes about thirty new illustrations. As the author explains in his preface, it cannot be considered in any sense a complete treatment of surgical anatomy. But for the student who follows the sound advice of making the cadaver his text-book, while using a handbook for guidance and for revision purposes, this book is useful. It might well have a wider circulation at Bart.'s. Its defect is the defect of all short works: that brevity can only be secured at the price of omitting many important facts. As examples of this, the surface anatomy of the abdominal viscera receives scant notice; and the clinical considerations of numerous anatomical points are lacking. On the other hand, the illustrations and diagrams are clearly drawn, and, many of them, distinctly helpful. The descriptions, though often too compressed, are concise. Another good point is that the terminology is English. To those who deny that this is a good feature, one would urge that though the B.N.A., being scientific and unromantic, may one day prevail, the time is certainly not yet. A few errors have crept in. The diagram of the brachial plexus (Fig. 2) is incompletely printed. The portal circulation does not *affect* an anastomosis *vid* the vein of Sappey (p. 305). And subperitoneal and submucous fibromyomata do not arise from the peritoneum and endometrium respectively (p. 407). But these are minor points.

CORRESPONDENCE.

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

DEAR SIR,—I was asked to write an impression of the post-graduate class that was held at St. Bartholomew's Hospital from July 18th–30th of this year.

I have great pleasure in doing so, in the hope that I may in some small way convey a sense of the gratitude of the post-graduates to the teaching staff for their extraordinary zeal in making the course the success it undoubtedly was.

Those who were not present I would remind that the course extended over twelve days; two of these were Saturdays (half-days), making eleven full days of seventy-one working hours. Including the Clinical Bacteriology the charge to Old Bart.'s men was eight guineas.

The course extended over a range of seventeen subjects, and almost every department in the Hospital gave a demonstration.

This Gargantuan feast was provided by the organiser on the assumption that the graduates would wander to the Square for a quiet smoke and chat, occasionally breaking away to cull some rare flower of knowledge. The fact was very different.

The class turned up in full strength to the first lecture, rushed out to buy larger note-books for the second, took off their coats for the third, and then settled down with dogged determination to demolish the lot.

The impression I have of the last hour of the last day is a row of graduates, most of whom were qualified before their instructor was born, gazing transfixedly at a row of ladies with the particular deep pigmentation of the breast affected by the patients who patronise the X-ray department. Then, breaking away with a wrench, with hats crammed on their heads, pockets bulging with notes, precipitately careering down the stairs to catch their trains to the country.

This appreciation, though no doubt flattering to the teaching staff, created its embarrassments.

In the first place the clinical classes, especially in the wards, were unwieldy.

Secondly, it was difficult for the lecturers in some of the special subjects take, for instance, "Eyes"—to talk to men, some of whom were thirsting for information about diseases of the fundus, others of whom were completely mystified by the technical terms "myopia" and "hypermetropia."

I noticed, too, among the patients that the lady with the Hippocratic succussion splash discovered that she could demonstrate the phenomenon without assistance before half the class had listened to it.

Nor were all the advantages confined to the listeners. The teaching staff were tonically stimulated. When the lecturer gazed upon the rows of hard-bitten practitioners, whose faces had grown furrowed and knotted in the course of a life struggle with the public, he must have realised that his each and individual "stunt" was being carefully weighed in the balance of practicability. Before the last words had died from his lips he was confronted with a tornado of questions, many of them to the point, almost all beginning with the formula, "Sir, I have a patient, etc., etc. . . . Can you explain . . ." And therein lay the kernel of success of each lecture. The work was confined in the most part to that which the practitioner could or hoped to do for himself.

The fortnight remains as a pleasant memory, and some of the provinces doubtless are reaping benefit from it. All, teachers and taught, hope that it will be continued as an institution.

Among the graduates there was universal satisfaction, and especially appreciated were the efforts made to provide good cases. The provision of type-written notes handed round before the lecture was of inestimable value.

The chief constructive criticism was the hope that the organisers would protect the graduates from themselves. This might be done by dividing the present range of subjects into: (*a*) Medical, (*b*) Surgical, each section to be limited to twenty-five men in the class.

Such a division might be:

Medical course.	*Surgical course.*
Clinical cases.	Clinical cases.
Diseases of women.	Orthopædics.
Diseases of children.	Diseases of throat.
Neurology.	Diseases of ear.
Skins.	Diseases of eye.
Vaccine and serum therapy.	Venereal diseases.
Electro-therapeutics.	X-ray—interpretation of skiagrams.
Special demonstrations.	Special demonstrations.

This would avoid congestion and the range of subjects should be sufficient for a ten days' course.

If special practical courses limited to a few, say eight or ten men, were held in subjects, like practical bacteriology, instrumental diagnosis of heart irregularities, radiology, etc., at special fees, they would doubtless be eagerly sought after.

Yours very faithfully,

CIRENCESTER. HAROLD GRAHAM.

SIR,—Mr. Anderson gave a clear account of the life and work of Thomas Willis in the essay which was awarded the Wix prize and printed in the August number of this JOURNAL. There is, however, an important omission to which attention should be drawn. In his book, *Pharmaceuticæ Rationalis*, which was published in 1674 (one year before his death), Willis described the symptoms of diabetes and made the following observations:

"But the statement of many authors that the liquid imbibed is excreted little, if at all, unchanged, is very far from the truth; for in every case which I have met with, and I believe this holds true for all cases, the urine has differed greatly from the imbibed fluid as also from any humour, which is wont to be generated in our bodies, in that it is remarkably sweet like a solution of honey or sugar." (Cap. III, Sect. 4. Translation by A. E. Garrod. "Lettsomian Lectures," *Lancet*, 1919.)

Willis was not able to confirm his observations by any chemical tests and the medical world were very slow to accept it as true. It was not until 1776 that another Englishman, Mathew Dobson, of Liverpool, proved by chemical tests that Willis had been correct in his deduction. To appraise the respective merits of work so diverse as Willis's anatomical studies and the discovery of sugar in the urine of patients with diabetes is very difficult. The anatomist and surgeon will naturally acclaim the anatomical work, while the physiologist and physician will award the palm to the discovery of sugar. It is clear that the anatomist has won the day, since every medical student has heard of the circle of Willis.

It is a curious coincidence that I began an article called "The Introduction of Digitalis into the Practice of Medicine" (which was published in this JOURNAL, March, 1920) with these words: "The names of the men who have made important discoveries in medicine or surgery are frequently forgotten or only remembered by chance. For instance, the name of Thomas Willis is known to most students because he discovered the circle of Willis, but few people know that his great work was the observation that the urine of diabetic patients was sweet."

Yours truly,

GEORGE GRAHAM.

ST. BARTHOLOMEW'S HOSPITAL, E.C. 1.;
August 17th, 1921.

EXAMINATIONS, ETC.

UNIVERSITY OF CAMBRIDGE.

The following degrees have been conferred:
M.B., B.Ch.—S. D. Sturton.
B.Ch.—W. Shaw, J. Whittingdale.

UNIVERSITY OF LONDON.

M.D. Examination, July, 1921.

Branch I. Medicine. G. M. J. Slot, M.B., B.S. (University Medal).
Branch V. State Medicine.—H. M. C. Macaulay, M.B., B.S., B.Sc.; P. S. Selwyn-Clarke, M.B., B.S.

First Examination for Medical Degrees, July, 1921.

Pass List: Chemistry, Physics, Biology.—E. Bacon, *H. C. Boyde, M. Byer, P. E. J. Cutting, I. F. Day, D. A. Dewhurst, P. H. Flockton, A. E. Fraser-Smith, E. A. Freeman, W. L. Gillbard, R. V. Goodliffe, T. H. Hobbes, L. Holmes, C. L. Hunt, H. T. J. Hynes, W. Ogden, A. W. Patton, O. Richardson, C. J. Sanderson, H. J. Seddon, H. Simmonds, I. G. Smith, R. K. Smith, C. W. L. de Souza, W. F. Waudby-Smith, J. S. Witton.

* Awarded a mark of distinction in Physics.

Second Examination for Medical Degrees, Part I, July, 1921.

Pass List: Organic and Applied Chemistry.—J. S. Aldridge, R. G. Anderson, J. R. Beagley, R. Bolton, F. P. O. Bridgeman, J. B. Crabtree, D. W. Cross, O. F. Farndon, B. M. C. Gilsenan, C. R. M. Greenfield, J. S. Hensman, H. F. Hiscocks, A. C. Liesching, M. L. Maley, J. G. Paley, M. D. Rawkins, W. R. Thrower.

ROYAL COLLEGE OF PHYSICIANS.

At a Comitia held July 28th, 1921, the following were admitted *Members*:
R. J. Reece, M.D.(Cantab.), L. R. Shore, M.B.(Cantab.).

CONJOINT EXAMINING BOARD.

Final Examination, July, 1921.

The following have completed the examination for the Diplomas of M.R.C.S., L.R.C.P.:
G. K. Arthur, F. C. W. Capps, F. T. Evans, J. J. da Gama Machado, B. J. Hallowes, M. S. Hashish, C. A. Horder, L. M. Jennings, D. M. Lloyd-Jones, C. G. Martin, L. S. Morgan, D. B. Pauw, E. Savage, H. Shannon, S. R. Simaika, W. Shaw, A. Verwy.

LONDON SCHOOL OF TROPICAL MEDICINE.

The following have had the Diploma in Tropical Medicine conferred on them as the result of the recent examination of the London School of Tropical Medicine:
L. W. Barlow, S. Roach, T. B. Welch, N. M. Wilson.

APPOINTMENTS.

COX, H. C. L., M.B., B.S.(Lond.), appointed Medical Officer in Charge, Wellhouse Hospital, Barnet, Herts.
DUNDAS-GRANT, SIR JAMES, K.B.E., M.D.(Edin.), F.R.C.S., appointed Consulting Laryngologist to the Cancer Hospital, Fulham.
GASPERINE, J. J., M.R.C.S., L.R.C.P., appointed Fifth A.M.O., Horton Mental Hospital, Horton, Epsom.
PAVEY-SMITH, A. B., M.C., M.B., B.Ch.(Camb.), F.R.C.S.(Eng.), appointed Surgeon for Nose, Throat and Ear to the Royal Bath Hospital and Rawson Convalescent Home, Harrogate.
PERKINS, R. J., M.D.(Lond.), M.R.C.P., appointed Physician to Out-Patients' Department, Royal Waterloo Hospital.
PINNOCK, D. D., M.B., B.S.(Melb.), F.R.C.S., appointed Assistant Surgeon to the London Temperance Hospital.
SHARP, B. B., M.B., B.S.(Lond.), appointed Resident Medical Officer, St. Pancras Dispensary, 39, Oakley Square, N.W. 1.

CHANGES OF ADDRESS.

COX, H. C. L., Wellhouse Hospital, Barnet, Herts.
ILLIUS, H. W., Lt.-Col. I.M.S., c/o Messrs. T. Cook & Son, Bombay.
SHARP, B. B., St Pancras Dispensary, 39, Oakley Square, N.W. 1.
SIMPSON, W., The Ivies, 3, Adelaide Road, Andover, Hants.
WALLIS, R. L. MACKENZIE, 105, Harley Street, W. 1. (Tel. Langham 2676.)
WEST, C. ERNEST, Newquay House, Flushing, Falmouth.

BIRTHS.

CUTHBERT.—On July 24th, at Ranikhet, India, to Noël (*née* Montgomerie), wife of Captain E. S. Cuthbert, R.A.M.C.—a daughter.
DUGGAN.—On July 24th, at College Gates, Worcester, to Dr. and Mrs. Norman Duggan—a son.
JEPSON.—On July 24th, at a nursing home, to Jean (*née* Scott), wife of W. Baly Jepson, M.C., M.R.C.S., St. Bartholomew's Hospital, E.C. 1—a daughter.
KAY.—On August 1st, 1921, at The Manor House, Blakeney, Norfolk, the wife of A. R. Kay, M.R.C.S.(Eng.), of a son.
LYSTER.—On July 17th, at Highfields, Great Baddow, Essex, to Erica, wife of Ronald G. Lyster, M.B., B.S.(Lond.)—a daughter.
SLADDEN.—On July 24th, at Cheltenham House, Eaton Grove, Swansea, to Dr. and Mrs. Arthur Sladden—a son (Robert Arthur).
WAKEFORD.—On July 23rd, at 728, Fulham Road, S.W. 6, the wife of V. D. C. Wakeford, M.B., B.S., of a son.
WALLIS.—On August 13th, at 55, Townshend Road, N.W. 8, the wife of Dr. R. L. Mackenzie Wallis—a daughter.

MARRIAGES.

BULL—SPEDDING. On August 4th, at St. Michael's, Chester Square, Leslie James Forman Bull, M.B., B.S.(Lond.), elder son of Mr. and Mrs. James Bull, of Brook Cottage, Stanwell, near Staines, to Muriel, younger daughter of Captain and Mrs. John Spedding, of 8, Langdale Road, Sefton Park, Liverpool.
MCKENZIE BROWN—ARCHER.—On July 21st, at St. James' Church, Walthamstow, by the Rev. L. Archer, uncle of the bride, assisted by the Rev. H. J. Stares and the Rev. A. T. Fryer, J. Laird McKenzie, son of Dr. J. Brown, of Walthamstow, to Winifred Dorothy, only daughter of the late Dr. Archer and Mrs. Archer of Walthamstow.
NOON SOUTH.—On June 18th, at St. Peter's, Crawley, Charles Noon, F.R.C.S., only son of Samuel Bilson Noon and Mrs. Noon, to Cicely, elder daughter of F. W. South, of Ifield, Sussex.
VINES—BRINDLEY.—On June 27th, at Great St. Mary's, Cambridge, Howard William Copland Vines, M.A., M.B., Fellow of Christ's College, second son of Sydney Howard Vines, Sc.D., F.R.S., Honorary Fellow of Christ's College, sometime Sherardian Professor of Botany in the University of Oxford, and of Mrs. Vines, to Dorothy Mary Beatrice, daughter of Harold Hulme Brindley, M.A., F.S.A., Steward of St. John's College, and of Mrs. Brindley.

DEATH.

MORRIS.—On July 17th, 1921, at Belmont Road, Wallington, Surrey, Graham Morris, M.D. (Brux.), M.R.C.S., L.R.C.P.(Lond.), Hon. Capt. R.A.M.C., aged 60.

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.*

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