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ST. BARTHOLOMEW'S HOSPITAL JOURNAL

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EDITORIAL

Apartheid is a vexed question on which it is hard to express a balanced opinion. For the majority in this country South Africa is a remote place and few of us have any experience of the problem of apartheid as it exists there. Public interest in the problem is sporadic, stimulated from time to time by some fresh development reported in the columns of the ever vigilant British Press. Nevertheless the majority of thinking people in this country condemn apartheid as morally unjustifiable.

Interest has recently centred on the boycott of South African goods with which the University Unions of Oxford, Cambridge, Newcastle and Liverpool have associated themselves, together with a number of other organisations. This matter was debated in the Students' Union Council Meeting of December 2nd. No one advocated boycott action within the hospital and it was clear that any such proposal would not receive sympathetic treatment from the Council. A resolution was then passed calling for a referendum of student opinion on the policy of apartheid in South African universities. A further suggestion that the Students' Union should hold a debate prior to the referendum in which both sides of the problem could be clearly stated, was adopted. The main purpose of the referendum is to enable the President of the Students' Union to inform the University of London Union of the state of student opinion in this hospital should he be called upon to do so.

The Medical Profession has always attempted to keep aloof from politics unless they are directly concerned, and in this matter caution must be urged upon the Students' Union.

All the student members of the hospital are represented by a University Union (be it U.L.U., O.U.S. or C.U.S.), which, being semi-political bodies are the right and proper channels for the expression of student opinion. The Students' Union of this hospital is not a political body ; moreover the lay public is unlikely to recognise the distinction between the Students' Union in particular and the Hospital in general. Any *ex cathedra* pronouncement on apartheid which may result from the debate to be held by the Students' Union therefore runs the risk of being interpreted by the public, and more particularly by the Press, as a statement of Hospital opinion, and hence of at least a section (and, one hopes, a highly respected section) of the medical profession.

The Council of the Students' Union are to be congratulated on their common sense in avoiding the question of a boycott. It is to be hoped that the motion for debate will be phrased with great care to avoid possible embarrassment. A simple discussion following paper speeches would avoid the necessity of committing the Union by the carriage or rejection of a motion.

James Paget

The 60th anniversary of the death of Sir James Paget was on the 30th of last month. Perhaps because of the special place he holds in the Hospital's historical pride, it is difficult to realise that he failed so narrowly to live into the 20th century, and that his life overlapped those of many present members of the staff. With Pott and Abernethy, he must be thought of by many as a giant of the indefinite past.

There is some excuse for this. He was born in the merchant port of Yarmouth in the year before Waterloo. After training his mind by much reading and the study of the natural history of the Yarmouth area, he entered at St. Bartholomew's in 1834, and proceeded to make himself one of the very last men ever to have a complete understanding of all that his world knew about anatomy, pathology, surgery and the new physiology. But like all great Victorians he was both the last of one age and the first of another. After waiting seven years for a hospital post (even he! what hope for the rest of us?) he was appointed the first lecturer in Physiology to the Hospital. In the years that followed he became the English Virchow in his development of cellular pathology. His stature was formed in his sixteen years or so of teaching, but most of his life was given to his private practice and his hospital surgeoncy, and he continued the former until a very few years before his death.

Some of Paget's most valuable work for the Hospital was in resurrecting the Medical College from the abyssmal state it had fallen to since the days of Abernethy. He thought out the idea of a residential college on the Cambridge system, and in 1843 became both its first Warden and Dean. As a result the College rallied in numbers and quality at a time when in a few years it might have become extinct. In Paget's words, not only was it "no longer possible for anyone to be thoroughly idle or thoroughly vicious without being observed" but "it introduced at once that of which the want had been the great defect of the School, a plan for the general supervision and guidance of the students:" for "it became the duty of the Warden to advise nearly all students as to their course of study".

Many may feel that such a personal system of supervision would be valuable even today.

Faculty of the History of Medicine and Pharmacy

The foundation of this faculty last September by the Worshipful Society of Apothecaries is an important event. "Its aim is to foster and extend more general interest in medical history, and to attract the co-operation of general historians, so that work in this field may be co-ordinated with wider historical studies." With this end in view, symposia, discussions, and congresses will be organised and visits to sites of medical historical interest arranged. There is in addition a research Fellowship, endowed by the Wellcome Trustees, and held at present by Mr. R. S. Roberts, a professional historian, who is working on the early organisation of the drug trade from the 17th century.

Not the least important aspect of the faculty is the Panel of Lecturers who will be available to those schools who become Corporate Members, which may be arranged at a very moderate subscription. Two London teaching hospitals have already joined the Faculty, and it would seem to be a move which Bart's would do well to follow.

The Inaugural Lecture was given on December 2nd in the Apothecaries' Hall by Canon E. Raven on "Medicine—Mother of the Sciences". The theme of his talk was that one should not regard the Renaissance as the beginning of scientific medicine, which had its origins very much earlier.

The Faculty has had a most successful beginning, and one hopes that it will flourish in years to come, and succeed in stimulating the interest of medical students in the historical background of their profession (the importance of which was stressed in the Editorial, August 1959).

Council of Europe

In a small leaflet, published to mark their Tenth Anniversary Year, the Council of Europe calls attention to some of its major achievements in the sphere of social welfare. Of medical interest is the agreement in which signatory countries grant to visiting nationals from the other participant countries the same medical and social assistance as their own citizens.

The Council of Europe also offers a number of Medical Fellowships to qualified practitioners each year in order that they may familiarise themselves with modern techniques in other European countries. Applications should be made via the Public Health authorities.

The most dramatic of the Councils medical achievements has been the establishment of the European Blood Bank which is able to supply human blood or its deriviatives to member countries in case of emergency at a cost to cover only collection, preparation and transport.

U.H. Symphony Orchestra—Concert

The number of people in the audience at the Christmas Concert given by the Hospitals Symphony Orchestra at the Royal Academy on December 5th was not large; and those who missed it must count themselves at a loss, for this was an occasion when the orchestra acquitted itself very favourably of a difficult programme.

Music is always easier to play when you know it, but it is much harder to make a good impression upon an audience when they too, are fully aware of every turn of phrase. Thus it is to the credit of the performers that Brahm's Academic Festival Overture and Tchaikovsky's Piano Concerto No. 1 in B flat minor, were so well received.

The soloist was Joseph Cooper. He played with great skill and musical feeling. It was a pity that, in the second movement, the strings were unable to keep a steady tempo, and one feels that a more definite beat from the conductor, Christopher Finzi, would have given them a better rhythmic hold.

After a long, rather too long, interval Joseph Cooper enchanted everyone with brilliant improvisations, which surely put to shame most of the people who claim to "play by ear".

Rimsky-Korsakof's Capricio Espagnol is a noisy work and this performance was no exception.

The lovely Fantasia on Christmas Carols by Vaughan Williams was sung by the Guy's Hospital Chorus. The justification for ending this concert with a quiet, religious work was in doubt until the magic silence at the end. This was finally broken by applause, but surely that moment was the climax of the evening.

Students' Union Council

At the Annual General Meeting held on Thursday, November 26th, the following officers were elected.

President : Mr. A. H. Hunt (re-elected).
Treasurers: Mr. Tuckwell, Dr. McDonald, Dr. Spencer.
Vice-Presidents : R. M. Hadley, C. G. Beardwell, D. J. P. Gray.
Senior Secretary : B. R. Middleton.
Junior Secretary : C. A. Hood.
Financial Secretary : D. W. Gau.
Publicity Officer : P. G. Cassell.
Preclinical representatives :
1st year : J. R. Thornewill, S. Campbell-Smith.
2nd year : N. Salisbury, R. Brown.
3rd year : T. J. Powles, P. Scriven.
Dental : P. E. Mason.
Women : Miss S. Williams.
Charterhouse Secretary : N. Salisbury.
Clinical Representatives :
Introductory : A. P. Ross.
Clerks and Dressers : A. C. Howes.
M.O.P.'s and S.O.P.'s : C. A. McNeill.
Children and Specials : M. B. J. Bishop.
Midder and Gynae : P. R. H. Evison.
Finalists : G. F. Halls.

The retiring Senior Secretary, D. Julier, in a fine oration, recalled some of the outstanding events of the past year. Achievements which must be recalled in particular are those of the cricketers who made between them five centuries (the last one to be made was as long ago as 1948); the performance of J. Harvey with his total of over 1,000 runs and 40 wickets must surely receive special mention and congratulations.

The women's hockey team have made an equally important contribution in the sporting field by winning the Hospital's Cup for the sixth year in succession; the ladies success in capturing the tennis trophy from St. Mary's Hospital should also receive more than a passing mention, and should suffice to delete from the public mind any notions of the apathy of women medical student's at Bart's.

One regretted the failure of the View Day Ball to do no better than a loss of £150, and the committee are working to avoid a similar disaster next year. The date already chosen is Thursday May 12th, but the place has not yet been specified. It is hoped that it will be supported with more enthusiasm than last time.

The meeting ended with the usual item of "Any Other Business", as a result of which future Council meetings may be attended by any member of the Medical College, although Council Members only may speak and vote. Heated arguments on subjects ranging from the integrity of Bart's men to the cost and quality of food, allowed some of those present to let off a little hot air, but in no way upset the delicate equilibrium of the régime by which we live at Bart's.

Honours

The Council of the Students' Union has approved the award of Honours Colours to

Miss J. Arnold Miss J. Swallow A. Gordon T. Seaton	Tennis
J. D. Davies	Cricket

Fifty Years Ago

The Journal carries an article on Chinese medicine by Surgeon W. Perceval Yetts, R.N. It appears from his observations that the art of the Celestial practitioners reached heights of empiricism to which even the most bizzare forms of Western quackery could not aspire.

The literature is prolific and the first medical treatise (of which a "reprint" appeared in the eighth century A.D.!) is ascribed to the Emperor Awang-ti—circa B.C. 2700. Since then typical examples of Chinese erudition are to be found in the ten volume work on the pulse published in A.D. 290 and the ninety volume system of medicine issued in 1740. Unhappily the size of these works is not justified by the scientific thought or observations they enshrine.

The pulse is of fundamental importance to the Chinese doctor—it is "the sole and complete means of making a physical examination of his patient."

"He has learnt . . . that every organ of the body is fully represented at various points of the two radial pulses, and therefore any malady can be adequately diagnosed from the patients wrists. This being an established fact why search elsewhere, or ask unnecessary questions? He does not."

Physiology and Anatomy are subjects in which the Chinese appeared to be very weak in 1910: "the larynx goes goes through the lungs directly to the heart . . . while the pharynx passes over them to the stomach. The small intestines are connected with the heart and bladder . . . and the large intestines with the lungs."!

The Celestial pharmacopoeia lists no less than 1,575 drugs, most of which make medieval English remedies sound quite commonplace. Toad-spittle cakes appear to have been good antidotes to poisons and dried centipedes a sure cure for syphilis.

Acupuncture was regarded by the Chinese as an universal panacea much as bleeding was in this country. It consisted of puncturing the skin to a greater or lesser depth in carefully selected sites with a series of special needles. The body surface was divided into 367 areas each "related" to some internal organ or structure. The area(s) related to the patient's illness would be carefully selected and the needles driven in with a swift blow from a mallet. " . . . they are frequently made red hot and often left in the skin for days together."

Space considerations preclude further reference to this article which is well worth reading.

Treasure Island at the Mermaid Theatre

Treasure Island conjures up in the mind visions of pirates drunk with the lust for gold, of tall ships with all sail set ploughing through heavy seas, desert islands, treachery, intrigue and death.

To bring all this and much more to the apron stage of the Mermaid Theatre required great skill and ingenuity on the part of Peter Coe, the producer of Stevenson's classic. This he has done admirably assisted by the superb settings of Sean Kerry, who, no doubt inspired by the teaching of the late Frank Lloyd Wright, has produced a set which the actors transform before ones very eyes from the Admiral Benbow Inn, to the foredeck of the Hispaniola, and then to the Island. I feel that much of the success of this production is due to him.

It would, I feel, be imprudent to single out any member of the cast as better than the rest. The production is clearly the result of close team work and is enjoyed by the whole cast and audience.—J. W.

CALENDAR

Wed. 20	Soccer v. Westminister Hospital
Sat. 23	On Duty: Dr. A. W. Spence Mr. C. Naunton Morgan Mr. R. A. Bowen
	Rugger v. O. Millhillians (H)
	Soccer v. Caledonians (H)
Mon. 25	Film Society: Great Expectations
Sat. 30	On Duty: Dr. G. W. Hayward Mr. A. W. Badenoch Mr. R. W. Ballantine
	Rugger v. Oxford Greyhounds (A)
	Soccer v. Worcester College, Oxford (H)

February:

Wed. 2	Rugger v. O. Ruttishians (A)
Sat. 6	On Duty: Dr. E. R. Cullinan Mr. J. P. Hosford Mr. C. Langton Hewer
	Soccer v. Clare College, Cambridge (H)
Mon. 8	Film Society: The Wild One
Wed. 10	Soccer v. Royal Dental Hospital (H)

HONOURS

Sir James Paterson Ross has been admitted to the honorary fellowship of the Royal Faculty of Physicians and Surgeons of Glasgow.

Mr. J. B. Hume has been elected chairman of the Council for External Students of the University of London for 1959-1960.

Professor K. J. Franklin has been elected a Life Member of the Anatomical Society of Great Britain and Ireland.

The degree of Doctor of the University of Grenoble *honoris causa* has been conferred on Mr. H. J. Seddon.

Dr. E. F. Scowen gave the Imperial Cancer Research Fund Lecture at the Royal College of Surgeons on Tuesday, December 8, on the subject of "Hormone dependant cancer, the present position".

ANNOUNCEMENTS

Engagements

DALE—LIEKER—The engagement is announced between Dr. Colin Clive Hughes Dale and Fraulein Almut Sophia Thea Amalie Lieker.

HOOD—CLAIR—The engagement is announced between Christopher Allen Hood and Alison Julia Annabel Clair.

WHITTLE—SUDGEN—The engagement is announced between Dr. John Whittle and Pamela Sugden.

Deaths

HUGHES—November 24th, Gerald Stephen Hughes, F.R.C.S., aged 81. Qualified 1902.

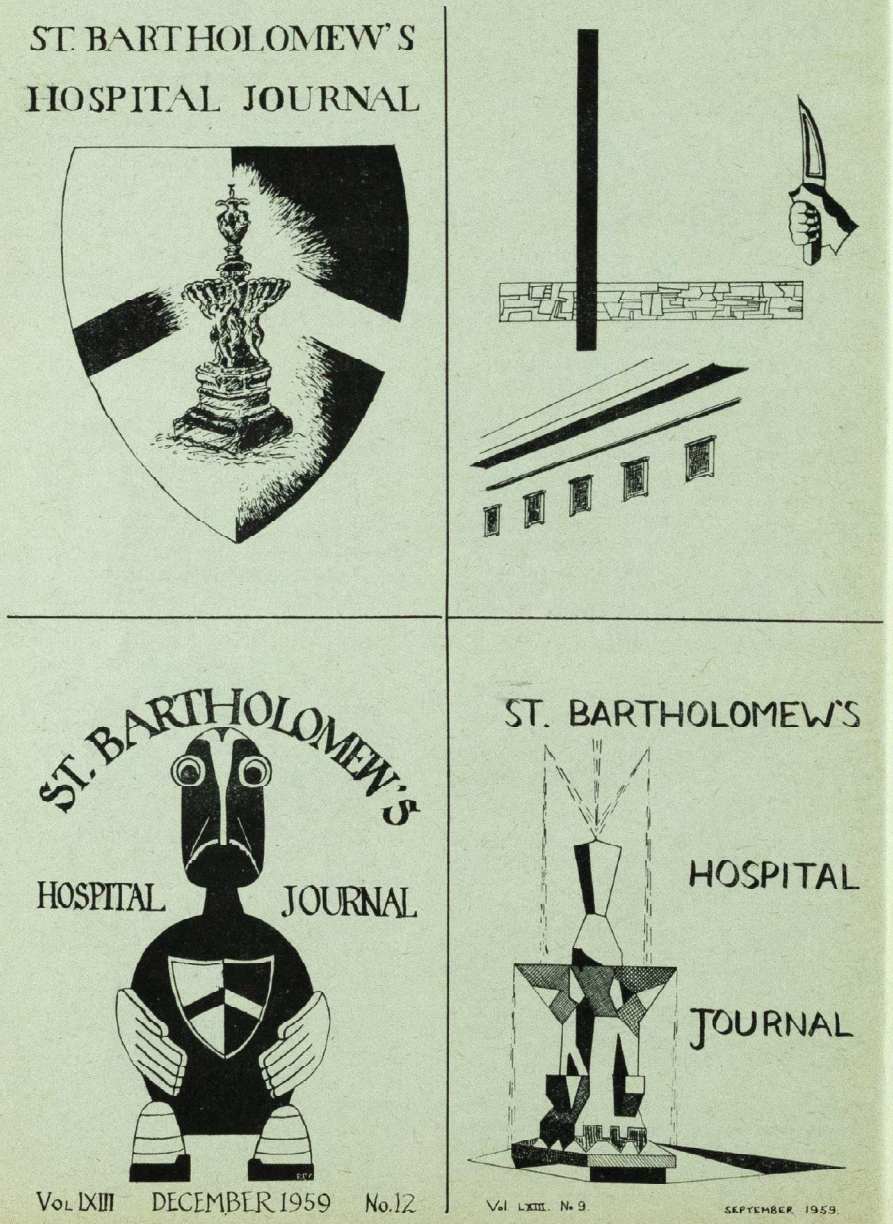
MACKAY-ROSS—On November 24, Dr. John Andrew Mackay-Ross. Qualified 1923.

VON BERGEN—On November 26, Dr. Carl von Bergen. Qualified 1899.

WILSON—On November 14, Harold Wilson, F.R.C.S., aged 79. Qualified 1903.

" Now lets get to the bottom of all this!"

Cover Designs



Journal Cover Competition

Rather more than a dozen entries were received of varying artistic merit. It was interesting to see how often the designs were inspired by what a member of the staff was recently heard to describe as " That Victorian Monstrosity "—namely, the Fountain !

The Publications Committee decided that no single entry was suitable for use on the Journal cover, but that a selection of four should be published, the artists concerned receiving half a guinea consolation prizes.

Artists : 1. Miss E. Rees (Hill End)
2. B. McGrath
3. R. Church
4. C. A. Hood

Journal Staff

A. J. B. Missen succeeds P. J. Watkins as Editor.

H. White has been appointed Assistant Editor.

A Fall's a Hawful Thing

by GEOFFREY SPARROW

To most foxhunters the idea of a fall is scarcely entertained; but to me, whose duty it is to retrieve the body, the possibility is a very real thing, for accidents are by no means rare.

Here is what John Jorrocks says about it: " True, that in 'unting men will roll about—but so they will on the road; and I'd rayther have two bumps in a field than one on a pike. . . . Still, a fall's a hawful thing. Fancy a great sixteen 'and 'oss lyin' on one like a blanket, or sitting with his monstrous hemispheres on one's chest, sendin' one's werry soul out o' one's nostrils! Dreadful thought. Vere's the brandy ? "

But let us take comfort, for comparatively few accidents are serious and quite a large proportion occur on the road home or when a horse puts his foot in a hole, and may often, with a little care and attention, be avoided: such falls are nearly always worse than those at a fence, where the horse usually makes some effort at recovery instead of dropping like a stone.

But don't worry, for there's more joy than jeopardy in hunting, and as J.J. said: " Every man wot prefers his 'ealth to the interests o' the seidlitz-powder makers will get as much 'unting as ever he can afore Christmas."

A doctor in the hunting field should never look conspicuous: he should wear a black coat, and I have only known one to ride in pink. Grey or odd-coloured horses should be avoided and a nice quiet bay or brown will suit his purpose and make a less conspicuous target; for some people will seek him out and talk shop to him and that is really what he comes out to be rid of, if only for an hour or two.

A doctor was once asked by a lady to come and see some fellows in trouble, and when he arrived on the scene, there they were, five or six of them, laid side by side: she was very shocked when he told her that he'd come out for a day's hunting and not as a mortuary attendant.

An old sporting doctor once told me how he was out one day, and just as hounds were getting away on their fox, a fat, wheezy patient galloped up behind and shouted, " I say, doctor, what shall I do with my throat? "—and my friend called back over his shoulder, " Cut it! " That was that! However, I don't want to seem cynical, for doctors generally, and this one in particular, are only too keen to help anyone in real trouble. It is an unwritten law that while a doctor is attending a case, his horse should not be allowed to go loose: this seems pretty obvious, but I have had mine let go before now.

It's a responsible task to look after a bad fall, and none too easy to make a diagnosis through layers of thick Melton cloth and flannel waistcoats. I always think, if it's bad enough to stop me, it's bad enough to be sent home: and in any case of doubt, home by car is the order of the day.

A hurdle or Sussex gate makes an efficient stretcher for more serious cases where it is either impossible or inadvisable to walk.

At least four people will be required, for it's heavy work and the scene of the accident may be some fields away from the nearest point to which the car can be brought. It is best to lay a number of coats both above and beneath the patient, for shock is always attended by cold and worsened by it.

In fracture cases, which are fortunately of rare occurrence, splints can usually be improvised, and one or two slats from a Sussex gate will make efficient ones, while stock ties and handkerchiefs will serve as bandages. I remember treating a very severe case of haemorrhage when a horse's pastern was cut by glass. I had an awful job to stop it and used about six ties from as many ladies present, and not until we had got the horse away in a box did I discover that I was the only person left immaculate! I suppose it was one of my privileges, though I did not realise it at the time.

Cases of concussion should not be given any stimulant, and together with those where there is any question of abdominal injury should invariably be sent home or to hospital by car. Fractured collar bones and ribs, an occasional dislocated shoulder, are fairly common and will all call for medical aid. The popular idea that the doctor will sink his head between his shoulders, go stone deaf, and gallop in the opposite direction as if the very devil were after him, is quite absurd. Doctors don't just gallop on shouting " You're all right " as soon as ever they see anyone " base over apex " in the ditch.

There are several ladies in our hunt who are both willing and capable of rendering first aid, and to these every hunting doctor would offer his sincere thanks (and an honorary degree if he could confer it). It's a good plan in cases of collar bone, or injury to the arm or shoulder, to put the arm on the affected side in a short arm sling made out of a stock tie. Fractured ribs, too, unless there are a number of them, are well relieved by a couple of bandages round the chest, not applied too tight.

Dislocation of the shoulder can sometimes be reduced if there is a doctor available at once.

When it is the doctor himself who is involved it's a little more tricky, and the old slogan " Physician, heal thyself " is not of much use, especially if he has concussion. Concussed people are always quarrelsome and argumentative, call for their horses, and insist on getting up and going on. I remember some years ago that I got a proper crack on the head and carried on rather better than usual; in fact I jumped a high flight of rails that was quite beyond my usual form. All the same, it is a very risky thing to do, and such cases should, without exception, be evacuated.

I think no one will deny that there is much altruism among doctors, and the *chevalier d'industrie*, or the man who makes profitable work for himself, is the rare exception, though I knew of a doctor once who peppered his host out shooting, spent the next week extracting the pellets, and then sent him the bill! None the less, I must confess that I have had many good hunts on horses belonging to patients whom I have previously ordered to keep to their beds; but here again is one of our rare privileges, though I feel sure some people thought I did it on purpose! We must get a break sometimes for there is no profession or calling in the world more obstructive than medicine to foxhunting. Great care is required in so arranging the work as to allow of *one* day's hunting each week and even then something is quite likely to turn up at the last moment.

I sometimes found myself with a number of operations to do before driving down to meet my horse and it was quite easy to leave something behind in the fury of the moment: I am not thinking of a swab inside a patient, but one's top hat or something like that. Myself, I have been lucky in that I never felt tired after hunting and have often had to do emergency operations on my return. I remember that on one occasion I had had three falls.

I have always found that the people one helps are very grateful for what is done, and the most appreciative expression of gratitude that I received was a case of whisky. I had had to wade into a brook and recover a lady who had been completely under water and had come up under the overhanging banks and alder roots. I think that without a doubt she would have been drowned if no one had been near. She sent a message afterwards to say that the whisky was meant for me to mix with the water in my boots.

And now, having harrowed the feelings of my readers (if any of them have stayed the course) I would say, " If you fall, keep a hold of your horse, but few things are worse than a sharp burst in top boots! But don't worry unduly, for it may never happen."

Research at Bart's

DEPARTMENT OF PHYSIOLOGY, II

Response of Human Tissues

A study of the variation in the response of human tissues to the same form of stimulus at different ages is being undertaken by Dr. F. J. Aumonier in collaboration with the Dental Department. The tissue selected for study is the epithelium of the human gum. This is a stratified squamous epithelium with a slight amount of cornification. It had already been established that the stimulus of brushing the gums with a hard brush did produce an increase in the thickness of the cornified layer, and it was decided to see whether this response varied in different age groups.

In the series of patients studied a biopsy of the gum was taken at the first attendance, the patient was then instructed to brush the gums vigorously according to a standard ritual, and a suitable brush and supply of dentifrice was provided. After one month the patient returned and a further biopsy was taken; this was repeated until after 3 months treatment there was a total of four biopsies from each patient. Unfortunately many patients did not keep the full number of appointments, so that the total number of biopsy specimens in the third and fourth groups was much less than in the first and second.

The specimens were fixed in formalin to which a trace of carmine had been added; this stained the epithelium red and was of great help in orienting the specimen during embedding. Sections were cut at a thickness of 5-8 μ and stained in haematoxylin and eosin. The thickness of the cornified layer was measured with a screw micrometer eyepiece using an oil immersion objective.

At the present time 93 patients have been investigated and the results treated statistically. These have been divided into two groups (i) up to 30 years of age (48 cases); (ii) 31 years and older (45 cases). It was noticed that in group (i) the initial thickness of the cornified layer was 7.8 μ and in group (ii) 9.4 μ. After 1 month the figures were group (i) 11.6 μ, group (ii) 12.0 μ. This difference was negligible, but if the gain in thickness is expressed as a percentage gain on the starting thickness, then group (i) gained 48 per cent and group (ii) only 27.5 per cent. After two months treatment the figures became: group (i) 12.0 μ (53.8 per cent), group (ii) 14.2 μ (51.0 per cent). Finally after 3 months group (i) were 12.8 μ (64.1 per cent) and group (ii) were 14.6 μ (55.3 per cent). It is concluded from these results that brushing the gums is followed by an increase in thickness of the cornified layer and furthermore this response is more rapid in the younger age groups. What is interesting, however, is that the final thickness of the cornified layer is greater in the older subjects. It is hoped to continue the work until 50 patients in each of four or five groups have been studied. These groups will be on a decade basis, 11-20, 21-30 etc.

Pulmonary reflexes

Reflexes arising from the lungs are being studied by Dr. J. G. Widdicombe. When the lungs are inflated afferent end-organs in them are excited, the vagus nerves transmit impulses to the respiratory centres, and inspiration is inhibited; this Hering-Breuer inflation reflex has been known for over 90 years, but its role in physiological or pathological conditions is little understood.

It has been shown (with Dr. R. Marshall) that congestion of the lungs sensitizes the pulmonary stretch receptors, which would make breathing more rapid and shallow for the same ventilation rate; this is advantageous since congestion causes stiffening of the lungs and large tidal volumes would require undue muscular work to stretch the lungs. Bronchospasm slows the respiratory cycle: the lungs inflate more slowly since airflow into them is hampered, the discharge of the pulmonary stretch receptors is retarded, the inhibition of the inspiratory centre is delayed, and inspiration is prolonged. This, too, is of advantage to the animal since rapid breathing during bronchospasm would require disproportionate muscular work to propel air through the constricted airways. The Hering-Breuer inflation reflex is, therefore, a factor in modifying the respiratory cycle to the mechanical state of the lungs to avoid inefficiency in the work of the respiratory muscles.

The experiments on pulmonary stretch receptors have been done on cats, and rabbits, but similar mechanisms exist in all mammalian species investigated (with Dr.

M. L. Crosfill). For example the mouse, breathing at 150 cycles per minute, might be expected to perform undue muscular work to produce the relatively very rapid rates of airflow associated with this frequency. However, measurement of the resistance to airflow in the air-passages of mice shows that it is relatively (on a lung weight-to-weight basis) far lower than that of larger mammals, so that mice can breathe rapidly without wasted effort. Animals of each of the species examined (mouse, rat, guinea-pig, rabbit, cat, dog, monkey and man) adopt patterns of breathing which are mechanically most efficient for the ventilation rate required. If they were to deviate from these patterns respiration would become inefficient in the sense that the respiratory muscles would use extra, wasted energy without increasing the alveolar ventilation.

The pulmonary stretch receptors probably lie in the smooth muscle of the air-passages, and it is natural to ask if they reflexly influence bronchial tone as well as the muscles of breathing. The method of testing this has been to record activity in single nerve fibres running into the lungs, the impulses probably being bronchoconstrictor. Inflation of the lungs reflexly inhibits discharge in these nerves, possibly via the pulmonary stretch receptors, so that the increase in bronchial diameter during inflation is partly "active" as well as passive due to the mechanical stretch of the bronchi. The pulmonary efferent fibres are vigorously stimulated by coughing due either to a mechanical stimulus in the large airways, or to inhalation of an irritant gas. The complicated interaction of reflexes arising in the lungs and influencing both respiratory muscles and the tone of pulmonary smooth muscle is being further studied.

Renal function

Two studies connected with renal function are being carried out by Dr. Elisabeth Ullmann. Concerning the first, it has been found that breathing against a small external airway resistance, such as a respiratory valve, leads to an increase in the excretion of water. The rise of urine flow is most marked in recumbent subjects, and in the upright posture after drinking a small volume of water. Polyuria is also found during hypernoea caused by CO_2 inhalation, hypoxia, or voluntary effort, and has been shown by others to accompany negative pressure breathing. It is probable, but not yet certain, that the excretory changes are initiated by the changes in intrathoracic pressure associated with altered respiration. It is thought that when the respiratory pump increases the inflow of blood into the chest nervous receptors somewhere in the thoracic vascular bed are stimulated to discharge afferent impulses which reflexly inhibit the release of antidiuretic hormone. Findings up to date are consistent with this hypothesis. Work in progress is concerned with testing it more rigorously in experimental animals, especially as regards the role of the neurohypophysis. The problem itself is of interest because it has been suggested that the respiratory changes accidentally activate a mechanism normally concerned with the regulation of the volume of body water. If this should turn out to be the case certain characteristics of the phenomenon suggest that the mechanism might operate by adjusting the sensitivity of the osmoreceptors.

The second problem concerns the localization of function in the renal tubule. Certain results obtained with the 'stop-flow' method for the localisation of function in the renal tubule were interpreted by Wilde and his co-workers (*Amer. J. Physiol.*, *195*, 549, 1958) as showing (1) that sodium reabsorption is an active process in the distal tubule but that in the proximal tubule it is entirely passive, depending only on the osmotic pressure difference between tubular fluid and post-glomerular blood and the concomitant fluid requirement of actively reabsorbed materials like glucose; (2) that even when ureter pressure during occlusion has become equal to the net filtration pressure some filtration continues, replacing fluid reabsorbed from the nephron. Both conclusions depend on the validity of the assumption that after the first 60-90 seconds of occlusion the net filtration pressure is nil. Work begun in co-operation with Dr. M. G. Taylor has shown that even at very high initial urine flow the pressure in the ureter during occlusion continues to rise for a much longer time than was supposed by Wilde *et al.*, and that it may continue to climb slowly for more than 10 minutes. If substances like creatinine, inulin or sodium thiosulphate are suddenly injected intravenously during occlusion and the concentration changes in the plasma are followed it is possible to estimate directly from the amount found in the 'occluded' urine the mean rate of glomerular filtration during the interval following injection. This method is being used at present to determine (a) the total volume of new filtrate entering the tubule during the entire period of occlusion; (b) whether or not measurable filtration occurs after the ureter pressure has attained 95 per cent of its final height and if so (c) whether the volume filtered varies with the concentration of substances like glucose which are actively reabsorbed from the proximal tubule.

Humoral transmission

Mr. B. N. Davies is studying the release of the chemical transmitter at sympathetic post-ganglionic nerve endings. When sympathetic nerves are stimulated, a chemical transmitter is released at the nerve endings and this acts on the smooth muscle or gland and causes the sympathetic response. Since about 1922 it has been known that this chemical transmitter is an adrenaline-like substance, and recently it has been shown to be noradrenaline. Now that the nature of the chemical is known it is possible to make a quantitative study of the release of the sympathetic transmitter. Many organs have a rich sympathetic innervation, e.g. the intestines, the liver, the spleen and the ear, and noradrenaline has been detected in the venous blood from all these organs after stimulation of their sympathetic nerves. The spleen however is the only organ which provides enough noradrenaline to enable quantitative work to be carried out. This work was started 2½ years ago in collaboration with Professor Sir Lindor Brown at University College, London.

The method which has been used is very briefly as follows: A cat is anaesthetized with chloralose and electrodes are put on the post-ganglionic splenic nerves. The superior mesenteric vein is cannulated, and then by occluding the portal vein, the venous blood from the spleen can be collected during and for a few seconds after a period of stimulation. The vasopressor activity of the blood sample is then assayed as noradrenaline on the blood pressure of the pithed rat, and the total amount of noradrenaline appearing in the sample as a result of the stimulation is calculated.

This technique is being used to investigate one feature of the action of the sympathetic nervous system. Since the beginning of this century it has been noticed that sympathetic effects, such as contraction of the nictitating membrane or contraction of the spleen, are not maintained for the duration of long periods of stimulation. This phenomenon has been called 'fatigue' and a number of different causes have been suggested. One of them is the failure of the chemical transmission mechanism, and Mr. Davies is trying to find out if the amount of noradrenaline released by the sympathetic nerves decreases as 'fatigue' occurs. There are many complications to this work, the chief one being the fact that the amount of transmitter appearing in the venous blood is quite different from the amount of transmitter actually released. This is because some of the transmitter combines with the 'receptors' and only the overflow appears in the venous blood. One way of overcoming this difficulty is to use the adrenergic blocking agent Dibenyline, which is said to occupy all the 'receptors' and prevent any combination of the transmitter with them. The result is that all the transmitter released by the nerve endings appears in the venous blood.

Results so far suggest that the amount of transmitter appearing in the venous blood does decrease during a long period of stimulation, but it is not yet certain whether this is due to decreased liberation at the sympathetic nerve endings or to some other factor.

Radiobiology

A study of the long term effects of irradiation is being carried out by Dr. Patricia J. Lindop in collaboration with Professor J. Rotblat and the Department of Physics. Some of this work has been described previously in the *St. Bartholomew's Hospital Journal* (September 1959).

Mice are used for longterm studies of the effect of a single whole body exposure to 15 MeV. X-rays. 15,000 mice are under study, kept in a carefully controlled and isolated colony in the Animal House. Each mouse is identified on entry into an experiment, and has a card for recording events throughout its life and notes made at post mortem examination.

Both physiological and pathological observations are made, on groups of mice exposed to a range of doses, at different ages. One interesting longterm effect has been the increase in body weight of mice exposed to doses under 200 r, compared with the persistent decrease in weight shown by mice exposed over 200 r.

This apparently 'stimulating' effect of doses under 200r produces gross mice, weighing up to 70 gram (normal average

weight is 30 gram), due to the abnormal deposition of fat over the shoulder and pelvic girdles, and in a peritoneal apron. It persists in mice surviving up to 900 days after irradiation, and does not seem to be the result of thyroid depression, increased appetite, or decreased body activity. Investigations are now being carried out to find out the role of the pituitary in producing this picture.

A second problem being investigated is the role of oxygen in influencing the effects of radiation. When a system is irradiated in the absence of oxygen, it is apparentty 'protected' from the effects of exposure. The degree of protection depends on the oxygen tension in the tissue exposed, its rate of utilization of oxygen, and the dose rate of the radiations. These three variables are being measured and altered in different experiments in an investigation of the acute effects.

Interstitial oxygen tension is being measured before and during irradiation, when the animals are breathing different gas mixtures. These methods may be used later to measure the oxygen tension inside tumours, where maximum oxygenation is needed for full radiotherapeutic effect.

Another experiment is aimed at determining the latent period between irradiation and the occurrence of damage. This is done by exposing mice to a small dose of radiation at one age and then measuring their sensitivity to radiation at a later age.

The most important investigations concerning the variation of radio-sensitivity with age, the shortening of lifespan as a function of dose, and the effects of parent irradiation on progeny down to the third generation, have been described in the report of the Department of Physics published in the September issue of the *Journal*.

Literature covering some of the work described in this article may be found in the selected references given below.

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UNIVERSITY OF LONDON

Final M.B., B.S. Examination October 1959

Honours

Tooby, D. J. (Distinguished in Surgery)

Pass

Bonner-Morgan, R. P.
Brookes, B. M.
Burbridge, B.
Chambers, R. J.
Cox, T. A. R.
Dobson, J. L. C.
Durrant, K. R.
Dymond, G. S.
Fox, G. C.
Gould, A. M.
Hudson, M. J. K.
Marshall, R. D.
O'Hanlon, N. M. P.
Peebles, D. J.
Plant, J. D. C.
Roberts, C. P.
Robinson, J. S.
Roden, A. T.
Stubbings, R.
Sugden, K. J.
Thomas, B.
Townsend, J.
Warrander, A
Winch, R. D.

Supplementary Pass List

Part I

Abell, J. D.
Alabi, G. O.
Almeyda, J. J. R.
Arnold, J.
Birt, R. C.
Booth, D.
Cassell, P. G.
Constable, M. D.
Eddy, J. D.
Fasan, P. O.
Garrod, J. A.
Gletsu, A.
Gould, S. E.
Gray, W. R.
Hadley, R. M.
Halls, G. J.
Humphreys, D. M.
Julier, D. L.
Makin, F. J. R.
Matthews, A. W.
Milburn, F. A.
Pettavel, J. A. P.
Ponnampalam, M. S.
Pope, J. A. ff.
Russell, Z. A.
Smith, P.
Stalder, G. P. M.
Tabert, J. E. K.
Tuffi, I. J.
Vollum, D. I.
Weaver, P. C.
Willoughby, R. A. G. d'E.

Part II

Collier, B. R.
Davies, G.
Harris, D. M.
John, R. W.
Juniper, C. P.

Part III

Berry, W. H. C.
Davies, G.
Juniper, C. P.
Muzio, D. M.
Swallow, J.
Thomson, R. G. N.
Willioughby, R. A. G. d'E

Part IV

Alabi, G. O.
Collier, B. R.
Davies, G.
Gould, W. A.
Juniper, C. P.
Muzio, D. M.
Swallow, J.
Thompson, A. J.
Thomson, R. G. N.

The Dean Reports . . .

At this time of the year it falls to the lot of the Dean to write the official Annual Report of the College, for publication with the Annual Accounts. This, of course, is retrospecpective and not speculative. It seeks to reveal the good and may conceal, by omission, the bad. It is reproduced below.

Everyone working at the College today knows, however, that much more has happened and is going to happen shortly. Twenty students from the Royal Dental Hospital School of Dental Surgery, have started for the Second B.D.S. Course. Last summer term the vanguard arrived in the form of 40 third and fourth year dental students for the Third B.D.S. Pharmacology Course, which is attended for one half day a week. The old Zoology Department has been altered to provide additional teaching and staff accommodation for Anatomy. The Student Health Service has been re-sited on this same floor in the Warden's House. Zoology staff and teaching has been crowded into the Physiology and Histology floors in the new buildings, and space is short. To move any department is rather like moving a circus these days. One of the big problems was to provide an aviary!

Plans are going ahead for an early start on the final building, on the site of the old Great Hall at Charterhouse. At long last there will be a new library, worthy of the College, to replace the "pre-fab". A staff common room (with pantry!) will help to break interdepartmental barriers and improve facilities for the meetings of learned societies, which are now as prevalent as the papules of chicken-pox. These meetings, together with student activities such as the Film Society, have resulted in very full use of the new lecture theatres. Zoology and Physics Departments will each have a floor for staff rooms and departmental research. Space will be available to rehouse the electron microscope at present in the old lecture theatre in the "physics tower". The third new floor will be devoted to an entirely new department of Medical Radiobiology, for which the University has established a professorial Chair. Bart's has been for several decades a leading centre for the use of radiation in therapy. The development of new techniques, together with the tremendous general interest in the biological effects of radioactivity, demands increased facilities for teaching and fundamental research. Science postgraduate students and industrial workers are already attending courses in radiation physics and the associated hazards, and the University intends to establish a diploma to cover radiation hazards and protection and a new degree in radiobiology.

A further floor is being added to provide a permanent home for the Medical Research Council Atmospheric Pollution Research Group, which has spent its life so far in the Dunn Laboratory and adjacent ward accommodation. Thus the Medical Unit will have research space restored.

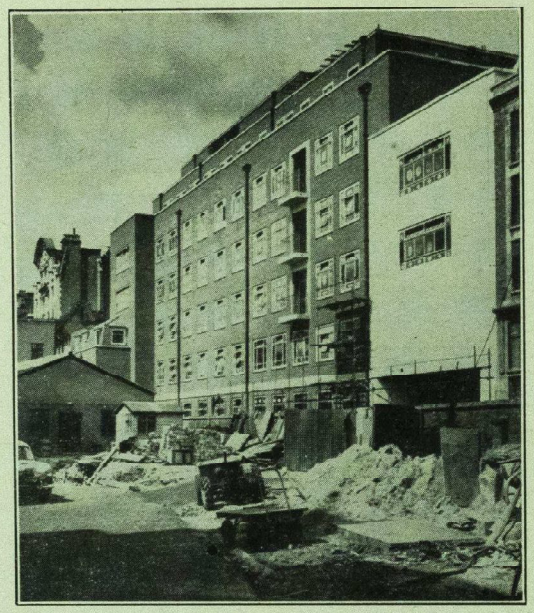
Sketch plans have been drawn for a major extension to College Hall to provide at least 60 more bedrooms.

When all this is achieved, there remains still further development of considerable urgency—Students' Union facilities, including a new gymnasium, assembly hall, squash courts and rowing tank. Is it too ambitious to hope for a covered car park where the less athletic can pursue the fascinating discipline of car cannibalisation—perhaps even a Chair of automotive pathology?

What of the Clinical Side? The Library has changed its face—some of the die-hard critics are disappointed. The rostrum has gone but the clock remains. The balcony at the south end has been brought forward and the offices placed beneath. Down in the bowels of the earth a high arched catacomb has been rehabilitated into a book store, and squatters rights have gained a lodging place for the *Journal* office. Even the clinical lecture theatre has had a face lift and a false ceiling has been put in to improve the acoustics. Critics will be pleased to know that there is also a clock, visible to the lecturer only.

After many months of experimental research in the animal operating unit at Charterhouse, the Department of Thoracic Surgery has been able to establish successfully at Hill End the pump oxygenator for cardiac surgery.

View day visitors will be surprised to see the new 12 storey red brick nurses home, and the new clinical block on the East side of Little Britain will, we hope, be open in June. In addition to wards and theatres for special surgical departments, provision has been made for a self-contained cardiological



Work in progress on the new "L" Block

clinic and teaching room. A very large sum of money is being spent on modernising the basement theatre in the East Wing and orthopaedic wards are being located in the West Wing. Old Bart's men will be interested to know that there will then be a ring tunnel connecting all the blocks. The Square will no longer witness the familiar sight of the bed, the red rubber sheets, and the umbrellas on routine inter-departmental pilgrimages in the rain.

The College has received a most generous benefaction from Messrs. Eli Liely &Co. Ltd. (Basingstoke) of £17,500 to establish a seven year Bacteriology Research Fellowship. It is proposed also to establish a Virology Unit in the Bacteriology Department, and College funds have been set apart for that purpose.

The Curriculum is under active discussion at all levels in the University. However abortive may be attempts at radical revision, at least we will be able very soon to weld "special department" teaching far more than has been possible into the general medical and surgical periods. Demands for the services of the clinical staff, the continued high prestige of the nursing at Bart's, and the ever widening scope of medicine and surgery have overloaded the 800 beds to breaking point. Without expansion the Hospital cannot provide for the increasing daily and residential population of the City, for the needs of the staff's research facilities, nor even for the pursuit of their routine work at the highest possible level. Air travel, railway electrification, and an indomitable faith in the teaching hospitals of London bring British citizens back to the centre in times of crisis. The needs of these great institutions must not—in fact cannot—be equated with the parochial needs of a Hospital service based on population statistics. On that point pivots the whole future of our great Hospital and heritage. The Medical College has enjoyed the greatest possible help from its sister organisation, the "Hospital", but both are threatened still by the ogre of political determination. What will 1960 bring forth ? Your guess is as good as mine, but the eggs are in the incubator! Will you help to keep them warm ?

Believing that reason and need will triumph and that Hospital expansion will be possible, the College intends to press on with its own programme. There is an immediate need for £26,000 from generous friends to enable a start to be made on the Charterhouse Library Block—£100,000 will be needed to restore the endowment research and maintenance fund. Covenant forms will gladly be sent to those in a position to help over a longer period of time.

Finally, an "open day" is being arranged for Friday June 10th, for the pre-clinical part of the College. This will enable students to show parents and friends the great assets of the College, and perhaps something of the challenge and scope of basic science in relation to medicine. On Saturday, June 11th, it is hoped to welcome back old Bart's men in practice for a day of sight-seeing and clinical demonstrations. Interested readers may send in their names now for this latter event if they wish to be early in the queue.

If the Editor permits, the Dean will report again in due course !

(The Editor permits ! !)

THE MEDICAL COLLEGE OF ST. BARTHOLOMEW'S HOSPITAL

ANNUAL REPORT OF THE COLLEGE COUNCIL

For the Year ended July 31, 1959

The Council of the Medical College presents herewith its Report to the College Governors on the work of the Medical College for the year ended July 31, 1959. The number of students attending during the year was 706, classified as shown in the accompanying table.

The number of new full-time students entering in the year ending in October 1958 was 121, compared with 136 the previous year. They had been selected from 1,253 applicants, of whom 334 were interviewed.

The retirement from the clinical staff of Dr. Bourne, Dr. Strauss, Mr. Hume, Mr. Corbett and Mr. Higgs, and of Professor Franklin from the Chair of Physiology, has meant a very material change in the College. Professor M. deBurgh Daly has been appointed to the Chair of Physiology, and Dr. A. G. Spencer to the Readership in Medicine. The title of Professor Emeritus of Physiology in the University of London has been conferred on Professor Franklin.

Dr. T. O. McKane was appointed to the post of Adviser in General Practice, made possible by a grant from Messrs. Merck, Sharp & Dohme Ltd. The College acknowledges with gratitude the assistance given to research by further grants from the U.S.A.A.F. for the Pharmacology Department and from the British Empire Cancer Campaign for research on late effects of radiations.

Two B.Sc. students have been able to visit the U.S.A. for research studies through the generosity of Messrs. Lloyd-Hamol and Professor Arnold Schein, and the Medical College has admitted for periods of clinical study five medical students from Medical Schools of the U.S.A.

A course in Radiation Physics for the M.Sc Degree has been held in conjunction with the Middlesex Hospital Medical School.

The following special lectures have been delivered in the Medical College :

Special University Lectures : Professor J. Rotblat and Dr. D. A. McDonald.

Annual Pfizer Lecture (College of General Practitioners): Dr. E. F. Scowen.

Course of Lectures on Air Pollution (University Department of Extra-Mural Studies).

Dr. C. Langton Hewer delivered the Frederic Hewitt Lecture (Royal College of Surgeons of England, Faculty of Anaesthetists), and Mr. G. J. Hadfield was elected Hunterian Professor, Royal College of Surgeons of England.

	This year		Last year	
	Men	Women	Men	Women
A. **Full-time Students**				
(a) Graduates engaged in Research work or some special course	15	4	13	2
(b) Undergraduates reading for a University Degree	453	97-569	429	89-533
B. **Part-time Students**				
(a) Graduates engaged in Research work ...	66	6	60	11
(b) Undergraduates reading for a University Degree	48	10	4	0
(c) Occasional	6	1-137	19	1- 95
		706		628

Dr. Charles F. Harris was again elected Vice-Chancellor of the University of London, and Mr J. B. Hume Chairman of Council for External Students, University of London.

Professor Walter McKenzie, University of Alberta, on the occasion of his visit as Temporary Director of the Surgical Professorial Unit had the honour to be elected Perpetual Student.

Meetings and conferences of the following societies and associations have been held in College premises :

British Society for Research on Ageing.

Royal Society of Medicine : Sections of Pathology, and Urology.

Osler Club.

South-East Metropolitan Regional Tuberculosis and the North-East Metropolitan Regional Thoracic Societies.

Association of Surgeons.

American Travelling Orthopaedic Fellows.

International meeting of British Medical Students' Association.

Improvement in the College's financial position was achieved by the measures outlined in the Annual Report 1958. Rotating Junior Registrar

Clinical Assistantships in preparation for general practice have been restored, and certain research assistantships have again been filled. The Research Committee has been reconstituted in conjunction with the Medical Council of the Hospital.

The College has, at the request of the University, agreed to admit pre-medical and pre-clinical students from the Royal Dental Hospital School of Dental Surgery, and this has meant certain structural alterations and re-arrangement of teaching facilities.

The following deaths are recorded with regret: Mr. W. L. Wood (College Governor); Dr. P. Hamill (Lecturer in Pharmacology until 1948); Mr. J. R. Elliott (Hospital Pharmacist and Lecturer in Practical Pharmacy); and Mr. H. K. Eaton Ostle (served on College Council as a representative of the Hospital Governors from October 1943, and a member of the Executive Committee from October 1944 to January 1951).

A Case of Acalculia

by G. L. Scott

Lesions of the parietal lobes are notorious for the complex symptomatology to which they may give rise. The following case, of a parietal lobe tumour, is interesting in that, in the early stages at least, only one aspect of behaviour was notably affected, namely the ability to calculate. Although, as the growth expanded, this symptom very quickly became obscured in a more typical parietal lobe syndrome, it provides an instructive case for a discussion of acalculia.

HISTORY

Mr. S. was referred to Dr. Aldren Turner by his general practitioner complaining of general mental confusion and difficulty with calculation. He was aged sixty-one, and by profession an accountant working with a firm of engineers. He was admitted to Stanmore Ward in January 1959, where he was fully investigated, and a diagnosis of left parietal glioma was made. His condition rapidly deteriorated, he became semi-comatose and died at the end of February.

Three months previous to admission the patient had noticed a change in vision on his right side, and frequently missed objects in the right half of his visual field. At the same time he became aware of an increasing disability to calculate, which seriously affected his work as an accountant. He described the disability as a loss of understanding of the significance of figures and mathematical symbols. Procedures depending on rote memory alone were less impaired, thus multiplication tables were readily remembered and used. Later he noticed other disabilities, affecting writing and complex skills such as typing and piano-playing. Formerly he had been a proficient pianist and typist but both these skills were affected; one of the commonest difficulties was transposition of the left and right sides of the keyboard. He had been strongly right-handed throughout his life.

EXAMINATION

General physical examination revealed no abnormal physical signs. The B.P. was 115/80. The principal neurological findings were as follows: The fundi showed a mild bilateral papilloedema, and there was a right homonymous hemianopia. The tendon reflexes, for both arm and leg, were slightly increased on the right side and the plantar reflexes were flexor. Sensation was not impaired except for reduced vibration sense in the right leg. Co-ordination was good but, stereognosis poor.

INVESTIGATIONS

EEG. Left temporal leads showed reduced alpha and fast activity, and in its place a persistent slow rhythm of 1½-5 cycles per sec. originating from a left parietal focus. The whole record was strongly in favour of an acquired lesion in the Lt. temporo-parietal region.

CAROTID ANGIOGRAPHY

There was a general displacement and stretching of the cerebral vessels to the right and a group of pathological veins in the left temporo-parietal region. The pictures were strongly suggestive of a glioma in the left parietal region.

PSYCHOLOGICAL INVESTIGATION

When he was first admitted the patient seemed slightly confused, but he was communicative, relatively coherent and his behaviour was rational.

Speech. Expressive speech was little impaired; sentences were syntactically and semantically correct, but there was slight nominal aphasia and the patient often resorted to periphrasis when he was unable to find the correct word.

Comprehension. There was minimal impairment of verbal communication.

Reading. Individual letters and words were accurately recognised but there was poor comprehension of connected written material.

Writing. Spontaneous writing was grossly impaired. Letters were badly formed, and in many cases reversed, words were wrongly spelt and wrongly used. Often the patient would find that he had written a different word from that which he had intended. Sentences were poorly constructed and meaningless, and he was unable to read that which he had written. Writing from copying and dictation showed the same faults.

Calculation. All but the simplest mental calculations were impossible. To simple multiplication sums such as 5 x 6, or 7 x 4, he replied correctly but simple addition and subtraction were grossly impaired. When asked to work sums out on paper, he was unable to form the figures correctly and did not align them in correct columns, thus tens were placed under units and so on.

Copying and drawing. Both were poor, and below the standard of the average adult. (This particular patient claimed to have drawn with fair proficiency before his illness, having at one time been trained in technical drawing.) Lines did not meet, and drawings were crowded on to the left hand side of the paper.

Visual perception. There was little difficulty in ordinary perception, objects were clearly recognised, even though, in some cases they could not be named correctly. Space and depth perception were normal, colours were named accurately, but the interpretation of pictures was poor, and the picture was not seen as a whole.

Spatial orintation. There was some confusion of right and left; this, apparently, had been most marked in piano-playing and typing. There was confusion over parts of the body, the patient being unable to respond to simple commands such as—put your left hand on your right ear. There was also a mild degree of finger agnosia that is an inability to recognise and name either his own fingers or those of the examiner when they are spread before him.

In summary then, one can say that this is a case of dysphasia and other kindred symbolic disorders, resulting from a left-sided parietal lobe lesion in a right-handed man, the chief disorders being of reading, writing, calculation, and right left disorientation.

DISCUSSION

The Parietal lobes. (Comparative morphology and symptomatology.)

The region of the cerebral hemispheres known as the parietal lobes is a late evolutionary development, reaching its greatest complexity in man. Nothing comparable to the parietal lobes in man occurs in the brains of the lower mamals, and it is in the arboreal mamals, the lemurs and the lower primates that the most conspicuous elaboration is found. The rise of the parietal lobes is matched by a change in the habits of the animal, from dependence on olfactory stimuli to greater dependence on tactile and visual stimuli. An aboreal existence demands a to greater dependence on tactile and visual system, and also promotes the fore-limb from an organ of locomotion to a grasping tool. It is in association with this greatly increased sensibility that the parietal lobe has developed. In man, one further, major, evolutionary advance has put him far above the other primates, namely the development of language; and though the origin of language is by no means clear, it is certain that the capacity for handling objects played an important part. It is to be expected therefore that the area of the brain connected with tactile and visual sensibility should also be involved with speech and the symbolic processes.

Clinical evidence from parietal lobe lesions suggests that this region of the brain is concerned with the higher symbolic functions, and it is not surprising, therefore, that animal experimental investigations have furnished little information on the function of the parietal areas. The earlier physiological experimenters found these regions disappointing, and labelled them the silent areas, and it is only in recent times, with the advent of refined electro-physiological techniques, that their function in high-grade sensory discrimination has been elucidated. The clinical picture after a lesion in the parietal lobes is diverse; a variety of symptoms may result depending, in part upon the situation of the lesion, but also, upon the nature of the lesion, its extent, the rapidity of its onset and the

nature of the brain in which the lesion occurs. To confuse matters further, many of the signs of parietal lesion may be hidden unless specially looked for, and two investigators with slightly different interests may gain two different impressions of the case. As an example one may consider the Gerstmann syndrome, which will be discussed more fully later; unless the observer is aware of the existence of the syndrome and its component parts he may not investigate to see whether there is right-left disorientation or finger agnosia. Consequently it is often difficult on reading older accounts of parietal lobe lesions to decide whether a certain sign existed in life or not.

It is not possiblt to go into details of parietal lobe symptomatology in even a cursory fashion, but it is true to say that parietal lesions are, in most cases, followed by a disturbance in symbolic thought, and this is usually manifested by a disorder in speech, reading or calculation. It is disturbances in calculation that we wish to discuss.

Acalculia

Calculation is not an inherent biological capacity, but one acquired by a process of learning, and thus, like language, is stamped with the configuration of a particular culture. A system of calculation comprises, a method of numeration, by which groups of objects are assigned a value on a scale, a method of notation by which the number of objects can be indicated, and a set of rules by which numbers can be manipulated and relations between them educed. The method of calculation adopted by the Western world, which has its basis in the decimal system is not the only method available. For example, the Roman system, whilst having a similar type of numeration, has a very different system of notation, the I. V. X. system, and a slightly different set of rules; it would not be possible to multiply CXXXV by XVL using our own methods of multiplication. Many primitive tribes have other ways of calculating, but a great many depend on the decimal system of numeration; the significance of this will be discussed later. Almost all discussion of acalculia has concerned disturbances in our own method of calculation.

Difficulty in calculation may follow from a breakdown in any one of the processes mentioned above, and as each of these involves several aspects of mentation, visual, auditory and ideational, the possible sources of disorder are legion. A lesion in almost any area of the cortex may result in acalculia, but nevertheless certain regions seem particularly vulnerable, and are associated with a specific disorder. A diffuse injury to the brain, whether from cerebral poisons or from trauma, may cause difficulty in calculation, but as every symbolic function of the brain is depressed in these cases, this is not surprising. Injuries to the frontal lobes may present with acalculia, but again this seems to be the result of a general lowering of cortical function, which often follows this type of lesion. A severe amnesia, from extensive brain damage, especially to the temporal lobes may interfere with that part of calculation dependant on rote memory.

Damage to the occipital regions, causing a visual agnosia, may interfere with calculation, because the patient can no longer recognise figures, but if told verbally what they are no difficulty is experienced.

Typically, however, disorders of calculation are associated with the parietal lobes. Nearly all lesions causing a gross aphasia are associated with some degree of acalculia. Practically all the cases described by Sir Henry Head in his work on Aphasia showed this defect. Occassionally, however, lesions of the parietal lobes may result in arithmetical difficulty, without any signs of an accompanying aphasia or agnosia; it was to such cases that Henschen in 1919 orginially applied the term acalculia. Two sorts of difficulty may occur, and may be called ideational and constructive acalculia. Both of these may best be illustrated by considering a few selected examples from the examination of Mr. S., who displayed both these types of defect.

A patient with ideational acalculia looses the meaning of numbers, and in severe cases the concept of value, so that he is no longer able to tell you which is the larger of two given numbers.

Examination of Mr. S.

"Can you count from one to ten?" He did so but with considerable difficulty and hesitation.

"Add four and nine." "Four and nine is er . . . nine, no, er . . . fourteen . . . no, I cannot do that."

"Add three and four." "That is er . . . four . . . seven . . . yes, that's right, seven."

"Subtract eight from twenty-four." "Eight from twenty-four, that is eight . . . eighteen, that's right, eighteen."

"Subtract six from nine." "Er . . . three."

"Divide thirty by six." Thirty from six, er . . . " "No, I asked you to divide thirty by six." "Oh, yes, thirty-six."

"Divide eight by two." "Eight from two, no by two, three . . . no, no it's no good, I cannot do that."

Although these few examples are very incomplete, they do illustrate some very interesting points. Mr. S. could identify figures shown to him with no difficulty, he could write figures when asked, and although the construction of the figure was poor its value was usually correct. He could provide answers to simple multiplications which he had learned by rote memory, but was unable to do the simplest division. He could add and subtract provided that all the numbers concerned were under ten. He was inconsistent in his answers, thus in one of the examples given he successfully added thirty and six, but asked to do so later he could not give the right answer.

Presented with problems on paper he was completely lost and confused the tens and units column. This type of acalculia, which manifests itself as a difficulty in arranging figures on paper is called constructive acalculia, and is typically seen as part of the Gerstmann syndrome; this syndrome has figured largely in discussions on acalculia and is worth considering.

The Gerstmann Syndrome

In 1924, Gerstmann published details of the case-history of a woman, who suffered from a striking disability to name the individual digits of her own or the examiner's hands when they were presented to her. Associated with this curious symptom was agraphia, acalculia, and right-left disorientation. Over the course of the next sixteen years, Gerstmann observed other cases, in which the same combination of symptoms occurred, and he was convinced that he had isolated a syndrome, comprising these four symptoms, dependant upon the same pathology. Other workers also published details of cases which fell within the same category, but it soon became apparent that the relationship between these symptoms was not a simple one. Not all invariably appeared, often one symptom would be greatly accentuated, and other symptoms, such as homonymous hemianopia, constructive apraxia, and difficulty in naming colours, were present so frequently that many workers felt that these should be included in the syndrome. Finger-agnosia was the most important symptom, usually it only affected the middle three fingers, and, the most interesting point about it, it affected only the fingers and not the toes. Severe lesions in the parietal lobes may result in loss of ability to identify parts of ones own body, but usually this applies to the whole body, or the whole of one side; finger-agnosia is the only instance where an isolated part of the body is affected.

The agraphia affects the construction of both letters and words, but except in severe cases the disturbance is in spontaneous writing only, the ability to copy being intact. The acalculia is of the constructive type, only in more severe cases is mental arithmetic disturbed. Right-left disorientation is the rarest of the symptoms, typically it affects only the body of the patient and not extra-personal space. Constructive apraxia is a common finding in parietal lobe lesions and a fairly frequent accompaniment of the Gerstmann Syndrome: it is a disorder of spatial relationships, a difficulty in putting together one-dimensional units so as to form two dimensional figures and patterns, and can be demonstrated by asking the patient to draw or to build simple patterns with match-sticks.

Much argument has been centred around the point of whether these four symptoms really constitute a syndrome, dependant upon a common lesion. Isolated symptoms and parts of the syndrome do occur but the general consensus is that the symptoms are inter-related in some way, and that if part of the syndrome occurs the rest will probably be elicited if carefully tested for.

The more important question is whether the typical syndrome has any localising value. Gerstmann believed that the underlying pathology was a lesion in the dominant parietal lobe, in the region of the parieto-occipital convenity, particularly in the region of the angular and middle-occipital convolutions. Critchely describes sixteen cases, in which the lesion was verified at post-mortem examination. In fourteen of these the lesion was in the left and dominant hemisphere, in all it was in the parietal region, in eight the angular gyrus was involved, and in the rest a large area of the parietal region, probably including the angular gyrus, was damaged. From this and other evidence there seems little doubt that a typical Gerstmann syndrome is associated with a lesion in the areas

mentioned. Cases are on record in which the lesion was diffuse, such as following carbon monoxide poisoning, and recently, cases have been described in which symptoms resembling the Gerstmann syndrome have occurred after electro-convulsive therapy. Whether these may be regarded as true Gerstmann syndromes is doubtful; the effects were usually transitory, finger-agnosia, which Gerstmann regarded as the most important symtom, rarely occurred and the full syndrome did not appear in any patient.

Mr. S. displayed to some extent all the features of the Gerstmann syndrome. Finger agnosia was not strongly marked but certainly existed, there was some degree of right-left disorientation, especially related to parts of his body, there was agraphia, acalculia, of both ideational and constructive types, and there was constructive apraxia and homonymous hemianopia. Of particular interest was his difficulty in playing the piano and typing; this, according to Mr. S. was due principally to confusing right and left, and the tendency for fingers to strike the wrong key. There was no motor or sensory impairment, and it is possible that this difficulty was a manifestation of finger agnosia and right-left disorientation. No post-mortem findings are available but investigations during life indicated that the lesion was in the left temporo-parietal region. As Mr. S. was strongly right-handed one would expect that his dominant hemisphere would be the left, and hence the lesion falls into the anticipated region, even though it cannot be localised more accurately.

Theories of the Gerstmann Syndrome

Many workers have offered an explanation for the Gerstmann syndrome, but in the majority of cases their theories have been couched in such vague psychological and physiological terms that they have added confusion to confusion. Inevitably a great deal of interest has centred around finger-agnosia and acalculia. The hand is the organ that has made Homo Sapiens, from an organ of locomotion it has risen through a grasping organ, a feeding organ, to a delicate tool, one of the most important functions of which, in civilised man is writing, but it has yet another function—it is a counting organ. There is little doubt of the importance of the hand in arithmetic, as children we learn to count on our fingers, and in some cases we resort to it as adults to help us in calculations. Many primitive peoples depend solely on the hand and to a lesser extent the toes as an abacus. In many languages the use of the hand as a counting instrument is reflected in their numerals. Thus in many languages the word for one is the same as the word for finger, for five the same as hand, ten in Melanesian is "both hands" and twenty is "man" (hands and feet). *Idiots savant*, who have been rapid at calculations, have been known to use a method of digital computing, much in the same way as some gypsies quoted by Critchely. It is interesting that many different cultures should have chosen the decimal system of numeration; as Aristotle says, "Why do all men, both foreign and Greek, count in tens and not in any other numbers? . . . Is it because all men have ten fingers?" (Problems XV.) It is also interesting that in cases of acalculia one should frequently find that calculation becomes much more difficult with numbers greater than ten.

The hand is also concerned with our ideas of left and right. Many otherwise intelligent adults persist in having difficulty in determining left and right, and refer to their hands to decide which is which. One highly intelligent friend, with this difficulty, imagines that he is playing the piano, his left hand is then that which plays the bass notes, another has to think of himself writing, the left being the side he writes with.

Klein, who propounded what might be called the phylogenetic theory, imagined that in the region of the dominant parietal lobe is a centre for the integration of symbolic functions of the hand, but not including motor skills. Damage to this region degrades the hand to one of its more primitive phylogenetic uses, as either a grasping tool, or a feeding tool. Klein qualified his theory by saying that this explanation could not be applied to all cases, and that in the majority of cases the picture was complicated by other symptoms.

Another attempt to explain the Gerstmann syndrome has been to regard the fundamental lesion as occurring in a centre for spatial organisation. As a result the patient becomes disorganised in space, which manifests itself in constructive apraxia, right-left disorientation, agraphia and to a lesser extent in constructive acalculia. The fact remains, however, that not all patients with a Gerstmann syndrome show constructive apraxia, and most show no other signs of spatial disorientation.

Conclusions

It is disappointing that one is unable to come to any worthwhile conclusions on the subject of acalculia. The very nature of the subject is imperfectly understood, and most of the literature on it is vague and inconclusive. There are, however, one or two general observations that do emerge. The first of these is that calculation is a cultural rather than a biological process, and one that requires many different processes of mentation. Any lesion of the brain may interfere with these systems, and it is useless to look for one area in the brain responsible for calculation. One interesting point might be raised here, and that is the relation between calculating ability and mathematical ability. Calculation is only one aspect of mathematical ability, and it is known that skill in calculation may not be matched with skill in mathematics. Many professors of mathematics are notoriously bad calculators, and similarly some of the lightning calculators recorded in history have been useless at other aspects of mathematics. Little or no work seems to have been done on this problem, all cases of acalculia have dealt with arithmetical problems only, further investigation would seem to be very profitable.

The other observation which might be made is the association of the four symptoms of the Gerstmann syndrome with lesions in the region of the angular gyrus. Before lapsing into attractive theories of the origin of calculation, and the relationship between mind and body as seen in the connection between finger-agnosia and acalculia, it is as well to consider how much information can be gained from this type of investigation. The function of the brain is to transform an input, representing sensory information, into an output, to the effector organs. The nature of the transformations which occur are only just being understood but it seems that a major function of the cortex is to act as an analyser and computer. Most of the evidence seems to suggest that this function is diffuse, and that any lesion in the brain will interfere with this process, but not in a specific manner, with the exception of the projection areas, which represent the areas of input and output. In animals relatively large areas of the cortex may be destroyed, with comparatively little effect on observable behaviour, providing the projection areas are intact. When, however, the animal is pushed to the limits of its learning capacity, it can be demonstrated that the lesion has interfered with behaviour, which is what one would expect, as the system is now smaller. In man there appears to be, either far less placticity, or else our measure of human behaviour is more precise, for a lesion almost anywhere in the cortex interferes in some way with behaviour. In some cases lesions in particular regions seem to be associated with specific changes in behaviour but from knowledge of the type of system we know the brain to be, we are not justified in assuming that a particular function is localised to that region, or that before the advent of the lesion the region in question contained the casually necessary mechanisms for the affected behaviour. The main problem at the moment is to learn more of the functions of the cortex, and the nature of the transformations carried out there, looking, if necessary to machines and models for our analogies. Only then will we be in a position to understand the full significance of clinical evidence, and possibly be able to speculate on the origin of language and the symbolic processes.

Acknowledgment

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Sports News

VIEWPOINT

Sporting activities of any person in this Hospital are recognised by the Student's Union in the form of both Colours and Honours. Names of persons are submitted by the club concerned to the Student's Union, for its approval, which approval is not invariably given. There are minimum qualifications in each club which must be fulfilled before any player can even be considered. For instance, in the Hockey Club, a player has to represent the 1st XI in United Hospitals Cup matches for at least two seasons before Honours can be awarded. This type of qualification is, of course, very necessary. But it does seem that the actual difference between the award of Colours and Honours in some clubs is merely a matter of length of service. Colours are awarded, rightly enough, for either ability or length of service, and Honours appear to follow on the year after, as a matter of course. There should surely be a much greater difference in value between these two. Honours should be a much more difficult award to attain, limited to a very select few. For instance, in the case of most clubs, selection for a United Hospitals team should be a minimum requirement. At present, Honours are within reach of very ordinary players, and this situation is to be deplored.

ROWING

United Hospitals Regatta 1959

The United Hospitals Regatta was held on Wednesday, November 25, at Putney in weather which was remarkably mild for the time of year, but in water that has been known to sink supposedly better crews in past years.

Bart's again boasted the largest entry for this the Senior hospital rowing event of the year, having forty-four members of the Medical College representing the Hospital in one or more crews. Of these, ten were having their first taste of racing under competitive conditions. Since they had only been rowing for about eight weeks, it is very commendable that they were able not only to take to the water at all, but to achieve the standard they did.

Two Senior IV's were entered for the Regatta, labelled A and B though as is usually the case with Bart's Senior IV's at this time of year, when the Regatta day arrived this was no indication of the relative standard of the two crews. The B crew had to row their first heat against the Westminster Hospital in the very worst water. The fact that they lost was largely due to these conditions and the luck of the draw.

The A crew was fortunate in having a bye to the semi-final by which time the maelstrom had to some extent abated. Their row was also against the Westminster Hospital, who "bumped" the Bart's crew at about the half-way mark. Bart's were then disqualified, supposedly for taking the Westminster's water, having at that time almost a length ahead. The decision was felt to be unjust since the umpire said that had the "bump" occurred a short distance before Westminster would have been in the wrong.

The two pairs were unlucky not to have got further than they did, the A pair losing a close race with the eventual winners from St. Mary's Hospital and the B pair being disqualified while in the lead. The outcome of this event does not reflect the high standard of rowing achieved by our pairs.

R. I. Wilson, the veteran sculler of the Hospital, sculled with great gallantry but was unfortunate once again to be drawn against and to lose to M. H. Bartlett of St. Mary's Hospital, the eventual winner. The Junior IV's, again victims of the elements, lost to better crews.

The A VIII, rowing extremely well, brought off a very satisfactory victory in their first heat against Guy's Hospital. They had the disadvantage of the Middlesex station (being out of the tide) and won by a half-length, the two crews being level over most of the course. The second round saw Bart's A rowing against Bart's B, who gave the A crew a much more difficult race than they had anticipated. I think it is correct to say that no other hospital was able to produce an VIII entirely of freshers, which augurs well for the future of the Club. We wish this crew all success in the coming year when they will be competing against oarsmen of equal experience.

The Rugger IV whose composition was uncertain until the moment they took to the water, produced the most exciting race of the day and perhaps the most satisfying. Competing against a IV from St. Thomas' Hospital which contained a member of Leander and three other oarsmen of some prominence, they surprised everyone and not least themselves by winning by a half-length. They were unlucky to lose the Final by one-and-a-half lengths to the Westminster Hospital.

Our grateful thanks are due to all those members of the Staff and Medical College who were able to get down to the river to support the Club on the occasion. This is always most welcome.

On the whole a disappointing day but the Dinner in the evening did not reflect the gloom of earlier proceedings. Sixty-two people sat down to dinner at Diviani's Restaurant in Newgate Street, having enjoyed the President's sherry in the library beforehand. Mr. Tubbs, Vice-President, took the chair and Mr. G. J. Hadfield was the Guest of Honour.

The evening was brought to a successful conclusion in the "Hand and Shears".

Crews

Senior IV's

	A	B
Bow	W. S. Shand	D. L. King
2	P. W. A. Mansell	T. G. Hudson
3	R. H. T. Ward	J. J. D. Bartlett
Stroke	T. W. Meade	N. E. Dudley

Pairs

	A	B
Bow	R. H. T. Ward	E. M. C. Ernst
Stroke	T. W. Meade	J. G. Diamond

Senior Sculls

A. I. Wilson

Junior IV's

	A	B
Bow	J. J. H. Gilkes	J. D. Hardy
2	W. H. F. Thompson	J. F. Merrill
3	P. R. Husband	A. C. Danesh-Haeri
Stroke	K. M. Stephens	D. H. Orrell
Cox	J. U. Watson	K. Manchester

Junior VIII's

	A	B
Bow	A. J. Miller	M. S. Lipsedge
2	E. Abell	M. W. Casewell
3	D. L. Hunter	J. K. Anderson
4	P. C. Scriven	T. M. Bucknill
5	A. L. Houghton	A. D. R. Disher
6	C. J. Burnham-Slipper	D. R. Sutton
7	R. B. Blake-Jakes	D. D. Bodley-Scott
Stroke	J. A. H. Bootes	D. V. Jones
Cox	N. N. L. Loughnan	R. J. Hamshere

Rugger IV

Bow	J. M. Lewis
2	R. J. C. Evans
3	J. J. D. Bartlett
Stroke	J. Morrison
Cox	G. L. Scott

RUGGER

1st XV v. Cranleighans at Chislehurst, Nov. 14.

With a heavy fall of rain making the ground soft and the ball greasy, the Hospital kicked off, but could make no impression on the visitors' defence, and after an even 1st half there was no score.

The start of the second half followed the same pattern but the Cranleighians opened the scoring with a penalty. This discouraged the whole Bart's side and the visitors from then on were well on top. Just before No Side, the Cranleighans scored a very good push over try to make the final score Bart's 0, O. Cranleighans 6.

Team : M. Britz, P. Niven, J. Stevens, A. Letchworth, M. Rolfe, I. Bamford, C. Charlton, B. O. Thomas (Capt.), M. Jennings, A. Knox, L. R. Thomas, J. Irvine, R. Jones, P. Moynagh, G. Halls.

1st XV v. O. Alleynians at Dulwich, Nov. 21.

In conditions ideal for a very fast game the Hospital started playing into the wind and against an appreciable slope. The home side soon took advantage of the ground and were 6 points ahead at half time.

The second half was marked by the supremacy of the Bart's team, and the play was confined for most of the time to the O. Alleynians' half. However, although coming very close to scoring on several occasions, the Hospital couldn't break the home sides' defence, and the game ended Bart's 0, O. Alleynians 6.

Team : P. Niven, S. Harris, J. Stevens, A. Letchworth, M. Rolfe, R. R. Davies (capt.), I. Peek, B. O. Thomas, M. Jennings, A. Knox, M. Orr, I. Hamilton, D. Richards, R. Jones, G. Halls.

1st XV v. Lloyds Bank at Beckenham, Wednesday November 25.

With a very changed side, the Hospital were 3 points down after 10 minutes. However, Bart's quickly replied with a good try by Waterworth, Stevens adding the extra points. Just before half-time Knox scored again after a good forward movement.

In the second half the Hospital dominated the play and tries from Waterworth and Harris brought the game to a close. Bart's 14, Lloyds B. 6.

Team : P. Niven, S. Harris, J. Stevens, A. Letchworth, M. Waterworth, R. R. Davies (capt.), K. Bowles, B. O. Thomas, M. Jennings, A. Knox, M. Orr, P. Bolody, H. Jones, G. Halls.

1st XV v. U. S. Chatham at Chatham, Saturday November 28.

Under very good conditions but with the ball rather heavy, the Hospital were soon pressing and were three points ahead from a penalty by Stevens.

In the second half the Services with the wind and slope in their favour were kept from scoring only by good defence by the Bart's team.

However, in the closing stages of the game Chatham scored a try from a blind side movement and so the game ended Bart's 3, U.S. Chatham 3.

Team : P. Niven, S. Harris, J. Stevens, A. Letchworth, N. Burbridge, R. R. Davies (capt.), A. P. Ross, B. O. Thomas, B. Gurry, A. Knox, I. Hamilton, M. Orr, D. Richards, R. Jones, G. Halls.

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SAILING CLUB REPORT 1959

Winter Racing for Max Rosenheim Trophy

March 4 : St. Thomas' Hospital 1st., Bart's 3rd.
Helm, R. C. Birt, Crew, Miss J. V. Bond.

This race concluded the winter series, which was won by the London Hospital, Bart's final position being 4th.

Sherren Cup

May 16: 1st Heat. St. Mary's Hospital 1st, Bart's 5th. Helm, D. M. Welch. Crew, D. K. Nouri, Miss J. Fowler. The London Hospital won the cup in the final.

Bannister Cup Series

May 2: Bart's 1st., King's 2nd.
Helm, D. M. Welch. Crew, N. Salisbury, W. G. Fischer.
July 7: Guy's 1st., Bart's 2nd.
Helm, R. C. Birt. Crew, M. Punch, Miss J. Fowler.

Aug. 1: Middlesex 1st., Bart's 2nd.
Helm, R. C. Birt. Crew, D. M. Welch, R. Gabriel.

Sept. 9: Bart's 1st., St. Mary's 2nd., Guy's 3rd.
Helm. W. G. Fischer. Crew, A. Pyke, R. C. Birt.
This was our most closely contested race, Guy's and Bart's at this point leading the series with equal points, the only other serious opposition being from Mary's represented by Mrs. Stephenson.

The course lay from the Royal Corinthian line upstream against a strong ebb tide, leaving W. Fairway to starboard, rounding Cliff to port and leaving W. Fairway to port on the way back to the finish. The wind, light and fickle, gave us a reaching start, but a long beat home.

Guy's made an excellent start closely followed by Mary's, then Bart's; Bart's overtook Mary's and challenged Guy's to leeward (inshore) but there was insufficient water and we fell back while Mary's tried unsuccessfully to windward. Bart's tried but had to drop back as the wind dropped, so it went on. For the next two miles Guy's were continually defending their position against attacks from Bart's and Mary's, the wind continuously shifting so that we were within seconds running or close reaching; at long last Fischer seized his opportunity and slipped by on a run as Guy's were for a moment blanketed by Mary's. From then on Bart's drew steadily away from the rest to lead by 30 yards from Mary's (who had slipped by later) at Cliff and eventually crossing the line some 200 yards ahead, winning the Bannister Cup for the first time since 1955.

Harvey Wright Gold Bowl

Aug. 29: Bart's 1st., U.C.H. 2nd.
Helm, W. G. Fischer. Crew, D. Orrel, D Howells.

This is generally considered to be the most important inter-hospital event; it is awarded to the hospital winning a race in Burnham Week between the hospitals standing highest in the Banister Cup series. The Bowl itself is made of solid gold and was valued at around £400 in 1950.

In conclusion the sailing club has won 2 out of 3 main events this year and as Bill Fischer, the club's most outstanding helmsman, remains with us we should do even better in 1960. Club membership has nearly doubled and we may expect that someone will acquire Fischer's skill to follow in his wake in 1961.

RIFLE CLUB

During the Small-bore season this Winter, the club has nine teams competing in the United Hospitals, University of London, and N.S.R.A. postal leagues. This entails the shooting of a considerable number of cards in addition to the usual fixture list of Shoulder-to-shoulder matches.

At approximately halfway through the season the league tables show the club in the following positions:

United Hospitals League:

		Shot	Won	Lost	Place
Lloyd Cup	"A"	2	1	1	5th
	"B"	3	2	1	3rd
Tyro Competition	"A"	2	2	—	1st
	"B"	2	2	—	3rd
	"C"	2	1	1	7th

Pistol. The "A", again competing in the Div. I of the University League, is scoring much higher than last season, and is showing distinct promise. The "B" is in Div. II of the same league.

"A"	4	3	1	1st
"B"	2	1	1	2nd

Standing & Kneeling. Following on last season's successes in this field the teams have both been promoted, to Div. I of the University league, and to Div. 7 of the N.S.R.A. league, a jump of three divisions. As is to be expected with these promotions both teams are meeting much stronger opposition than last season.

In addition to the leagues, the Club entered a team in the Browne-Martin Competition—a k.o. competition for teams in the London area. Their stay was, however, brief, being eliminated in the first round by Walthamstow Ensign 772-785.

The following Shoulder-to-shoulder matches have also been fired:

VIII v St. Mary's Hospital	Won 745-726
VIII v City Police	Lost 763-773
IV and S & K II v St. George's Hospital	Won 590-580

TABLE TENNIS

1st Team v. Q.E.C. (University of London Caribbean Cup). Nov. 20. Results. Bart's won 5-4.

This competition is open to all first teams, so it was with trepidation that we went to Q.E.C. Our fears proved unfounded, however, and the team did well to win. J. Collier played superbly, especially in defence, winning all his three games.

1st Team v. Royal Veterinary College (University League). Nov. 23. Drew 5-5.

This was the first time that A. J. Miller has been able to play this season, and he marked his entry by three clear wins. J. Collier kept up his previous high standard by winning 2 of his 3 matches.

1st Team v. Northern Polytechnic (Home). University League. November 24. Bart's lost 10-0.

A rather weakened 1st team met very strong opposition who had won their two previous matches 10-0 and 9-1. Bart's were well beaten, although B. Hore did well to take a game off the oppositions' No. 2.

LADIES' HOCKEY

v. Wimbledon 2nd XI (H). Sat. Nov. 7. Won. 1-0.

This was a hard fought match and enjoyed by all. The forwards worked hard and were unlucky only to score once, for play was in our half of the field for the majority of the game.

Team: I. Tomkins, J. Tufft, P. Kieity, S. Cotton, E. Knight, T. Coates, J. Arnold, J. Hartley, E. Clements, S. Minns, J. Swallow.

v. King's College (H). Sat. Nov. 14. Won 4-1.

The team did well to win this match on a rather damp afternoon. We were very glad to welcome two physiotherapists into the team, who both played very well despite their claims to recent inactivity on the field.

Team: I. Tomkins, G. Turner, P. Kieity, R. Murray, E. Knight, J. Thorogood, R. Waters, J. Hartley, M. Robertson, E. Clements, S. Cotton.

v. Wye College (A). Sat. Nov. 21. Lost 2-4.
[2nd Round, London University Inter-collegiate Tournament]

For the second year running we paid a brief visit to Wye College, near Ashford, Kent, and once again a member of the team was heard to say "I thought this was a London University tournament". So it is, but evidently London stretches further than any of us thought.

This was a hard fast game, and Bart's proved to be the slower team. Time after time good passes were intercepted, and the ball would return once more to the Wye forwards, all of whom had the ability to hit the ball hard at the goal. Bart's had a fair number of chances to score, but the forwards seemed to lack the final punch when they reached the circle.

Team: I. Tomkins, J. Tufft, P. Kielty, J. Thorogood, E. Knight, T. Coates, J. Arnold, J. Hartley, S. Cotton, S. Minns, J. Swallow.

Goals scored: S. Cotton (1), S. Minns (1).

v. University College (A). Wed. Nov. 25. Lost 3-6.

The weakness on this occasion was the inability of the defence to stop the fast and well-combined U.C. forwards. Bart's forwards played well but lacked enough support for their hard worked halves.

Goals scored by: S. Minns (2), J. Hartley (1).

Team: C. Lloyd, R. Murray, P. Kieity, J. Thorogood, I. Tomkins, T. Coates, M. Goodchild, J. Hartley, E. Clements, S. Minns, J. Arnold.

v. Lensbury 1st XI (H). Sat. Nov. 28. Won 2-1.

Everyone envied the umpire on the sideline with his umbrella! Bart's forwards played well with plenty of cross passes. Goals were scored by J. Hartley and S. Minns. Defence tackled well, but tended to be slow clearing the ball with a good hard hit. R. Murray and S. Cotton both fought hard and stopped the hard pressing Lensbury forwards by good accurate tackling and intercepting cross passes.

Team: I. Tomkins, P. Kieity, S. Cotton, J Thorogood, R. Murray, T. Coates, J. Arnold, J. Hartley, R. Waters, S. Minns, M. Goodchild.

v. Reading University. Wednesday, December 2. Lost 2-4.

Bart's were slow to settle down in this match, and Reading had scored their first goal after only a few minutes. Bart's then fought back and S. Minns took the ball down the field herself and scored a good goal. After this both teams were in the attack, but the Reading forwards were a faster and better combined line and found it easy to pass the Bart's defence. The next Bart's goal was scored after half-time by E. Knight, bringing the score to 2-2. Reading went on to score twice more. Again Bart's needed to be faster onto the ball and in clearing the ball.

Team: I. Tomkins, J. Tufft, T. Coates, J. Thorogood, R. Murray, J. Stephan, J. Arnold, J. Hartley, E. Knight (capt.) S. Minns, S. Cotton.

v. St. Thomas's Hospital. Saturday December 5 Won 4-2.

(First Round of U.H. Cup)

This was not an easy win for Bart's. The game started well with Bart's in control of the ball most of the time, and J. Hartley very soon scored with a hard shot from the edge of the circle; the next goal followed soon afterwards when S. Minns took the ball down the field and flicked it into goal. St. Thomas's scored next from a penalty corner. At half-time the score was 3-1. In the second half both sides scored once again, St. Thomas's goal again followed a corner.

Team: I. Tomkins, J. Tufft, P. Kieity, R. Murray, E. Knight (capt.), T. Coates, J. Arnold, J. Hartley, R. Watters, S. Minns, S. Cotton.

Umpires: Dr. J. Chambers, Miss J. Ware.

NOTICES

The Cricket Club is holding a dinner in honour of Mr. J. E. A. O'Connell, who has retired from the position of President of the club. It is to be held at Simpsons in the Strand on Wednesday, February 10, 1960. If any ex-members of the club who have not been contacted would like to attend please write to R. T. G. Merry, the Abernethian Room.

The next lecture on General Practice will be given by Dr. G. F. Abercrombie at 12.0 noon on Wednesday, February, 10th, 1960.

★ ★ ★

Book Reviews

CLARK'S APPLIED PHARMACOLOGY

(9th Edition) By Andrew Wilson and H. O. Schild. Published by Churchill. Price 50s.

The 1959 edition of this book brings up to date, at last, a book of great value to every student. Much work has been done since the last edition (1952), which has necessitated the rewriting of most of the chapters, and the addition of two new ones.

One of these is on the chemotherapy of tuberculosis. A large number of drugs are discussed, though surprisingly, no mention is made of the recent use of intrathecal tuberculin in the treatment of tuberculous meningitis. The other new chapter is on psychopharmacology. This, as yet, is very much in an experimental and empirical stage, and clinical application is still very limited.

The layout of the chapters is very helpful, starting with a useful reminder of the physiology of each system, and the general chemical and pharmacological properties of the relevant drugs. The specific properties of individual drugs can thus be more easily related to their therapeutic uses. Further, there is in many cases, a clear and concise account of experiments demonstrating these properties. The list of preparations following each chapter is extremely valuable to the clinical student, though it would be still more useful if more of their synonyms were included.

Unfortunately, this edition omits a very useful chapter on inorganic metabolism, which in the previous edition discussed such important topics as salt, water, and acid-base regulation, and the requirements and uses of inorganic substances. Some of it is included in other chapters (for example, the chapter on the kidney), but much of it is not, which is a pity. Also omitted is a chapter on the functions of the central nervous system, which, though largely physiology, provided a sound basis for the following chapters on the pharmacology of the CNS.

The index is comprehensive and well set out. References are given at the end of each chapter: rather too many for the average student, but too few for detailed study, as very few original papers are given.

The special value of the book lies in its approach to therapeutics, and it provides a much needed link between the textbooks of pharmacology and of medical treatment.

S.M.W.

WOLFF'S DISEASES OF THE EYE, 5th Edition

Price 42s.

Mr. Redmond Smith has brought fresh life into a well established text book. His careful revision has clarified parts of the text and brought other parts up to date. Be replacing some of the drawings with photographs, he has given the book a more realistic flavour.

It is, however, extremely difficult to bring to life a subject such as Ophthalmology, which is barely touched on in bedside or Out-patient teaching in this hospital. In this respect, the book succeeds more than most, although naturally the chapters, dealing with subjects already encountered first-hand, are easier to read and infinitely more interesting.

The book does not demand much previous knowledge, and there are useful descriptions and illustrations of the anatomy of the normal eye. In addition, it contains good, clear accounts of practical procedures such as the use of Opthalmoscopes, the cover test, visual field tests, etc.

The layout is orderly and precise. Each disease is considered briefly under headings of Pathology, Aetiology, Symptoms and Signs, and Treatment.

I have two criticisms. The first is perhaps frivolous; I do not like glossy paper because I find the reflections from table lamps distracting. Secondly I found the chapter on surgical procedures difficult to understand, probably because it lacked enough diagrams.

Nevertheless, the book is slanted throughout towards the practical side of Ophthalmology and so if read selectively, caters for the ordinary student's needs, and should be a valuable aid in General Practice.

J.P.R.

Recent Papers by Bart's Men

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ST. BARTHOLOMEW'S HOSPITAL JOURNAL

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EDITORIAL

" A decent physicist is worth more than twenty poets."

A recent article in *The Sunday Times* points out that whereas the above quotation epitomised the attitude of the Russian radicals a hundred years ago, there now appears to be room for doubt in the Soviet mind. A well-known Russian novelist, Ilya Ehrenburg, has, in a series of articles in the Communist youth paper *Komsomolskya Pravda*, raised the question of a rift between the Arts and the Sciences.

In the course of a sharp exchange of views, sparked off by complaints from a " spiritually sensitive " student of the humanities about her insensible engineer husband, in his " Lonely Hearts " column, Mr. Ehrenburg tells the young engineers that Chekov may never have ridden in a motor car, but he has a lot more to say about human behaviour and feeling than Henry Ford.

The existence of a supposed gap between the Arts and the Sciences has been a favourite topic in recent years for the wagging of learned tongues and the exposition of high sounding ideals, but does it really exist ?

The perfect education would be the study of every aspect of mankind. The Arts are, in the broadest sense, the study of Man's culture. Medicine is the study of his biology—physical, mental and social, providing a basis for the better understanding of his culture. To complete the picture, a study of Man's material environment is required, and this is the substance of the pure Sciences.

Each of these broad subdivisions of knowledge is therefore complementary and in no way truely divisible from the others. Of those people fortunate enough to receive Further Education, those with a degree in medical science are in a privileged position. Their course of education has, of necessity, included an introduction to the Arts and the pure Sciences as well as specialist work. The trained medical mind should be able to integrate knowledge from these three fields, together with that gained from general reading and experience in practice, to produce an ever-increasing depth of knowledge and wisdom which in the past has characterised the " family physician."

The same is, to some extent, true of the pure Scientist. It is easier for him to become cut off from the world than it is for the doctor, but assuming that he has enough intelligence to resist this tendency he can integrate his speciality with general reading in the Arts or Medical Sciences.

The Humanist is perhaps the least for-

tunate of all the three specialists, since science of any sort tends to be regarded by him as a discipline not worthy of a place in the rarified atmosphere of his mind.

Something is at last being done to help those who cannot see for themselves the inter-relation between the Arts and the Sciences. Science courses are being run parallel with Arts courses, and scientists are being helped to fathom the mysteries of the Humanities. The "gap" between Science and the Humanities does not exist as a defect of the corpus of knowledge; it is a defect of the mind!

The man studying the pure Sciences, or worse, Medicine, who says "I am nothing but an ignorant scientist" is a defeatist who has failed to see the light, and takes refuge in stubborn pride in his supposed ignorance. He is not ignorant, he is a fool.

Honour

We would like to congratulate Sir James Paterson Ross on being created a Baronet in the New Year's Honours.

The origin of the word Baronet is obscure. but it first appears in English history in the reign of James I. In May, 1611, James, hard-up as ever in his war against the Irish, decreed "a new dignitie between Barons and Knights"—the Baronetage.

The sale of peerages had long been the practice, but it appears that at this time the market was saturated, and the new position was designed to appeal to a new stratum of society. The fee of £1,095 was then enough to keep thirty fighting men in the field for three years at an average of eightpence per day. James undertook to create only two hundred Baronets, all of whom had to have an income of more than £1,000 per year, and whose paternal grandfathers had to be armigerous.

Eight years later James, still short of money, created the Baronetage of Ireland, comprising "one hundred souls".

At this time, questions of the precedence enjoyed by Baronets were proving troublesome. They had originally taken precedence below the younger sons of Barons, but this caused ill-feeling and the enthusiasm of potential buyers waned. The king, wishing to be "much relieved out of vanities and ambitions of the gentrie" granted the heirs apparent of Baronets the right of Knighthood on coming of age.

In 1624, a further lack of funds caused by the expense of colonising Nova Scotia called into existence the Baronetage of Scotland, the charge being three thousand marks (£166 13s. 4d.). In return, the Baronet received 16,000 acres of land in Nova Scotia and the title of "Baronet of His Hienes Kingdom of Scotland."

During the succeeding years the order became chaotic, many people wrongfully assuming the title.

In 1898 the "Honourable Society of Baronetage" was formed to regulate the affairs of the order, and a Royal Warrant of 1914 established an official roll of Baronets. The title is hereditary, and precedence has been re-established after the younger sons of Barons.

Sir James' name joins those of many famous and illustrious men, not a few of whom have graced the annals of Medical Science.

Matron's Ball

The traditional Annual Ball was again held at the Grosvenor House on the 6th January. The occasion shone with splendour; the gracious proportions of the Great Room made it difficult to believe that almost 1,000 people were present, and able to dance without the discomfort of overcrowding Nurses resplendent, and their partners (some from among students and staff, many others not so familiar) were able to select their dances from the slow foxtrot to the charlston, played by Sidney Lipton and his Band. Dinner was served by an army of waiters and waitresses who appeared from every corner of the room—and all too soon, at 1 a.m., the night nurses had to leave: 1.30 seemed to follow very quickly—and it was over. It was a splendid evening: there would be much scope for the grape-vine!

One regretted Matron's absence, due to indisposition, and we hope she has made a speedy recovery. Miss Turnoch received the guests, and to her, and to Matron, to the Treasurer and Governors, and not least, to those who invited us, we express our thanks for providing this magnificent occasion.

Harvey Society

With the recent publicity about resistant organisms and the search for new antibiotics, with either greater specificity or a broader spectrum, it was interesting to hear about an equally important approach to the problem of cross infection—namely that of prevention rather than cure. This was organised for us by the Harvey Society, when they arranged a meeting to hear about the work which Dr. Steingold has been doing, and to see a film about hospital sepsis, produced by Johnson and Johnson.

Dr. Steingold had been working on the problem of the spread of infection among patients at St. Andrew's Hospital, Bow. The organisms present in a hospital tend to be resistant to the commonly used therapeutic agents, and so the reduction of cross infection is of obvious importance. In his work he has found that nearly 95 per cent of hospitals in Britain are not well enough equipped to prevent a spread from patient to patient as they ought to be, when we consider our relatively inadequate means of treating these infections. This is a bold statement to make, but in his talk introducing the film he was well able to support such a theory.

We heard how dressing trolleys had to be set up in corridors, and how there was a grossly insufficient number of rooms where patients infected with a resistant organism could be isolated. Dust was, in his view, the main enemy, and he was able to tell us of the special vacuum cleaners which filtered off the dust and expelled clouds of pathogenic organisms in their wake! His work was clearly well backed with so much practical investigation, that even the patients' soap had been tried as a culture medium.

To lend emphasis to what he had to say, an American film underlined almost every point with alarming force and showed how even the most up-to-date air conditioning system was an excellent device for disseminating the organisms.

There is no doubt that this is one of the great problems for us today, and for those who are going to design hospitals in the future. In Bart's there is an extensive study in progress along these lines at the present, and it is going to be very interesting for us now—having had our attention so clearly focussed on the problem by Dr. Steingold—to see what suggestions can be made to help combat hospital sepsis.

Abernethian Society

At the first meeting of the Lent Session, on January 14th, Lord Mottistone was introduced to the Society, and spoke on the discoveries which he and his partner have recently made in the old Charterhouse. He developed the theme along the lines of an excellent detective story. The old Water Course Parchment provided the basis of much conjecture as to original layout of the Charterhouse. One by one, the findings (many of which were made possible by the extensive damage during the recent war) revealed the plan of the pre-dissolution. Monastery. First, the discovery of the door leading into the cloister, and then a considerable area of paving, firmly established the line along which it formerly ran. This meant that the present chapel could certainly not lie on the site of the original Monastic Chapel, and the discovery of fourteenth century windows in the line of the supposed nave rather confirmed this. Shortly afterwards, when the tower was being restored, a squint was found, presumably directed from the treasury to the site at which the High Altar once stood. It seemed fantastic that this could be so readily confirmed by simply exposing the tomb of Walter de Manny, who founded the Charterhouse in 1371, and was known to have been buried at the foot of the High Altar in 1372. This finding was verified by the seal of Clement VI attached to a Papal Bull known to have been granted to Sir Walter. It seemed even more incredible that it was possible to show that the stones of the original chapel were used in the building of the present hall (by Lord North) by the chance exposure in one of the buttresses of a stone on which the coat of arms of Sir John Popham were sculpted—and it was Sir John who had built a large side-chapel at the south-west corner of the main chapel.

Lord Mottistone concluded this most interesting talk by showing a slide of the amazing work of restoration of the painted chimney piece of the Great Chamber, which is now to be seen once again in all its magnificence. We are indeed fortunate to be able to view again the restored splendour of the old Charterhouse.

Snore Cure

A scientist in Genoa, reports the *Evening News*, has invented a machine which cures

snoring. The sound is picked up and, after being amplified, is played back into the offender's ear.

The snorer either awakens, conscious of the fact that he has been snoring, and can readjust his position, or he hears the noise subconsciously and turns on his side without waking. Might be useful on the wards?

Film

The *Medical World* has produced a film, available free to approved (i.e. medical) audiences, entitled "Enquiry into General Practice."

This film examines the place of General Practice in modern society, and is essentially designed to provoke discussion.

The film will be distributed by the B.M.A. Film Library and Sound Services Limited. Until final arrangements have been made for distribution, all preliminary enquiries for booking should be addressed to the *Medical World*, 56 Russell Square, London, W.C.1.

Medical Electronics

Recent advances in this field have resulted in the development of several new measuring techniques for the clinician and the research worker.

The pneumotachometer measures the speed at which air travels in the trachaea and the volume of air respired at each breath. The airstream is made to pass through a piece of metal gauze, giving a minute change in pressure which is related to the rate of flow. This change is detected by an electronic pressure gauge, and the signal obtained fed into a "black box" which computes and records the volume of air breathed in a given time.

The percentage of CO_2 in the expired air can now be measured by electronic instead of chemical methods with a great saving of time and labour. The method is based on the absorbtion of infra-red light by the CO_2 in a sample of breath.

In polio a feed-back mechanism is possible which measures the extent of the patient's respiratory difficulty and regulates the amount of assistance given by the respirator.

Similarly, a "servo-anaesthetiser" has been developed at the Mayo Clinic. This is worked by the patient's brain. The activity of the patient's brain is measured by electronic methods. Any increase or decrease in activity (corresponding to a decrease or increase in the depth of anaesthesia, respectively) operates a relay which adjusts the rate of administration of the anaesthetic accordingly.

These and many other matters of interest in this sphere of electronics will be discussed at the Third International Conference on Medical Electronics, to be held at Olympia from July 21st to 27th this year.

The conference is designed to cater for the novice in this field as well as the expert, and to promote discussions which, it is hoped, will produce new ideas for development.

An International Scientific Exhibition will be held at Olympia concurrently with the conference.

Further information is obtainable from the Secretary, The Institute of Electrical Engineers, Savoy Place, London, W.C.2.

Vacation Course for Clinical Students

From July 3rd to 23rd, 1960, the University of Hamburg will be host to an international gathering of clinical students attending the eighth International Medical Vacation Course for Clinical Students.

The programme is composed of a wide variety of lectures and demonstrations, designed to give a broad view of the present state of medical research, and is supplemented by visits to hospitals.

Various excursions to places of interest are planned, including one to the island of Heligoland.

Total cost for the course is 210DM, which covers fees, bed, breakfast and lunch, but not dinner, for which an extra 2DM per day should be allowed. Accommodation will be in private houses.

Applications must be in before June 15th, and should be accompanied by a deposit of 25DM. Balance to be paid by June 30th. The deposit is not refundable in the event of cancellation. Applications should be sent to Akademische Auslandstelle Hamburg E.V., Hamburg 13, Schluterstrasse 7, Deutschland.

Public Welfare Foundation Undergraduate Prize Competition

The Council of the College of General Practitioners is happy to announce that the above competition, which has been held each year since 1957, will now become a permanent

activity of the College. The competition is open to any senior medical student in any medical school in the United Kingdom and Eire. Six prizes of £40 each will be awarded to the six most successful candidates.

Applicants are asked to give a case history, with a suitable commentary, of one of more patients whom they have seen in general practice. The patient may, but need not, have been admitted to hospital. The student is required to have seen the patient on three or more occasions in the patient's own home or in the general practitioner's consulting room, and to have been introduced to the patient, in the first place, by the family doctor concerned. In presenting his material, the student should give adequate consideration to both the clinical and social aspects of the patient's problem. He is encouraged to discuss the case thoroughly, before writing it up, with the general practitioner concerned. This presentation should include an adequate and concise summary of the salient features.

The material (approximately 1,500 words) should be written or typed on one side only of quarto paper. Adjudicators will allot marks to each essay on the following basis: clinical presentation, maximum 30 marks; assessment of the social aspects of the patient's problem, maximum 30 marks; the candidate's appreciation of the general practitioner's role in diagnosis and management, maximum 30 marks; comment and summary, maximum 10 marks.

Application forms and further particulars may be obtained from the Dean's Office, or from the Secretary of the College of General Practitioners, 41 Cadogan Gardens, London, S.W.3. The closing date for the competition is May 1st, but applications may be sent in at any time.

Fifty Years Ago

In the middle fifties of the Nineteenth Century the Hospital Staff was graced with names like Lawrence and Paget. The *Journal* in 1910 records the memories of Dr. Bradshaw (Surgeon-Major General A.M.S. and Honorary Physician to the King) who was a student at Bart's at this time. Returning from India many years later he "left the Hospital thinking sadly of the changes of persons and buildings which Time had brought about in a quarter of a century" but many features of life at Bart's seem slow to change. Even then "the approach to the main gate was beset on market days with no small risk." And although "crossing the road called for much quickness and circumspection", the hazards were different ones in the form of "heavy drays . . . and crowds of horned and frightened beasts driven by the roughest of men."

The names of the "many Gamaliels at whose feet *he* sat absorbing the . . . instruction they were so well qualified to give" have changed; perhaps the characters of their successors are much the same. There was "Dr. Burrows, the lecturer on medicine, tall, well-favoured, and with excellent delivery; Patrick Black, the warden of the Residential College, tall and with an air of refinement and culture. West, the lecturer on midwifery, of middle height, fair, and wiskered was facing with manliness a temporary unpopularity."

At the head of the Surgical Staff was "Lawrence, a fine handsome man with large, blue myopic eyes." In contrast to Lawrence, his colleague Paget was "tall, gaunt, grave with black hair closely clinging to a small head, orbits cavernous, in which glowed large dark and thoughtful eyes, an ideal lecturer . . .".

Perhaps the chief reason for Dr. Bradshaw leaving the Hospital on his return "thinking sadly of the changes" was that when he "went into the wards—'dead' was the answer to all his inquiries respecting well remembered sisters." (Elsewhere in the same *Journal* is recorded the loss from the Hospital Staff of Sister President, Mary, Harley, Casualty and Radcliffe Wards. The Editor at the time records that "they will all take with them pleasant memories of the times spent 'Round the Fountain'—which is, of course, the Hub of the Universe.")

The article ends with a seriousness characteristic of the age, and we are told that even though "the Hospital of Rahere will . . . lead the way. The career of man in intellectual conquest must ultimately receive a check, for it is not imaginable that a Creator would endow a created being with a brain of such potential force as to be able to surmise even the extent of Omniscient Wisdom."

Pot-Pourri, 1959

Christmas at Bart's has long been characterised by the Ward Shows, and it would be hard to imagine the week before Christmas without the sound of hammering from the path. rooms and late night rehearsals in S.O.P.'s.

All this endeavour builds up to a climax which bursts, sometimes literally, upon the patients after their Christmas dinner. Even if one or two of the shows did have their dress rehearsal on the first ward they visited, most got into gear quickly and, by Boxing Day evening, three shows, the House, the Finalists and the Dressers, had been asked to put on extra performances.

From the plethora of material available, the Pot-Pourri Committee had the unenviable task of welding together a show to be presented to a large and critical audience. The fact that they missed the gold so narrowly was not their fault, but rather that of the House whose show suffered greatly from comparison with that of the previous year, and left little more than a nasty taste in the mouth at the end of what had been a most entertaining evening.

The laurels must undoubtedly go to the Finalists, for a show which was in the best traditions of University revue—slick and clever, with good lyrics, tunes and movements. They proved once again that the basis of a good ward show is some sort of underlying plot to give the whole thing unity, and the idea of transporting the audience to an island holiday camp was most successful. The outstanding numbers in this show were Wendy Roles' "The Hole where the Horse used to be" (in which her inimitable stage presence once again delighted the whole audience), "Aunt Agatha," "The Giant and the Pixie" and "You've got to have cash"—a moving exposition from three young business men.

The House, as already mentioned, were disappointing, but certain numbers reproduced the sparkle which one has come to expect from them. Forbes Abercrombie and Richard Simons gave a very polished rendering of "What a swell party this is" and with Alan Whitworth's "Hairy Fairy," were the best parts of their show. David Wright's "Cinderella" and Nick Roles' "Shrine on the Second Floor" were also good. The House's experiment was a good idea, but pantomime has rigid conventions which are not ideally suited to a ward show.

The evening opened with a chorus by the Dressers, which had a good tune and plenty of movement. They also appeared to enjoy themselves, which always helps; too many numbers were performed with glum faces. Laugh and a Pot-Pourri audience laughs with you.

Well aimed shots were then directed at female coxes, Mr. Marples, and the hardships of "Travelling Tight" in public transport. "The Great Pretender," in which four Dressers mimed the Stan Freberg classic, was an outstanding example of how well a number can be rehearsed, and "Drosky" was a clever pastiche of well known tunes.

In the Out-Patients' and Clerks' show, the cast distinguished itself in "Sweet Violets," which was well presented and deserved the applause it received. Gwilym Michael established himself as a great "natural" comedian in his inimitable rendering of "Come into the Garden, Maud" and three gentlemen in black mourned their "Late Lamented Uncle," whose morbid anatomy held a lesson for all of us!

In the Midder and Gynae. show, Janice Swallow's "The Lady's not a Tramp" was excellent, and "Devonshire Cream and Cider" (written only at the last minute) showed that you are not too old, even at ninety-seven!

Thanks are due to the three comperes for their heroic efforts in what I always feel is a most difficult rôle, and Mike Barton must be congratulated on producing a show of such high overall standard.

FILM SOCIETY

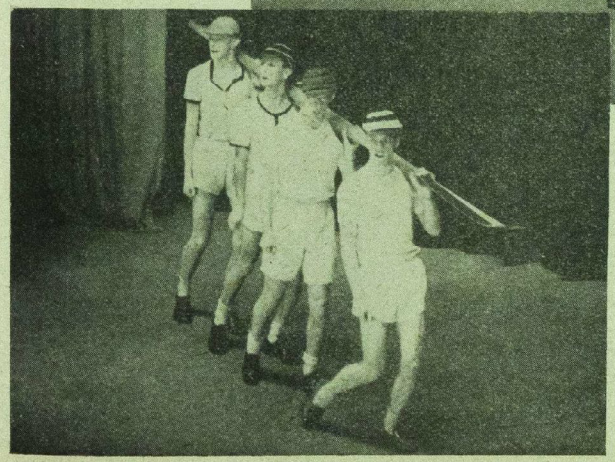
PROGRAMME FOR THE 1960 SEASON

February 8th. *The Wild One*
February 22nd. *The Sheep has Five Legs.*
March 7th. *The Fiends.*
April 25th. *Strange Incident.*
May 9th. *Odd Man Out.*
May 23rd. *The Seventh Seal.*
June 6th. *East of Eden.*
June 20th. *Passport to Pimlico.*
Performances begin at 8.30 p.m.

(*The Committee reserves the right to change the programme without notice.*)

"*Drosky*" (*or "Love in a cold Climate!*")

"*. . . Late lamented Uncle, in the museum laid to rest . . .*"



Keep the ladies off the river!

CALENDAR

FEBRUARY

Wed. 10—Soccer *v* Royal Dental Hospital (H) L
Cricket Club Dinner
Sat. 13—On duty : Medical and Surgical Units
Mr. G. H. Ellis
Rugger *v* Old Paulines (A) a.m.
Wed. 17—Soccer *v* St. George's Hospital (H) L
Sat. 20—On duty : Dr. R. Bodley Scott
Mr. A. H. Hunt
Mr. F. T. Evans
Soccer *v* Guy's Hospital (A) L
Rugger *v* Saracens (H)
Mon. 22—Film Society, *The Sheep has Five Legs*
Sat. 27 On duty : Dr. A. W. Spence
Mr. C. Naunton Morgan
Mr. R. A. Bowen
Soccer *v* St. Thomas's Hospital (L)
Rugger *v* Treorchy (A)

MARCH

Sat. 5—On duty : Dr. G. W. Hayward
Mr. A. W. Badenoch
Mr. R. W. Ballantine
Rugger *v* Old Haberdashers (A)

Honours

Baronet—Sir James Paterson Ross.
Knight Bachelor—Professor Andrew Monyihan Claye.
C.B.E.—Dr. Leonard Anthony Paul Slinger, O.B.E.
Mr. P. H. Jayes has been elected President of the British Association of Plastic Surgeons.

Changes of Address

DR. E. J. BLACKABY, 45 Loxwood Avenue, Worthing, Sussex.
DR. W. NORMAN-TAYLOR, c/o South Pacific Commission, Boite Postale No. 9, Noumea, New Caledonia.
MR. CYRIL S. C. PRANCE, O.B.E., J.P., K.St.J., Moorlands, Down Road, Tavistock, Devon.

ANNOUNCEMENTS

Engagements

CHARLTON—PRICE.—The engagement is announced between Dr. Clive Arthur Cyril Charlton and Sheelagh Jennifer Price.
IND—BISHOP.—The engagement is announced between John Edgar Ind and Dorothy Bishop.
MAKIN—COWLEY.—The engagement is announced between Edward James Bolton Makin and Julie Irene Cowley.

Marriage

HUCKSTEP—MACBETH.—On January 2nd, Ronald Lawrie Huckstep, M.D., F.R.C.S. to Margaret Ann Macbeth.

Births

GOODWIN.—On December 5th, to Jean and Dr. Stewart Goodwin, a daughter (Ruth Patricia).
MALPAS.—On December 23rd, to Joyce and Dr. James Malpas, a son (Timothy John), a brother for James.
ROWNTREE.—On December 23rd, to Gwendoline and Dr. Paul Rowntree, a son (Samuel).

Deaths

BURSTAL.—On December 6th, Dr. Edward Worsley Burstal. Qualified 1904.
HARVEY.—On December 23rd, Frank Harvey, F.R.C.S., aged 81. Qualified 1902.
LINDSEY.—On December 20th, Dr. Edward Vaughan Lindsey, aged 83. Qualified 1900.
MARKS.—On December 22nd, Leonard Freeman Marks, M.D., F.B.M.A. Qualified 1896.
MATHER.—On November 3rd, Dr. Edward Alton Mather, aged 71. Qualified 1913.
MILES.—On December 29th, Dr. Peter Miles. Qualified 1902.
WADDELL.—On December 22nd, Dr. Ivan Lindley Waddell. Qualified 1913.
WOOD.—On November 12th, Dr. Percival Wood. Qualified 1897.
YOUNGMAN. On January 3rd, John Gordon Youngman, F.R.C.S.(Edin.), aged 48. Qualified 1935.

Mr. Harold Wilson

Mr. Harold Wilson, senior consulting surgeon to the Hospital, died in Suffolk on November 14th, 1959, shortly before his 79th birthday.

He was born at Deer Park, Carlisle, in 1880, the second child of John and Mary Wilson. As a boy, he looked forward to farming his uncle's land at Silloth, and developed the countryman's interests, which always remained with him. The unexpected birth of a son to his uncle led to his decision to enter medicine. Since his father was dead, it was imperative, for financial reasons, that he qualify as quickly as possible, and he was sent to King Edward's School, Chelmsford, to complete his general education, and entered the Medical College in 1898. He qualified with the diploma of the Conjoint Board in 1903, obtaining the F.R.C.S.(Eng.) in 1905. the M.B., B.S. degree of London University in 1907, and the M.S. degree in 1909. During this time it appears that, in order to help support himself, he frequently coached other candidates for the examinations he was taking himself, and he sometimes also played the violin in the orchestra at the Gaiety Theatre. These activities did not keep him from being one of the outstanding students of his year, since in 1903 he obtained the Matthew Duncan prize, and in 1905 the Brackenbury Scholarship in Surgery and the Willett Medal. In 1906 he was awarded the Luther Holden Research Scholarship.

Following qualification, he was appointed house surgeon to Mr. Harrison Cripps and Mr. Hulbert Waring, and he never lost his admiration for his senior chiefs of those days. He was also intern midwifery assistant and then served first as junior and later as senior demonstrator of anatomy under Dr. Addison. At this time he developed a reputation as an excellent teacher, and one of his proud possessions was an inscribed silver box presented to him by the students in the dissecting room on the occasion of his marriage in 1911. In 1913 he was appointed to the honorary staff of the Hospital as assistant surgeon to Mr. Cozens Bailey ; in 1928 he was made full surgeon, becoming, on his retirement in 1945, consulting surgeon. Outside his own hospital he was, in earlier years, assistant surgeon to both the Royal Cancer Hospital and the Victoria Hospital for Children, and he continued until his retirement to operate at two of the number of Cottage Hospitals with which he had at one time been associated.

During the First World War he served in the R.A.M.C. in France, and at the First London General Hospital at Camberwell, attaining the rank of major. In the Second World War, in the Emergency Medical Service, he was at first surgeon in charge at the St. Bartholomew's Sector Hospital at St. Albans, but after a short period he returned to Smithfield. He and his wife lived in London throughout the war and during the time of the heavy air raids in 1940-41, close by the Hospital. At this period he undertook with his junior colleagues, the treatment of the many casualties which came to the Hospital, mostly during the night.

Harold Wilson was a true general surgeon in the days when this implied covering the whole field of surgery as then practised—with the exclusion only of the work carried on in established special departments of the time, Ear, Nose and Throat, Ophthalmic and Orthopaedic. His diagnostic skill, sound judgment and meticulous technique led to excellent results. In the development of the surgical treatment of peptic ulcer and diseases of the biliary tract he did pioneer work in the hospital ; in the management of rectal carcinomata he undertook not only the radical excision with excellent results, but also in certain cases conservative resections by the sacral route ; fractures were always of interest to him—perhaps because of his association with Sinclair in the treatment of the fractured femur during the 1914-18 war. Urology was an early and lasting interest. In 1905 he was pleading for routine cystoscopy in the investigation of renal and vesical disease ; in a large experience of cases of prostatic enlargement he obtained excellent results performing the Thompson Walker operation ; vesical neoplasms were treated thoroughly by partial cystectomy and ureteric transplantation. In carcinoma of the breast his dissections were carried out with scrupulous care. Sulphonamide and antibiotic therapy were developing in the last years of his surgical career and he never quite accepted them. In this connection, it

is of interest that forty years earlier when he assisted his uncle in general practice, he was known as the "washing hands doctor" because of his habit of washing his hands before and after examining a patient—a habit which at the time occasioned much comment.

As a teacher he was outstanding—his method being based upon great clinical experience and an excellent knowledge of anatomy and surgical pathology. He possessed to an unusual extent the ability to make crystal clear the thought processes which led him to a particular diagnosis or course of action, and this, together with his quiet voice and carefully reasoned arguments, made a deep impression on his students. He was always gentle and encouraging to them, and if his language was strong at times this could never cause any offence and did no more than mildly emphasise a point. His quiet sense of humour added to the enjoyment of his ward rounds. His house surgeons and chief assistants gained much from his example—the thoughtful consideration of evidence which led to his diagnostic ability, the gentle, meticulous technique which produced such excellent results, and the conscientiousness which was an outstanding characteristic. His Ward Sisters were also devoted to him and, as a result, the surgical firm which he headed from 1928 until its disruption in 1939, was a quite outstanding one. While his contribution to teaching within the hospital was a considerable one, he rarely attended medical meetings and his writings were few—only eleven contributions to medical literature made between 1906 and 1921 can be traced. The most important of these was probably his joint editorship of Gask and Wilson's Surgery, to which he contributed the section on the surgery of the urinary and male genital systems.

To one who knew Harold Wilson during the last twenty-five years of his life, he always appeared to be one of the personalities of the Hospital, without ever trying to be so. The extremely thin, erect figure suggested physical frailty; the country tweeds, gay buttonhole and almost jaunty walk disguised it. His serious expression was softened by kind eyes and a ready smile. He was a quiet, shy man, always gentle in his dealings with others but, at the same time, almost unshakable in his convictions. His hospitality in London, and especially in Suffolk, was enjoyed by many of those who worked with him, and they will retain the memory of the atmosphere of happiness in his home, and of his charming wife, Hester, who contributed so much to it. In the country he obtained a deep satisfaction from his garden. Shooting was his other chief pleasure at this time, and the fact that duck and pheasant were available on his own land more than compensated him for the journey of over 250 miles which he made to get there each weekend for much of the year.

In his youth he had many interests. His upbringing produced a love of the countryside, fishing, shooting and sailing; other interests were music, dancing and bridge. As the years passed these interests dwindled, and in seeking the explanation of this it must be recalled that he was never physically robust. A longstanding dyspepsia necessitated strict dieting for the greater part of his active life, and he was recurrently ill with severe bronchial infections. Restriction of his activities was no doubt forced upon him by his desire to ensure that what he did undertake was well done. Here perhaps too lies the explanation of the small part he took in committee work, and his infrequent contributions to the literature. The stress of the war, which delayed his retirement for four years, tired him greatly, and he went eagerly to his Suffolk home. Here he had built, twenty years earlier, a delightful house overlooking the Waveney river and the marsh of Haddiscoe, and here, with his wife and daughter, he had spent much of his leisure. Sadly, his plans for retirement were never realised, since his wife died suddenly, leaving him a very lonely man. However, in the period of failing health at the end of his life, the surroundings that he knew so well, the visits of his daughter and grandchildren, and the companionship of his doctor—a devoted old house surgeon—helped him greatly.

A great hospital is not a building; it is a living institution, changing its membership through the years but always in essence the same. In the long succession of those who have served here, Harold Wilson's place is an honoured one; in the minds of many of those he guided by precept and example it will remain unique.

Social Anthropology and Medicine

by M. S. Lipsedge, B.A.

Folk Medicine

Every culture* has its characteristic medical beliefs and practices, religion and customs, economic affiliations, age-group roles, family prestige, social status and vested interests. Certain aspects of the indigenous cultural framework may conflict with Western concepts of curative medicine and hygiene; the Western-trained physician with a knowledge of local health habits is more qualified to modify undesirable customs and to introduce his own standards and techniques. As Fraser Brockington has pointed out,[1] "a study of environmental sanitation in New Guinea or of maternal and child health in Malaya, cannot be brought to any useful conclusion without an examination of the socio-anthropological issues which determine the course of events. If it is necessary for the human being to defaecate in a mountain stream in order to avoid the risks of evil spirits gaining possession of his excreta, or if expectant or nursing mothers are deprived of essential foodstuffs because of the social or even magical significance of articles of diet, then inevitably the medical officer cannot avoid a study of the beliefs and customs of his group if he is to hope to take any effective public action."

Different human groups have different traditional theories of disease and causation, and when an individual falls ill his emotional attitudes and those of his associates are intimately related to the theories held. In parts of Burma, where a yellow string is tied round the left wrist to avoid cholera, there is a complex combination of systems of treatment of illness. The two main systems, according to the anthropologist Margaret Mead,[2] revolve around the theory of the "four elements of the body" and their state of equilibrium. Treatment depends on the individual's horoscope, so that two people in the same house diagnosed as having the same kind of imbalance will be treated differently if they were born under different planets. There are, moreover, two opposing systems of treatment, one by medication and one by diet. If the different kinds of medicine fail a spell is diagnosed and a "witch doctor" is called. The Berens River Indians of North America believe that a prolonged illness is the result of being bewitched; gastric symptoms are interpreted as evidence of incipient cannibalism and the victim is killed.[3]

What is recognised as disease or illness is a matter of what Saunders[4] describes as "cultural prescription" and a given biological condition may or may not be considered an illness depending on the particular cultural group in which it occurs. For example there is one South American tribe in which *pinto* (dyschromic spirochaetosis) is so common that those who have it are regarded as healthy, those who do not as ill.[5] Local ideas as to the aetiology of disease cannot be ignored by the Western physician. They may relate to either physical or spiritual phenomena or a combination of both. In New Mexico a belief in the evil eye coexists with the belief that some disease is due to bad blood; congenital defects or blemishes are believed to arise from unpleasant emotional experiences of prospective mothers; ulcers are caused by eating greasy foods; appendicitis from biting fingernails; cancer from improper alignment of the spine. Pregnancy requires adherence to many dietary restrictions and a reduction in the amount of water drunk, lest the head of the foetus grow too large for an easy delivery. Pregnant women avoid moonlight while in bed and should there be an eclipse during her pregnancy she takes the prophylactic precaution of hanging some keys on a string around her waist, lest the baby be deformed by the effects of the moon's shadow falling on the mother.[6]

The error of acting as if traditional medicine did not exist and of deriding it before the patient is illustrated by Lebeuf's account[7] of how a nurse in Latin America found a child suffering from severe bronchial pneumonia; when asked why the sick child had not been taken to the clinic the father replied that the child had been afflicted by the evil eye and

* Culture in this context refers to the common way of life shared by members of a society. It includes the totality of tools, techniques, social institutions, attitudes, beliefs, motivations, goals and values which prevail in a particular group of people. It is thus defined as the more or less standardised behaviour of the members of a society.

everyone knew that the doctors knew nothing about that. Health workers in the same region have frequently found seriously ill children at home ; the mothers had diagnosed the cases in folk terms of the evil eye and the evil spirits and knowing that physicians denied such causes they preferred to seek traditional remedies. In the Middle East the placenta must be disposed of in ritual fashion otherwise women do not take advantage of maternity services. The taking of blood specimens was opposed by the rural population of Vietnam and the doctors wrongly assumed that their reluctance was due to fear of pain or of the sight of blood. The operation of the health programme was hindered until ethnologists pointed out that as soon as any component of the human body, such as hair, nails or blood are placed in the hands of another person he assumes control of part of the personality of the donor and thus allows the preparation of philtres or other magical potions, which can be used against his will, his health or his destiny.

Anthropology has modified the impression that the folk medicine of a given people is only a random collection of beliefs and practices. Saunders describes it as constituting " a fairly well organised and fairly consistent theory of medicine. The body of knowledge on which it is based often includes ideas about the nature of man and his relationship with the natural, supernatural and human environments. Folk medicine flourishes because it is a functional and integrated part of the whole culture and because it enables members of cultural groups to meet their health needs, as they define them, in ways that are at lease minimally acceptable." Largely as a result of the anthropologists' concern with primitive medicine, it is now appreciated that different societies have their own characteristic ways of defining and treating disease, that people colour their images of disease with backgrounds of emotion and value, and that ideas and customs in this part of culture are systematically linked to other parts. In many preliterate societies there is a general belief that illness is caused by :—

(1) disobedience of taboos,
(2) the refusal to obey orders given in dreams by ancestors,
(3) The action of a malevolent witch or priest.

Nutrition

The system of attitudes, beliefs and practices surrounding food are deeply entrenched aspects of many cultures. Fixed beliefs in the sphere of food consumption may often be a cause of malnutrition. In certain areas of Tanganyka where cattle did not exist, the people had large numbers of fowls, but would not eat the eggs or give them to their children because they believed that to eat eggs would cause sterility. It must not be supposed that because a particular population knows nothing of our nutritional concepts, that they have no concepts whatever regarding nutrition. In the " native reserve " served by the Pholela Health Centre in the Union of South Africa, eighty per cent of the Zulu tribesmen exhibited the marked stigmata of malnutrition, and evidence of gross nutritional failure in the form of pellagra or kwashiorkor was common. Certain traditions as to which foods were customary contributed to the malnutrition and resulted, for example, in local opposition to attempts to increase milk consumption. Women took no milk at all with obvious harmful results to expectant and lactating mothers. Among the Zulus cattle are connected with veneration of ancestors and by the valued norms of human conduct they symbolise good. Consequently ideas and actions concerned with cattle are charged with strong emotions and habits of milk consumption are hard to change. Milk was excluded from the diet of girls once they had passed puberty, as it was thought that during menstruation or pregnancy women exert an evil influence on cattle. Thus concepts concerning milk were enmeshed in the overall cultural pattern. Cassel[8] relates how analysis of the underlying beliefs indicated that the barrier lay in the link between ancestors and cattle. Anthropologists suggested that if milk coming from cows which did not belong to any member of the tribe or any other related groups could be introduced into the community the barrier would be overcome. " The most practical method of accomplishing this was to make powdered milk available. No secret was made of the fact that this powder was a form of milk, but it was stressed that it did not originate from cows belonging to any of the Zulu people." Milk consumption was significantly increased.

Resistance to Change

Despite growing evidence that Salk vaccine

is safe and effective, about one-third of the pre-school children in the United States have not been immunised. It is clear that much of the paralytic poliomyelitis that occurred in 1958 could have been prevented if more persons, and particularly those in the youngest age groups had been vaccinated. Yet the fact remains that large groups in the population failed to accept immunisation,[9] and it is a matter of considerable interest to public health workers to know why these people behave as they do. Again, fluoridation of water supplies, a practice which seems so well founded to the health worker, is rejected by some urban Western communities. These two illustrations of resistance to change are taken from our own Western society. Resistance to change among preliterate peoples is clearly a far greater obstacle to the health worker, for the local ideas on health form part of a cohesive culture pattern. In an analysis of the interrelation of technical change and culture, Margaret Mead writes : " Where a change may seem to the expert to be merely a better way of feeding cattle or disposing of waste, to the people it may seem to be a rejection of the demands of the gods, or a way of giving their welfare and safety into the hands of the sorcerers. An ' improved ' form of house may also be a house without the proper magical screens to baffle the demons who may enter to make one ill." A Bantu might resist hospitalisation of his family with tuberculosis because it would imply that his daughter who spread the disease was a witch. In Latin America, health and sanitation programmes must take into account certain cultural elements, including categories of cultural data like folk medicine, family organisation and prestige complex as well as specific items of cultural content like " hot and cold " distinctions and concern with the " clean " stomach.

In his investigation into water boiling habits in a Peruvian town, Wellin[10] set out to determine why some housewives had decided to boil contaminated water for drinking and why others had not. He learned that housewives who boiled water did so for different and even contrary reasons. Some boiled water because they were sickly, in accord with local conviction about illness and its relation to a dichotomy between " hot " and " cold " foods. Others did so because they rejected the communities' value system including its cleanliness standards Some began boiling drinking water because the hygiene worker recommended it ; others did so only after a more acceptable authority—the physician, legitimised their departure from prevailing norms of water usage. Some failed to boil drinking water because they did not have available an after-breakfast interval which, by virtue of local circumstance and belief, was the only possible and appropriate time to boil water. Among those who decided not to do so were many whose cultural values precluded acceptance of new and competing health values. In summary it turned out that in order to understand fully the variety of response to the water boiling issue, it was necessary to take into account many sectors of culture, including definitions of health and illness, the organisation of timetables and scheduling of daily chores, mobility aspirations, the prevailing status system and the community's pattern of utilisation of its water resources.

In the field of health practices the anthropologist has observed both rational and irrational attitudes and beneficial and injurious customs. Jecliffe[11] advocates either adoption or integration of local food habits and practices associated with pregnancy and methods of child-rearing where these are not in direct conflict with Western methods and may be beneficial in a particular local background. He suggests for example, that prolongation of breast-feeding into the second year of life may be judged biologically necessary for the growth and survival of infants in many subtropical communities, especially in the tsetse fly belt of equatorial Africa, where cattle cannot be raised. Jecliffe considers that customs and attitudes may be rendered harmless by modification and integration. " Thus if orange and other fruit juices are classified as ' cold ' (*tonda*) in a particular food ideology and because of this cannot be given during the winter months it would seem legitimate to make use of the culturally acceptable and scientifically harmless technique of neutralising the essential adherent ' cold ' of the juice by adding a little honey, which is ' hot ' (*gavan*), if by this means the mother will be more willing to allow the infant to take the ascorbic-acid containing juice. Also, by retaining and integrating or at least not opposing a particular custom which, to the scientific viewpoint, may seem quite immaterial to the child's health, it may be possible to increase the parents' confidence."

Confronted with the problem of changing unhygienic habits it may be possible to work within the existing culture pattern. In certain areas of the Middle East manure cakes are used for fuel. These are placed on the flat roof of the dwelling to dry and, during the drying time, they provide a breeding place for flies. As no other fuel is available, health workers have recommended that the manure cakes be made thinner and thus dry out before the flies have a chance to breed in them. Often it is difficult to inculcate a sense of social responsibility in a group which has no concept of the necessity of group action for individual health benefit. For example, when health workers suggested to the inhabitants of an Arab village that water pollution could be prevented by the construction of an efficient drainage ditch, they were incapable of carrying out the work. It was incomprehensible to them that any one person would dig a ditch for the benefit of so many others. They had no social mechanism for distributing the task among everybody. The whole idea of group action was completely strange to the villagers.

There is also the problem of indigenous practices which are found to be absolutely undesirable when judged by scientific criteria, as, for example, the use of cow dung as a dressing on the umbilicus of the newborn child, or the failure to introduce supplementary foods to an infant until he can walk. In these circumstances, Jecliffe suggests that the correct approach is to " alter by persuasion and demonstration the superiority of Western methods. This may be very difficult, especially in an essentially pragmatic peasant population, when dealing with such long term aspects of child health as the nutritional benefits of different methods of infant feeding. It is usually easier to convince when the results are rapidly and easily demonstrated as, for example, in the superiority of benzyl benzoate emulsion over herbal preparations in the treatment of scabies or the efficacy of penicillin therapy in yaws."

In gaining the confidence of the patient it is useful to have a knowledge of the cultural premises and expectations brought into the clinical relationship by the patient. For example, in India, regardless of what the local curer really believes he must assure the patient and family by saying: " He is going to be alright ; he is going to get well." Perhaps the patient will be dead in half an hour, and perhaps the family also knows this. Nevertheless, the ritual words must be spoken otherwise there is no confidence in the doctor.

Resistance to suggested change may have a variety of causes. This is illustrated by the fact that in certain areas of the Western Pacific where boys are more highly valued than girls, the young wife may be forbidden to breast-feed her baby daughter in case the chance of the birth of a son is thus delayed. In order to use persuasion to the best advantage, the doctor must fully understand the resistances that are likely to arise against his advice, and this he can do best by being conversant with the local culture pattern.

Cultural Psychopathology—the Relation Between Culture and Personality Disorder

Socio-anthropological research has established that the structure of human personality is not a universal constant, but varies from culture to culture. Margaret Mead's study of the behavioural manifestations of the crisis of adolescence in Samoa disproved the assumption that human character is fundamentally similar in every cultural environment. In his paper " The cultural developments of personality," Bateson[12] summarises the conclusions to be drawn from her research: " It had been tacitly assumed that the psychological impact of puberty ' naturally ' caused behaviour to be intense and erratic during the period of adjustment to the new physiological equilibrium. It followed from this assumption that if human character and human physiology were essentially alike the world over, we ought to expect a similar period of maladjustment to occur in all cultures. Margaret Mead showed, however, that this was not true of Samoa, and further, that the smooth, easy adjustment of the Samoan adolescent could be referred to peculiarities of the Samoan family organisation. Whereas in Western cultures family organisation is such that very intense ties are established between the child and one or two adults, in Samoa the ties of affection are slighter and are diffused over a large number of adults and child nurses. The capacity for intense emotional behaviour is, in fact, a variable which depends on cultural milieu." The kinds of formative experience which individuals will have and the ways of responding to them depend in large measure on the culture in which they live. For

example, where loss of a biological parent may be a very severe trauma in a society organised on the basis of the small two generation family, it may be much less severe in societies based on large extended families like the Zadruga of the Balkans, or as in China.

The role of culture in shaping the personality and character of the individual is illustrated by the significant changes in frequency of psychomatic and other psychopathological deviance occurring from one period to another in our own society. This is demonstrated by change in sex distribution of perforated peptic ulcer. According to Wolff,[13] in New York Hospital between 1900 and 1939 the male-female ratio of perforated ulcer cases changed from a ratio of 7:6 to a ratio of 36:3. Perforated peptic ulcer follows a definite type of psychological history and character formation. The ailment has become more significantly a male disorder, and cultural changes in sex roles in the last fifty years have been such as would fit this change in sex distribution. This conclusion is based on observations made in the context of only a sub-cultural change. Bateson suggests that " we would predict that still greater differences in form and frequency of psychomatic deviance ought to occur between basically different cultural milieu."

Recent abnormal psychology has recognised the social anthropologists' suggestion that diagnosis cannot be made without reference to cultural context. A man with what by Western standards is considered paranoid behaviour and ideas, may in another cultural set-up, where almost everybody shares his attitudes, be by no means socially disabled but a normal and even ideal participant of his society. (In the classification of paranoia beliefs are diagnosed as a delusional system because they markedly deviate from customary beliefs.) Slotkin[14] considers that the major contribution of anthropology is the opportunity it offers for reducing the ethnocentricism of the diagnostician. He describes the case of a Menomini Indian who was said by a psychiatrist to be suffering from phobias because he was afraid of snakes and night time. When Slotkin explained to the psychiatrist that to the Menomini all but one species of snake are considered to be evil spirits, and that evil spirits, ghosts and witches come out at night, he changed his diagnosis. The fact that the clinician's ethnocentricism may lead him to a wrong conclusion emphasises the importance of the anthropological contribution to his work when he is dealing with patients from sub-cultures, other than his own or with people from different cultures.

The diagnostician is confronted with the problem of how to distinguish between some unfamiliar culturally conventional forms of behaviour, such as hearing voices, believing that people are killing one by magic and seeing visions, and symptoms of genuine mental illness. Mead considers that, for example, " Behaviour which would be regarded by our standards as a sign of a highly developed neurosis may be quite conventional in another culture, as in the case of ritual cleanliness. Periods of customary religious fasting and withdrawal from all social intercourse may be very difficult to distinguish from attacks of catatonic schizophrenia." Thus it is necessary to establish criteria for diagnosis in trance and vision experience.

It is important to distinguish the *statistical* sense of " abnormal " and " abnormality " and the sense in which these words are used to describe *pathological* conditions. In our own society it is statistically abnormal to listen to Schönberg's String Quartets, but it is not pathological to do so. Conversely the fact that on the Island of Yap the statistical occurrence of intestinal worms is so high that they are locally considered an integral and essential part of the digestive process does not alter the pathological nature of the condition. The paranoid schizophrenic in Western Europe shows behaviour patterns x and y where x represents behaviour which is clearly pathological in the sense that it is completely opposed to the beliefs and behaviour patterns (i.e. the culture) which is accepted in the community as a whole, and which prior to the illness the patient had accepted ; y represents behaviour such as suspicion, which can be found in the community as a whole, and which is not thought of as pathological. Now, the behaviour pattern x is abnormal in both senses. y-behaviour may be statistically abnormal, but is probably not pathologically abnormal. In his study of a remote community the anthropologist may discover behaviour which resembles the behaviour classified as x-behaviour in his own Western community. But the important question is whether it may be validly considered x-behaviour with respect to the primitive community, i.e. taking into account the beliefs and patterns

of behaviour which are accepted in that community and are characteristic of it. The anthropologist may also find behaviour resembling the behaviour classified as *y*-behaviour in his own community. This may not even be statistically abnormal in the community being analysed, and was never pathologically abnormal. The following observation illustrates this distinction between statistical and pathological abnormality. In a public health clinic in Israel, I heard a Yemenite immigrant, who was suffering from severe cataract, refuse to undergo surgical treatment, because he maintained that the real cause of his affliction was an evil spirit. Now a West European who believes in evil spirits is abnormal in both *x* and *y* as defined above. A Yemenite holding the same belief is abnormal in neither sense because his belief is consistent with the generally accepted standards of his cultural milieu. Thus, his behaviour is not abnormal in the statistical sense, because the majority of the members of his society behave like this ; nor is it abnormal in the pathological sense because his cultural frame of reference permits this form of behaviour.

Frequently the anthropologist and the psychiatrist come across the individual who is statistically abnormal in his own society and would be classified as pathologically abnormal in ours. He is, however, culturally acceptable in his own group and may have a social function to perform. Indeed, a new group may have social roles which the neurotic or psychotic can assume satisfactorily in which case he is a conformist. For example, among the Tembu certain types of schizophrenes gain high prestige as shamans. Dr. J. Schosberger, the directing psychiatrist of the government work village for mental patients in Israel, told me of a female patient suffering from active open tuberculosis who was admitted to the special ward for such patients. She suffered from chronic hallucinosis and was actively talking back to the voices intruding on her consciousness. She came from the Hadramauth (the Valley of Death) in the southern part of the Arabian peninsular. She would certainly have passed all diagnostic requirements to graduate as a mushrooming paranoid schizophrenic. To Dr. Schosberger's surprise, as soon as her severe somatic disease improved the husband requested to take her home to their immigrant camp. The husband was told that her bodily health did not militate against probation leave, or even discharge, but how would he manage the hallucinations and the fact that she always seemed to be talking to herself. To this he replied that such a contingency was not at all unusual—she just knew how to talk to spirits, and had always done so.

Slotkin has investigated the Menomini Indians of Wisconsin, and summarises the contribution of anthropology to abnormal psychology as follows : " Many fundamental psychopathological concepts implicitly depend upon social or cultural notions. Almost invariably these notions have been derived from the theoreticians' own cultural milieu and may be inadequate when applied to psychiatric disorders found in other societies." Thus tests and diagnostic criteria may have to be reformulated for a particular culture.

While it is still not possible to say that a given culture is less conducive to mental health than another, because of our lack of cross-cultural criteria for mental disorders, it is possible to say that under situations of stress and strain, of rapid change and consequent disorientation, there is likely to be an increase of mental ill health. In heterogeneous cultures, as an individual shifts from one culture to another, or when an immigrant enters a new cultural environment, personality tends to become disorganised. Slotkin concludes that in this situation " psychodynamic generalisations are needed which have universal validity from a comparative (cross-cultural) point of view." Israel has a population which includes a proportion of over fifty per cent of newly arrived immigrants from North Africa and the Middle East. These immigrants find themselves confronted with Western cultural standards and the social implications of modern industrial civilisation. This unprecedented situation provides a unique opportunity for the study of acculturation. I propose to investigate the results of these ethnic group contacts and the process of integration of widely disparate elements from the point of view of " medical anthropology " outlined in this article.

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A G. P. Reports

by L. S. CASTLEDEN

WASP STINGS

Our country practice has been bedevilled by wasps this year of 1959. The splendid weather has favoured a rapid build-up of strong colonies. Last year's great growth of hedgerow weeds has given them shelter.

In the car I carry a small tin of a D.D.T. preparation and a teaspoon on a stick. It is surprising how many wasps' nests can be eliminated in this way. The greatest triumph was when an old lady complained of buzzing in the head. The senile buzzings were not treatable, but the background noise of a lively wasps' nest outside the window was soon removed.

An accurate estimate of the number of consultations for wasp sting is not easily made. Most are enquiries over the telephone, or in the street, and treatment is not necessary. However, the partners here probably actually saw 50 cases and advised a further 50 cases over the telephone.

Most people react locally to wasp stings. The normal course of events is as follows :— The actual insertion of the sting is followed by burning pain. Usually the sting is withdrawn. If, however, the wasp is squashed, the toxin absorbtion is markedly greater, and the sting may be retained. A white area forms around the puncture and swelling of a greater or lesser degree follows. In my experience such swelling continues to increase for 48 hours, and then subsides over the next 24 hours. It is accompanied by itching, and the swelling is of a pink or even a dusky colour. Naturally, a sting near the eye, lip, feet or genitals will swell most. Where the skin is thick, as on the palms and soles, less toxin is absorbed, and the reaction is therefore less. A sting on the tongue or in the throat can be alarming, and even cause respiratory obstruction.

A small proportion of people experience abnormal reactions in the form of a generalised urticaria and an extreme case resembles anaphylactic shock. As some people exhibit nervous shock as well, the clinical picture can be varied. Two of the more severe cases illustrate this :—

Case One

An urgent call to a housewife of 49 years, was received at 1.30 p.m. The history was that seven days before she had put her hand on a wasp. This had produced no marked general reaction. At about 12.30 p.m. she had brushed a wasp off her face which had stung her on the brow. She remembered feeling " suffocated " and going to the door of her cottage, where she must have fainted. At 1.15 p.m. she crawled across to the public house nearby, and the landlord sent for me.

When seen at 1.30 p.m. she was cyanosed and her extremities were cold. The pulse rate was 100 per minute, regular and of fair volume. She was hyperventilating and exhibited marked tremors of the limbs. There was no actual asthma or urticaria or swelling of the air passages. There was a good deal of apprehension, and she kept panting and fainting.

It was suspected that a large proportion of her symptoms were due to hysterical overbreathing following her faint, though it is possible that the original faint was due to the toxin of the sting and the overbreathing was compensatory.

She was propped up on a sofa and warm bottles prepared while adrenalin 1.1000 0.5 cc. was injected subcutaneously, she said that "everything was black," but could recognise who people were by their voices. Repeated comforting words had the hoped-for effect, and she revived steadily. She was also given 100 mgm. mepyramine by mouth, and within three hours was in normal health.

Case Two

A lady of 46 years was stung on both the breast and the ring finger by a Queen wasp which had crept into her brassiere while she was having a bath. There was no history of reaction to previous stings and no past history of asthma, urticaria or hay fever. By the time she had dressed and come downstairs she felt ill. Her head was throbbing, her eyes were red and watery, and the eyelids swollen. A giant urticarial rash was appearing on her arms and legs. She was seen about twenty minutes after the stings, and these appearances were confirmed. It was also noticed that her voice was becoming indistinct and that there was urticarial oedema in the mouth as well as around the eyes. She said also that her breathing was difficult, but no gross asthmatic wheeze or upper respiratory blockage was present.

She was given an injection of 0.5 cc. adrenalin, which checked the reaction, and she was firmly reassured and put to bed.

Every three hours 100 mgm. of "anthisan" (mepyramine) was given. The ring remover was borrowed from the nearest jeweller, and her wedding ring was removed as the oedema of the second sting had caused venous obstruction. Steady recovery followed.

Hornets are not uncommon round here, but I have only seen one authentic case of hornet attack. This was an elderly lady who went blackberrying and did not return. Her daughter went into the wood and heard someone crashing about in the undergrowth. The poor lady was so dreadfully scratched by the briars into which she had rushed when she disturbed the hornets, that it was not possible to even recognise the site of any stings! The effects were entirely those of fright.

SALMONELLA OUTBREAKS

The Summer of 1959 has been marked by an increase in the number of cases of diarrhoea and sickness. This may well have been accounted for by an increase in the number of flies as well as the fact that food kept less well in the heat.

We had two epidemics of Salmonella typhi-murium, which followed Epizootics on farms.

Series One

A chicken farmer brought his young daughter of nine years to the surgery. She was feverish. Temperature was 101° F. There was quite severe headache but no neck stiffness or local signs. She was a petit mal case on "primidone" so was returned home for observation.

Next day she developed abdominal pain and diarrhoea which was slightly offensive. Flecks of mucus and blood appeared in the stools. She vomited several times. A stool was sent to the laboratory. The illness was quite a serious one. At the end of the first week the appearance was that of typhoid.

Before the result (of the stool analysis) was obtained, her father was also ill with a gastro-enteritis. Both cases were found to be due to Salmonella typhi-murium. Phthalyl sulphathiazole was given to both, and further stools taken from the farmer's wife and the two other children at home. Of the five people in the farmhouse, four were found to be infected, two being symptomless.

Furthermore, the strain of Salmonella suggested a chicken variety. Veterinary help was sought, and specimens collected from various places on the farm. Although the cow and the pigs were evidently free from infection, the source was thought to be the poultry, who can apparently carry certain Salmonellas by which they themselves are unaffected.

The human cases both overt, and carriers were free from the organisms in four weeks.

Series Two

A young farmer of 25 years and his mother aged 60 sought treatment for diarrhoea and abdominal pains. They were both afebrile and ambulant. The following story was obtained.

Ten days before, some calves had arrived from a different county. They were to be weaned to a bucket, and proved difficult. One died with diarrhoea and was buried at once. It was only when the other calves began to scour and become weak with colic and bloody diarrhoea, that the vet was called.

A second calf died while under treatment. By this time the human cases had occurred. Specimens from both the calves, the farmer and his mother grew Salmonella typhi-murium. Milk from the house cow was unaffected.

Unfortunately, the human cases must have passed the infection to the next cottage, where dwelt the farmer's sister, her husband and two children. The children were both quite ill with gastro-enteritis. Salmonella typhi-murium was isolated from the children and one adult.

I daresay that if stools were sent to the pathological laboratory as a routine from all cases of "summer diarrhoea," more cases of spread from farm animals would be discovered. Their prevention can only lie in scrupulous cleanliness by all in contact with animals.

Postscript

The calves mentioned in Series Two proved to be a poor investment from the health point of view.

While feeding them the young farmer was butted in the stomach by one of the calves. This resulted in his collapsing with vomiting and severe pain. His hernial sac had been rammed full by the impact of the calf on his abdomen. A ruptured viscus was also suspected. Operation on the hernia revealed its strangulation as the sole cause of his collapse. As he was still carrying Salmonella typhi-murium, his isolation in hospital was necessary. All ended well.

A CITY PROPOSAL

He asked her the question in quaint old Cloth Fair,
  She replied near the Old Red Cow;
Then they strolled locked together to Charterhouse Square,
  And solemnly each made a vow.

They found a dark corner in quiet Barley Mow,
  The silence around them was clear:
For they heard nothing else but each other although
  The old market of Smithfield was near.

So they walked up Long Lane onto Aldersgate Street
  And followed the moon towards Cheapside;
Knowing not where they went on those tireless feet—
  Up Newgate, or down onto Thames side?

They crossed over Holborn and passed the Old Bailey,
  A loving embrace in its door;
(But never a thought for the poor folk who daily
  Suffer according to Law).

St. Pauls had dark words as they crossed Ludgate Hill:
  "Take care what you do, my dears";
Yet they heard not his warning, but only a thrill
  As wedding bells throbbed in their ears.

Down Blackfriars Lane to catch a tube train,
  Go home with a long explanation:
Of the high cost of rings and of love in the lane,
  Of the loveliest girl in creation.

S. M. Watkins

Introduction of Radiation Medicine into the Undergraduate Medical Curriculum *

by I. G. Williams

This Report contains the collective views of an international group of experts on the means and methods of introducing the theories and medical applications of ionising radiations into the Undergraduate Medical Curriculum in a more comprehensive and co-ordinated manner than formerly. The following is a summary of the Report.

The world has entered into an Atomic Age, and the student of today will pass his professional life in an era where nuclear power will displace the conventional forms of power. The medical profession is thus brought abruptly face to face with new hazards to health and new potentialities. Furthermore, the science of medicine is incorporating a vast body of knowledge from the applications of radiobiology. It is quite apparent that a passing reference to the effects of ionising radiations will not suffice in the education of the future doctor. The problem facing the educator is that whilst he must go a certain distance to meet the wishes of the specialist, he must preserve the balance of a weighty curriculum and protect the students from demands that may prove detrimental to their intellectual development. In the few short years of medical education, only a small fraction of the vast factual content of medicine can be covered, but the students can and should be helped and encouraged to train themselves in the methodical collection of evidence and in the extraction of warrantable inference from it. The committee reviews the possible means by which the study of radiation medicine and pathology may be integrated with cognate subjects in the future medical course.

The discoveries of recent years in nuclear physics are the most revolutionary developments in thought experienced by our generation. Knowledge of this is widely spread in books and periodicals devoted to the subject, and a general acquaintance with this is a part of the education of any cultured person. The student must, therefore, be provided with knowledge of these new concepts and at least equipped with a foundation of basic theoretical knowledge.

The Preliminary and Preclinical Periods

The groundwork of this particular knowledge is set in the scientific education necessary to achieve (in Britain) the A level examination. All the necessary concepts of radiation physics could be conveyed without recourse to more advanced mathematics. In the secondary schools it is necessacy to present all the divisions of physics with equal stress. In the preclinical medical period the relative emphasis should be changed to biophysics. This altered emphasis has marked educational advantages because of that emotional reinforcement of the learning process to which all educators attach great significance.

Practical experience of the subject matter in any discipline is important. If this cannot be obtained within the limits of the Medical School, co-operation should be sought with those in charge of large University Physics departments. When the pure physics has been covered, the principal applications of radiation in biology and medicine, together with the important aspects of radiation hazards, prevention and protection, can be introduced. During this period in physiology and biochemistry practical examples of the use of isotopes as tools for research in these sciences can be demonstrated. Whilst the advice and supervision of radiation physicists is necessary for protection purposes, every teacher in the preclinical period should endeavour to incorporate tuition in the applications of isotopes, etc., into his own personal teaching, and not depend on some deputising member of the Physics Department. Apart from obvious experiments, such as thyroid function tests, and haemodynamics in physiology, radioautography could help to demonstrate histology, and X-rays including the use of contrast media could be used to demonstrate

* Fifth Report of the Expert Committee on Professional and Technical Education of Medical and Auxiliary Personnel. World Health Organisation Technical Report, Series No. 155. 1958. Price 1s. 9d. H.M. Stationery Office.

anatomical facts, as well as physiological processes (such as deglutition).

The Clinical Period

The physical basis for instruction in the clinical period must include an explanation of the units employed to measure the intensities of the various types of irradiation in both physical and biophysical terms, and this can be extended to explain the idea of "dosage." In pharmacology the dose of a drug is that quantity which is required to produce a desired effect. In radiology dose is a product of intensity and time, and, more recently, absorbed energy.

Applications During Various Portions of the Clinical Period

Pathology. At the same time that the students are studying fundamental pathology, they should be instructed in the general features of the tissue and cellular changes that can be brought about by ionising radiations. The local effects of exposure to radiations, the sequelae of whole body irradiation and internal contamination by radioactive substances can be introduced in the study of pathology, but fuller instruction can be left to clinicians and radiologists. The duty of the pathologist is to provide a general conspectus in terms of conventional pathology.

Clinical and Radiological Aspects

As radiations are employed extensively in medicine and surgery both for diagnosis and treatment, it is desirable that a formal organised course of instruction be given to the students under the auspices of the radiological departments. Much of this knowledge should, however, be acquired practically by the student, e.g. through seeing isotopes applied in clinical diagnosis by his teachers in the wards. Instruction must include an account of the risks from excessive radiations, the dangers that the use of isotopes may impose, and the handling of patients who have been exposed to or fear the sequelae of ionising radiations. The hazards of irradiation from the public health aspects should be discussed in the courses in this subject.

The Genetic Effects of Radiations

The subject of possible genetic injuries which may be caused by radiations should come late in the curriculum, when the student has acquired some knowledge of disease states and their aetiology. It could be that some of this teaching could be given by preclinical teachers, providing them with an opportunity for further contact with their former students.

It is apparent that if this general survey of the problem and its possible solutions were to prove acceptable, careful integration is necessary, requiring the close collaboration of all the teachers who take part in it. But as participation in it will be unequally divided, the major responsibility will fall on a senior member of the physics and radiology departments, and these two members must assure a measure of continuity throughout the whole medical curriculum.

The Committee considered, however, that although appropriate formal courses would form the main foundation of this instruction it would be very desirable if in each preclinical or clinical department, the teachers endeavoured to incorporate, through their own personal mastery of the relevant material, the applications of isotopes and radiations into their general scheme of instruction.

Those persons who are interested must study the complete report. The importance of the subject is not in question, and this is true of most specialist subjects. The difficulty is to preserve the balance of the curriculum so as to train a Doctor. Radiation medicine could fit into the medical curriculum in order to give the student a clearer understanding of normal physiological processes and of anatomy. Indirectly and supplemented with specialised instruction the student is kept aware of the use and effects and dangers of ionising radiations.

The fact that there is discussion and writing and that conferences are continually being held on medical education indicates some dissatisfaction with the present curriculum. The reasons for this must be either the question of how much of today's knowledge has to be included, or dissatisfaction with ourselves as doctors and the product of the present or immediate past curriculum. Professor Arnott quotes the late Professor Samson Wright as having stated that the ideal medical student must be "tall, handsome, of great personal integrity, beautifully mannered, cultured, highly intelligent, a tireless worker, original, good with his hands, skilfull in exposition, a good mixer, athlete, devoting his spare time to extramural activities, and with a good family background." It is an evident truth that some of

the great advances of medicine in the last 100 years have been made by men whose knowledge of the facts of medicine at qualification were less than those required by the qualifying student today, yet the art and science of medicine and surgery have advanced more in the past 100 years than they did in 1,900 years previously. The teachers of today must sift the knowledge required by the student to those basic facts which must be learnt in order to train an attitude of mind, a mind which can infer, deduce, and reason with the help of these facts—in other words —think. The emphasis must be on subjects which are educationally important. At the same time the student must be exposed to the atmosphere of doctoring—that which can only be taught by example, and which Hippocrates called the Art of Medicine. This is the method of our application of science. No curriculum can contain this nor degree confer it on a student, but by the example of his teachers and slowly by contact with the pain and sickness of humanity he can absorb it.

Science must be included in the curriculum. The normal and abnormal chemistry and physics of the body are basic facts. The inclusion of another branch of knowledge in the students' training can only be justified if it not only increases particular knowledge of the body in health and disease, but provides a means of greater understanding of the patient as a whole, and the education of a receptive mind. This, I believe, a knowledge of ionising radiation will do.

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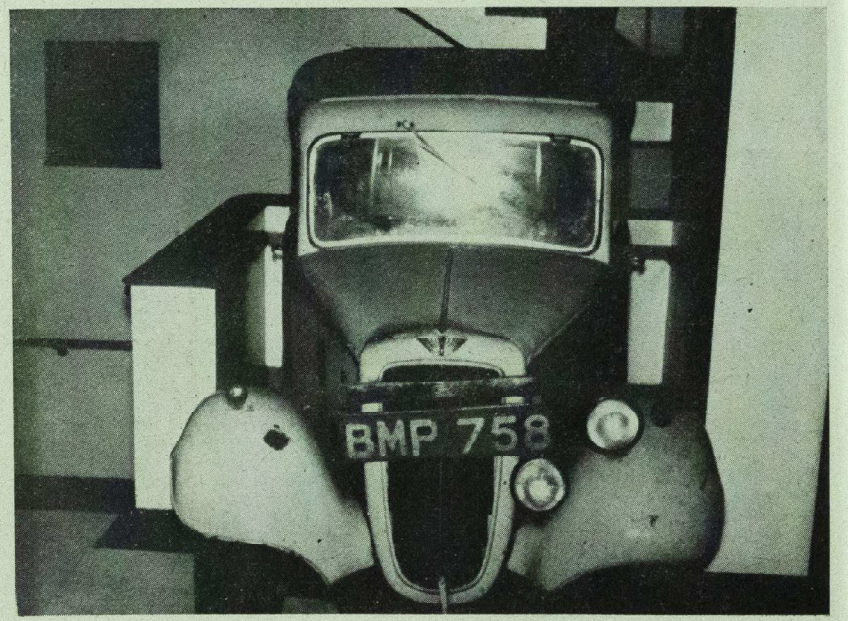
Brit. Med. Jour. September 5th, 1959. Educational number



Avoiding the Pink Zone?

Examination Results

ROYAL COLLEGE OF SURGEONS

Subject to the approval of the Council of the Royal College of Surgeons, the following Candidates at the examination held in November, 1959, are entitled to the Diploma of Fellow :—

Browse, N. L. Hill, D. W.
Wickham, J. E. A. Williams, D. K.

The following candidates were successful in the Primary Fellowship Examination of the Faculty of Anaesthetists in December, 1959 :—

Jones, H. Davies Paterson, I. S.
Waldron, B. le G.

SOCIETY OF APOTHECARIES OF LONDON

Final Examination, November, 1959

Pathology

Durrant, K. R. Juniper, C. P.

Medicine

Collier, B. R. Durrant, K. R.
Juniper, C. P.

The following Candidate, having completed the Final Examination, is granted the Diploma of the Society :—Juniper, C. P.

Final Examination, December, 1959

The following Candidate, having completed the Final Examination, is granted the Diploma of the Society :—Davies, G.

UNIVERSITY OF LONDON

Special First Examination for Medical Degrees, December, 1959

Kasteliz, B. Kuur, J. B. G.
Pye, C. E. Williams, C. S. J.

The following General Certificate of Education Candidates have qualified for exemption from the First Medical :—

Barretto, J. H. Clements, E. A. F.
Danesh-Haeri, A. A. C. Gilsenan, K. L.
Herbert, T. J. Houghton, A. L.
Lyons, A. J. Milla, P. J.
Morgan, J. C. Ratcliffe, J. F.
Richards, N. C. G. Robb, E. E.
Tompkins, J. C. R.

B.Sc. Special Examination, 1959

Orr, M. M. Second Class Honours (Upper Division).
Shand, D. G. Second Class Honours (Upper Division).
Bootes, J. A. H. Second Class Honours (Lower Division).
Davies, N. M. Second Class Honours (Lower Division).
Hore, B. D. Second Class Honours (Lower Division)
Manchester, K. Second Class Honours (Lower Division).
Perriss, B. W. Second Class Honours (Lower Division).
Brooks, B. G. Boothroyd. Second Class Honours (Lower Division).

UNIVERSITY OF CAMBRIDGE

Examination in Pharmacology, Michaelmas Term, 1959

Pass

Dale, J. W. Stoodley, B. J.

Final M.B. Examination, Michaelmas Term, 1959

Pass

Boston, F. M. Bowles, K. R.
Cantrell, E. G. Church, R. B.
Evans, G. H. Francis, H. B.
Godwin, D. Hamilton, S. G. I.
Hobday, G. R. Lee, B. K.
Maurice-Smith, N. J. Richards, D. A.

Supplementary Pass List

Part I. Pathology and Pharmacology

Bamford, J. K. Clow, E.
Fisher, J. R. H. Garnham, J. R.
Gray, D. J. P. Holland, J. H.
Middleton, R. R. Pennington, J. H.
Scobie, J. D. Seaton, A. T.
Sibson, D. E.

Part II. Medicine

Davies, R. N.

Part II. Midwifery

Davies, R. N.

UNIVERSITY OF OXFORD

Final B.M. Examination, Michaelmas Term, 1959

Medicine

Buckler, J. M. H. Burke, C. W. A.
Cleave, R. L. W.

Surgery

Buckler, J. M. H. Burke, C. W. A.
Cleave, R. L. W.

Midwifery

Buckler, J. M. H. Cleave, R. L. W.
Lyon, D. C.

The following completed the examination for the degree B.M., B.CH. :—

Buckler, J. M. H. Cleave, R. L. W.
Lyon, D. C.

Historical Diagnosis

THE PLAGUE AT ATHENS

Adapted from Thucydides II:49

At first there was an acute inflammation of the head, a redness in the eyes and a burning heat which overcame the victims. As for the inner parts, the throat and tongue became immediately streaked with blood : the patients' breath was most offensive. Also hiccoughing, sore throat and a chesty cough were troublesome. If this became established in the stomach, it upset it, and as many kinds of vomiting as could be named by the doctors took place.

In addition, many suffered from empty hiccoughing, which only produced heavy convulsions.

The outside of the body was neither hot nor particularly pale : it was, however, somewhat red, and livid. Later small boils broke out on it.

The entrails were so hot that the patients could keep no clothing on them, but would gladly have cast themselves into cold water. Their suffering was amplified by restlessness and sleeplessness.

When the disease reached the bowels, an ulceration took place which produced violent diarrhoea ; subsequently many died through exhaustion. Then it hit the privy parts, and many were deprived of these, the tips of their fingers, their toes, and some even lost their eyes.

The survivors suffered from loss of memory, and recognised neither themselves nor their friends and relations.

SMITHFIELD LAMENT

Oh blessed the peace that in Smithfield abounds,
The sight of the lamplighter doing his rounds,
The picturesque buildings, concealed from the view,
Standing so proudly alongside the new.

How grand is the vista we get from the tall
Six storied structure we call College Hall—
The haze over Highgate to stately St. Paul's,
Encompassed by creeper clad, bomb damaged walls.

Alas, how the beauty of Smithfield doth wane,
The skyline is pierced by mechanical crane ;
And Charterhouse, usually tranquil and still,
Is rudely awakened by pneumatic drill.

How brazen the workmen who shatter the dream—
A grindstone protesting with metalline scream,
Whilst pile-driving hammers foundations embed,
Ah well, this is progress, or so it is said !

R. N. W. PRICE

Letter to the Editor

Dear Sir,

The recent letter to the *Journal* discussing the cost of the Rugby Club's West Country Tour was signed "The Spheroids." This has led several people to take this term literally and to jump to the conclusion that the letter was written by members of the Soccer Club. We would like to state that after making enquiries amongst our Club members, we are convinced that no member of the Soccer Club wrote this letter. As regards our Cambridge Tour, this cost around £5 per person for three days. The Club paid £2 to each player and, as we took twelve players, the cost borne by the Student's Union was £24, as the Spheroids stated.

Yours sincerely,
B. D. HORE,
B. W. PERRISS,
D. I. PROSSER.

Abernethian Room,
St. Bartholomew's Hospital.

Sports News

VIEWPOINT

When the present M.C.C. team left for the West Indies a month or two ago, it was noted with some displeasure by certain gossip-cum-cricket columnists that the wives of a number of players were intending to join their husbands at some time during the tour. Evidently it was thought by the critics that their presence would distract the players from the main object of the tour ; i.e. playing and winning matches, and lead to a deterioration of their performances on the field.

One wonders if the same type of situation occurs amongst the sportsmen of this Hospital. There have certainly been a number of recent examples in the Cricket Club, where, over the course of a few years, or during one season, a player has completely lost his skill after pursuing other activities of a more serious nature. In other cases, a player with other interests in life finds his free time for sport much curtailed, much to the frustration of club secretaries (though perhaps not of the player concerned). It seems ridiculous that a player, professional or otherwise, should give up one activity for the other. A happy medium seems the best answer to the problem.

Turning to more serious matters, the Rugby Cup match against Charing Cross Hospital was one of the worst seen in recent years, and a draw was a fair result. Our team had some excuse, due to injuries, but it is to be hoped that by the time this is printed, there will have been a return to form.

RUGGER

Bart's *v* Esher. Away. Saturday, December 5th. Drawn 6—6

With conditions perfect for a fast open game, the Hospital kicked off against a slight slope, and were very soon pressing the Esher defence. After five minute's play the Hospital were 3 points ahead from a penalty by J. E. Stevens. Esher were soon back on the attack, and scored two very quick tries, and half time came Esher 6, Bart's 3.

In the second half the Hospital were on top all the time, and Stevens levelled the scores with a penalty. The game ended with the Hospital still pressing the Esher defence.

Bart's *v* Nottingham. At Chislehurst. Saturday, December 12th. Drawn 6—6.

On a wet windy day, Bart's kicked off against the wind. Although the ball was heavy and greasy, both sides handled well, but neither side could quite finish off any movements, and at half time the scores were level at 0—0.

In the second half, Notts attacked very strongly, and were soon 3 points ahead as a result of a try. The Hospital forwards then took the ball into the opponent's half, and Halls levelled the score with a very good penalty kick. The Hospital now began to attack more strongly and a break by Stevens in the centre sent A. Knox away to score a try, which was unconverted. Near the end of the game Notts scored a try, and the game ended in a draw.

Bart's *v* Stroud. At Chislehurst. Saturday, December 19th. Won 11—0.

This match was heralded by rain which made the ball heavy and greasy, however the Hospital handled the ball extremely well and were soon attacking strongly. From a line-out in the Stroud 25, L. R. Thomas made a fine break resulting in a loose scrum being formed in front of the Stroud posts. A quick heel sent the ball to winger Stevens, who gave the final pass on the line for A. Kron to score. The try was unconverted.

Stroud kicked off in the second half, but the Hospital soon forced them back on to their own line. From a scrum in front of the Stroud posts, the Bart's scrum scored a fine pushover try, Stevens adding the extra points. The final score of the match came just before the end, when L. R. Thomas broke on the blind side of the scrum to score just in the corner.

Bart's *v* Old Rutlishians. Away. Saturday, January 2nd. Lost 3—9.

The match was played on a very cold wet day and, in the first half, Bart's were the superior side, but they could not take several scoring chances and, at half time, neither side had scored.

In the second half, the Old Rutlishians attacked more strongly, and they opened the scoring with a penalty goal. This completely upset the Hospital's play, and they were a further three points in arrears when the Old Rutlishians dropped a fine goal. The Bart's side then went back on the attack, and A. Letchworth scored a try which G. Halls just failed to convert. From the kick-off the Old Rutlishians forced play into the Bart's 25, and A. P. Ross had to be taken off with an ankle injury. The Old Rutlishians took advantage of this, and just before time scored a good try in the corner to win 9—3.

Bart's *v* Taunton. At Taunton. Saturday, January 9th. Lost 6—9.

For the first time for many seasons this game was played in sunshine. In the first half the Hospital were well on top, and deserved to be six points ahead resulting from two penalty goals kicked by J. Stevens.

In the second half Bart's seemed content with a six points lead, and gradually Taunton took command and reduced their arrears with a very good drop goal. The Hospital seemed to wake up somewhat after this, and attacked strongly in the Taunton 25. Taunton, however, soon levelled the score with a good try which resulted from some very poor tackling in midfield. At this point, L. R. Thomas was carried off with concussion. The seven Bart's forwards then played very well and, just at the close, Taunton were awarded a penalty in front of the posts, and the game ended Taunton 9, Bart's 6.

★ ★ ★

1st XV *v* Charing Cross Hospital. At Richmond. Tuesday, January 12th. Hospitals Cup, First Round. Drawn 0—0.

The Oxford Dictionary defines the word "*mascot*" as "person or thing that brings luck." For all the luck that "Percy" brought us against Charing Cross, the beer that was ceremoniously poured over him would have done far more good consumed by a spectator.

The 1st XV, having already fielded a side weakened by injury, suffered a further blow when first R. Davies and then M. Britz were injured. Fortunately Davies returned only, however, to play a very quiet game, as he was still feeling the effects of the very late tackle he received. Bart's were fortunate to draw the match, for Charing Cross should have scored on two or three occasions, especially in the second half, when they won most of the set scrums. Good defensive covering by Bart's, aided by some bad passing and receiving of the ball by Charing Cross, prevented the tries which our supporters were expecting to be scored against us.

The general standard of play was very poor, and Bart's will have to play much better if they are going to do as well as last year. Both the scrummaging and line-outs were very ragged and innumerable passes were knocked-on. Although the forwards exerted great pressure at times, and spent long periods of the first half in the opposing 25, they had little success. It was in this half that the backs hesitated badly when a kick ahead went over our goal line, nearly allowing Charing Cross to score. In the resulting melee, Britz was injured and had to leave the field.

In the second half our forwards were obviously tired, and so the burden of the game came on the defence. The backs tackled well and the forwards, although tired, never allowed themselves to be overwhelmed, despite the fact that they were one short for all but ten minutes of the game.

Apart from a break early in the game by C. Richards, and some runs by Stevens, the backs never seemed likely to score. In the forward line, M. Orr was prominent in the line-outs and G. Halls played an excellent game in the loose, defending and covering very well.

Team : P. Niven, J. Stevens, M. Britz, A. Letchworth, C. Richards, R. R. Davies, A. P. Ross, J. Harvey, M. Jennings, A. Knox, M. Orr, J. Pennington, D. Richards, J. R. L. Jones and G. Halls.

SOCCER

Bart's *v* Caledonians. Saturday, November 21st. Won 2—1.

The Caledonians, a Scottish team drawn from the employees of the Bank of Scotland, found Bart's in a particularly good footballing mood, and were lucky to escape with only two goals against them. Phillips notched our first goal with a fierce drive, but although many chances came our way, the score was still 1—0 at half time. Bart's continued to play good football in the second half; Gould was unlucky to see his fine header hit the bar, but Iregbulum netted from close in. The experiment of playing Hore at centre half seemed to pay off, although he unfortunately put through his own goal to give Caledonians their only score. The forwards, however, missed far too many chances in front of goal, a fault that must be rectified if we are to win matches where only a few scoring chances are presented.

Team : J. Davies, G. Haig, M. Noble, J. Jailler, B. Hore, B. Perriss, P. Savege, H. Phillips, L. Iregbulum, D. Prosser and A. Gould.

United Hospitals League. Barts *v* London Hospital. Wednesday, November 25th. Drawn 2—2.

It must be some time since London Hospital haven't beaten us in a league match, so we may be justifiably satisfied with this result. Yet, with a little bit of luck, we could so easily have won. In the first ten minutes or so, however, Bart's played poor soccer, and our goal was continuously under pressure. During this period London scored their first goal, an angled shot that Davies couldn't quite get to. Somehow Bart's rallied, and during a siege upon the London goal, it was Noble who cracked the ball in after shots by other forwards had been blocked by man or post. Turning round, Bart's played good open football, and took a well-deserved lead when Iregbulum scored with a fine angled shot. However, London immediately equalised following a cross from the right. In the thrilling final minutes both sides came near to scoring, a Bart's effort was kicked off the line while a London shot hit the bar.

Team : J. Davies, G. Haig, F. Amponsah, J. Jailler, B. Hore, B. Perriss, P. Savege, H. Phillips, L. Iregbulum, D. Prosser and M. Noble.

United Hospitals' Soccer Cup, Second Round. Bart's *v* University College Hospital. Saturday, December 12th. Lost 1—4.

Although losing 2—0 to University College Hospital in a league match earlier in the season, we felt reasonably confident of at least drawing this vital match. The team was strengthened by the return of Juniper, while the inclusion of Gould, it was thought, would add spirit to the forward line. But our confidence was shattered before the kick-off, when Gould failed to find the ground. So it fell to ten men to try to hold this tough U.C.H. side. Much rain had made the playing surface slippery, and it is to Bart's credit that U.C.H. were only one goal up at half time. The game was in no way inspiring, being tough and unrelenting, a characteristic of Hospital conflicts. In the second half Jailler had to move to the right wing because of a recurrence of leg muscle trouble, but his presence was still felt in addition to his verbal encouragement. Bart's goal came after U.C.H. had scored twice more. Iregbulum toying cleverly with the U.C.H. defence, sent a perfect pass to Perriss who, from the left wing position, put the ball into the upper left-hand corner of the net. At this stage Bart's were doing much of the attacking, but hopes of a come-back were dashed when Haig, perhaps unnecessarily, gave away a penalty. The final whistle brought relief to a tired Bart's team, all of whom deserve credit for their performances.

Team : J. Davies, G. Haig, F. Amponsah, J. Jailler, C. Juniper, B. Perriss, P. Savege, H. Phillips, L. Iregbulum and D. Prosser.

LOVE'S LABOURS LOST

Is it any wonder that the god of Love is vexed,
For frankly Piccadilly is becoming over-sexed.
I stand upon my tinny plinth and bow my head in shame.
For love, to Soho's clientele, goes by another name.

The Minister of Works, I fear, would never once suspect
My fervent wish to emigrate to pastures more select.
Regard the luck of Peter Pan in grassy green surrounds,
Far from all the bustle and the traffic's noisy sounds.

Lord Nelson in Trafalgar Square, set high up in the sky,
Beholds my sad predicament, but turns his blinded eye;
Whilst round his feet four lions stand, somnolent with stains.
Where carefree London pigeons misbehaved upon their manes.

With bow in hand, I suffer all the hardships of our clime,
And buses belching Diesel fumes have coated me with grime.
With just my epidermis on, I brave the fiercest storm—
Its high time someone gave a thought to keeping Eros warm!

The only warmth I ever get is when they board me up,
On Guy Fawkes night, St. Patrick's Day, or for the F.A. Cup.
Even in mid-summer when you grouse about the heat,
I'm forced to stand and shiver from the draught down Regent Street!

Its somewhat out of fashion to be shot by Cupid's dart,
For love has turned commercial and has brought the Marriage Mart—
Where lonely hearts complete a form on which they clearly state
Criteria for a future spouse—it makes me so irate!

A mournful amen of these times, that I admit defeat—
The steady march of progress has now made me obsolete,
And thus with heavy, saddened heart I seek your timely aid,
I ask in my retirement, if at Bart's I may be laid.

My humble plea may seem to you to be distinctly odd
But surely there is room at Bart's for yet another "God"!
If in your Square I could reside, romantic charms I'd weave,
For Eros has a trick or two left up his magic sleeve!

Thus in your hands I place my fate and hope for your consent,
And trust that you concur with me, my present role is spent.
Your ancient precincts would afford a fitting place to rest,
So please deter impending doom and heed to my request.

R. N. W. PRICE

ST. BARTHOLOMEW'S HOSPITAL JOURNAL

Vol. LXIV, No. 3 MARCH, 1960

EDITORIAL

As this issue of the *Journal* goes to press, the report of the Royal Commission on Doctors' and Dentists' Remuneration has just been published. Sir Harry Pilkington and his colleagues have completed their task after three years of sifting evidence from various sections of the Medical Profession. There has been no time yet for a detailed appraisal of the report, but a number of interesting points have emerged.

From the student point of view, one of the most important aspects of the report is the encouragement given to junior hospital staff. The Commission reports "The young doctor, under thirty years of age, has been underpaid to a relatively greater extent than older doctors . . ." The proposed rates of £675 p.a. for the first House job and £750 p.a. for the second should do much to dispel the sense of injustice felt by many in what often seems to be regarded as a year of pre-registration drudgery. It will also lighten the burden of the newly qualified doctor who is thinking of getting married.

Looking further ahead, the revised scheme for consultant merit awards should be a further incentive to young men to proceed to second degrees, and may well help in the recruiting of suitable new members of the profession. It seems a pity, however, that the number of such awards is to be fixed for the next three years, irrespective of the number of consultants who are eligible.

The award to General Practitioners of a 22.8 per cent rise over a recalculated 1955-56 level is most welcome, and although Professor Jewkes, in his minority report, says that a 30 per cent rise was required to prevent an overall fall in the G.P.'s standard of living during the last decade, it should be noted that he condemns retrospective payments and would have no truck with the £11 millions to be set aside so that increases may be back-dated to 1957. The idea of merit awards for outstanding general practice is also to be warmly commended. Provided a system of award can be agreed upon, the stage is set for the emergence of the consultant G.P., and this should help to dispel the notion, all too commonly held, that general practice is a collecting ground for those who could not make the grade in hospital: a sphere in which mediocrity prevails and ability goes unrewarded.

In order to keep the matter of doctors' and dentists' remuneration under review in the light of changing economic conditions, the Commission proposes that the existing arrangements for negotiation should be replaced, except for minor issues, by a Standing Review Body to be composed of seven "eminent persons of experience in

various fields of national life." These seven are to be appointed by the Government, after consultation with the medical and dental professions, and the Review Body will be responsible direct to the Prime Minister instead of the Minister of Health. The Review Body is not to include members of the medical or dental professions, and moreover, the professions are debarred from any direct approach to the Review Body, which is permitted to act on its own or the Government's initiative only. Professional complaints have to be transmitted to the Body via the Government.

When the report has been more fully studied by the Government and the medical profession, negotiations will doubtless be opened. It seems unlikely that the B.M.A. will be satisfied with a Review Body constituted on the lines recommended by the Commission, being more inclined towards the suggestions of Professor Jewkes' minority report—namely, professional representation on and direct professional access to the Review Body. It is to be hoped that this will not become an issue on which what appears to be at first sight to be a very favourable report will founder.

Abernethian Society

Professor Titmuss, of the London School of Economics and Political Science, addressed the Society on Thursday, February 18th. His talk was entitled "The National Health Service: Some Reflections of a Layman."

He started with a brief outline of the various Health Services operating in the world and especially with reference to the United States, which he was able to contrast with our own. The chief distinction which he brought out was that ours is dependent on the universal effort of a population as a whole, whereas the American service is organised around a complex system of insurance.

The freedom within our own service is a very important feature. This is achieved at a cost of less than 4 per cent of the National Income. The cost of the Health Service has never been as high (when measured in terms of percentage of the National Income) as it was during its first year.

One point which it is interesting to remember is that a doctor in America has to pay the equivalent of £150 p.a. for Medical Defence, in comparison with £2 p.a. in this country. This is surely a good reflection on the service which we have. Professor Titmuss left us with the feeling that we had something which was potentially efficient, despite the inevitable imperfections which have shown themselves in the first few years.

The Officers of the Society for January to July, 1960, are :—

T. W. Meade, *President*: J. C. Crawhall, *Treasurer*: Miss J. E. Angell-James, *Secretary*. *Committee*, J. Scobie, P. J. Watkins, H. White and R. Wilson, *Pre-clinical Representative*.

The Harvey Society

"Falling cats and blinking men" was the title of a lecture given to the Harvey Society on Monday, February 11th, 1960, by one of its Vice-Presidents, Dr. D. A. McDonald. The major part of the talk was devoted to the research which Dr. McDonald had carried out into the subject of postural reflexes. It is quite familiar to students of physiology that this complex subject is illustrated in the textbooks by the ability of a cat to land on its feet regardless of the position from which it has fallen or jumped.

Other than cats and a Dunlopillo mat, Dr. McDonald had to obtain a high speed camera that would photograph the cats, dropped from an inverted position, at 1,000 to 1,500 frames per second. The reason such a high speed was needed is that cats are able to turn over in one eighth of a second.

Dr. McDonald outlined the history of the research into this subject, and then told the Society of his own results. He said that regardless of the position, a cat's body is in, it will tend to orientate its head into the normal vertical position, because of this the head of the inverted cat had to be held in position. The orientation of the head appears to depend on both optical and vestibular reflexes—a normal cat blindfolded is able to turn over normally, but shows a delayed response, whereas a cat with no vestibular reflexes is able to turn over with its eyes open but makes no attempt to right itself when dropped blindfolded. As the head turns, the forelimbs and back flex and the forepart of the body follows the head so that the body of a lithe cat may be twisted through 180 degrees at the waist. As the hind part of the body now constitutes the smaller section of the whole, it is able to turn on the larger part enabling the cat to make "a perfect four-point landing." To illustrate his point, Dr. McDonald proceeded to invert two charming little kittens and drop them on to the demonstration bench. Luckily, they arrived the right way up.

The slow motion film was then shown. This was excellent, and illustrated Dr. McDonald's points perfectly. Although he could explain the mechanism of the cat turning in mid-air, Dr. McDonald is still unable to say how the reflex is triggered off and how the cats are able to counteract any "overshoot" that might occur.

The remainder of the film was devoted to human physiology, namely the blink reflex, the speed of athletes in response to the starter's gun, and a rather entertaining section on the waves of force travelling over a little boy's buttocks in response to a rather sharp smack !

The lecture was well received by a large audience, and stimulated several questions.

Ladies' Hockey Club Ball

The Hockey Club Ball is traditionally kept on the Friday nearest to St. Valentine's Day—this year, Friday, February 12th. On this occasion the Ball was organised by the Ladies' Hockey Club, under the leadership of Miss Elizabeth Knight. One of the main purposes of the evening was to pay a formal farewell to Dr. and Mrs. Blunt. Dr. Blunt has been a most active Vice-President of the Club for nearly four years, and no one has given us as much support as he has not deterred by wind, rain or snow, he has turned out regularly to watch matches—friendly games as well as cup matches, and the sidelines will seem very empty next season without Dr. and Mrs. Blunt. Miss Knight thanked Dr. and Mrs. Blunt for their loyal support and for the interest they had taken in the Club, in her speech during the supper at the Ball. Miss Knight went on to wish Dr. Blunt happiness in his new job as Professor of Anatomy at a new university in Australia. They were then presented with a tartan travelling rug from members of the Ladies' Hockey Club. Dr. Blunt thanked the Club for their gift, and said he would continue his interest in the Club.

View Day Ball, 1960

The Ball will be held at Quaglino's on Thursday, May 12th, from 8.45 p.m. to 3 a.m. Music will be by Bill Savill's Band. Double tickets (limited to 300) may be obtained from: Miss Oxborrow (College Hall), Bert Cambridge (Williamson Lab) and Ball Secretary (Abernethian Room).

When applying, please give order of preference for supper sittings, which will be at 9.15, 10.15, 11.15 and 12.15.

Students' Union Council

At a meeting held on January 13th, honours colours for hockey were awarded to Dr. R. J. Chambers and Miss J. Swallow.

At a meeting held on February 10th, Mr. J. U. Watson was elected Publicity Officer of the Students' Union.

News in Brief

We hear, with deep regret, of the death in St. Albans of Canon Hudson. The Canon was a much loved figure at Hill End, where he will be remembered especially for his work during the war.

Sir James Paterson Ross has been appointed to succeed Sir Francis Fraser as Director of the British Postgraduate Medical Federation when the latter retires on October 1st.

Dr. H. Lehmann has been appointed to the Readership in Chemical Pathology in the University of London, tenable at the Medical College of St. Bartholomew's Hospital.

Dr. A. J. Marshall is to be the first Professor of Biology at Monash University, the newly established University in Victoria, Australia.

Dr. M. J. Blunt has been appointed to the Foundation Chair of Anatomy in the University of New South Wales.

We welcome the return of Professor J. Loewenthal, who has been invited to take over the Surgical Unit for a period of one month. Despite his youthful appearance, Professor Loewenthal has achieved great eminence in Australia, where he has built up a department of surgical research in the University of Sydney. Professor Loewenthal spent a year working with Sir James Paterson Ross in this Hospital after the war.

Professor J. Loewenthal gave a lecture entiteled " Some Contributions to Surgical Research " before a large audience in the Clinical Lecture Theatre on Friday, February 19th.

Mr. A. E. J. Alment is at the moment working at the Northampton General Hospital. During his absence, Mr. B. Measday is fulfilling his duties.

We are glad to be able to welcome Miss Deal back to her duties as Sister Surgery, after an absence of some sixteen months.

Dr. Wykeham Balme has started a " Rheumatism Follow-up Clinic," which is to be held in the Physiotherapy Department on the second and fourth Wednesday afternoons in each month. One or two students are welcome at each session.

The Gilbert and Sullivan Society will give a concert performance of " The Mikado " in the Gresham Hall at 8.30 p.m. on March 26th.

The photograph in the January issue showing work in progress on the " L " Block was produced by the Department of Medical Photography, to whom we are much indebted.

Volunteers Needed

Volunteers are still required, especially during the winter months, for experiments at the Common Cold Research Unit. They must be between the ages of 18 and 45 and in sound health. Return fares are paid to a maximum of £3, and each volunteer receives 3s. per day pocket money during their stay.

Volunteers are housed in pairs or threes in self-contained flats, have access to a library and collection of indoor games, are provided with a radio, *Radio Times* and daily paper, and may go for walks in the country so long as they avoid outside contacts. A bottle of beer is provided free daily !

Anyone willing to offer their services should write to the Medical Superintendent, Harvard Hospital, Salisbury, Wilts.

Dedication Services

Dedication Services for doctors, nurses and others concerned with tuberculosis and diseases of the chest and heart have now been held annually for the last eight years. This year they will take place in London and Edinburgh on May 1st, and in Llandaff, Cardiff, on May 15th. The idea is to provide fresh inspiration for all who are concerned with the care of the sick, and to give an opportunity for spiritual re-dedication. The Services are of interest to all, even those who are not regular church-goers. All men of good will are warmly welcome. The speakers in London will be :—

Sir Selwyn Selwyn-Clarke, late Governor of the Seychelles (St. Martins in the Fields, at 3.30 p.m.).

The Revd. Peter Freed (Church of The Most Holy Redeemer and St. Thomas More, Cheyne Row, Oakley Street, S.W.3, at 4 p.m.).

Full details and Order of Service are available from The Chest and Heart Association, Tavistock House North, Tavistock Square, London, W.C.1.

Medical News from the U.S.S.R.

A delegation of Russian specialists is to attend the United States national conference on transplanting organs and tissues. Two experts who specialise in skin grafting are to read papers to the conference.

The Soviet Union is to give technical assistance to the United Arab Republic in the building of plants to produce antibiotics and other pharmaceutical products. Experiments are already in progress on the production of nutrient media from Egyptian raw materials.

Professor Nikolai Blokhin, director of the Institute of Experimental and Clinical Oncology, has been elected president of the U.S.S.R. Academy of Medical Sciences. His predecessor, Alexander Bakulev, " asked to be released from the post of president " after a six year tenure of office.

The preliminary figures of the Russian census of 1959 are now available, and though a detailed breakdown has not yet been published, some interesting facts have emerged. The total population of the U.S.S.R. stood at 208,826,650, of which 94,050,303 were males and 114,776,347 females, i.e. a surplus of females amounting to just over 9 per cent of the population. In age groups up to 19 years the number of males exceeds that of females. From 19 to 29 numbers are roughly equal and in all age groups above 29 there is an excess of females.

When the population is broken down into five year age groups it is possible to see the effects of the 1917 revolution and the last war, generations aged 20 to 30 at the time of these upheavals being notably reduced when compared with preceeding and succeeding generations. The last war also caused a sharp fall in the birthrate, but this was in part offset by the improvements effected in child welfare which have reduced the death rate in children under four years of age from 7.6 per cent in 1939 to 1.2 per cent in 1959. A general fall in the overall mortality rate has increased the expectation of life from 32 years in the pre-revolution days to 68 years in 1957-58.

Russia also claims to have the highest number of marriages, per 1,000 of the population, in the world. The figures given are : Russia—more than 12 per thousand per year, U.S.A. 8.3, Great Britain 7.6 and France 7.

In the field of education, the number of people with higher, incomplete higher and specialised secondary education is 13,400,000, compared with 290,000 people in the same categories in 1913.

" Henry V " at the Mermaid Theatre

" An essay in War " is how the Mermaid Theatre's latest production, *Henry V, in Modern Dress*, is described in the programme. Essay or not, Will Shakespeare probably turned in his grave on the opening night. The plot was there, but little else for those who like their Shakespeare *à la Stratford.* One is treated to an opening somewhat reminiscent of an American musical, with scantily clad females doing the Charlston. Then Henry, immaculate in cricket gear, appears from the nets and the game is on, a " restless peace leaps into war " and, in the space of two hours, we see cowardice, courage, companionship, bloodshed and mutilation, guns roar, air raid sirens moan. We glimpse the terrible aftermath of War with victory wrenching peace back to a tattered land.

The production is rather like a machine gun too staccato, inasmuch that the pruning has blasted out the flowing continuity of the original and much of the beauty of the words is lost.

If you forget that this is *Henry V* and look upon the King as an old Cheam man, Bedford and Exeter as old Etonians, Fluellen as a front row forward who played for Aberdovey, and appreciate the line of Katharine, you'll enjoy this. I'm sure Shakespeare would have done so.

J.W.

Fifty Years Ago

In addition to the figure of Saint Bartholomew which Leonardo da Vinci depicts in his fresco " The Last Supper", we are told in the *Journal* of fifty years ago that the cathedral at Milan has a fine sculptured figure of St. Bartholomew, " apostle, martyr and Patron of St. Bartholomew's Hospital, London, and other Hospitals." The striking marble figure so interested an old Bart's surgeon on his travels home from India that he sent a short historical sketch of our Patron Saint to the *Journal.*

St. Bartholomew is depicted in this instance " carrying like a mantle his own flayed-off skin, and is not anatomically above criticism." On the base is an inscription " warning the reader, with triumphant conceit, not to mistake it for the work of Praxiteles, the renowned Greek sculptor, for Marc D'Agrate was the author—' Non me Praxteles sed Marc finxit Agrate . . . ' "

St. Bartholomew is mentioned by St. Matthew (Matt. X, 3), St. Mark (Mark III, 18) and St. Luke (Luke VI, 14) in the list of the apostles, and he is the sixth mentioned apostle in each case. St. John mentions no Bartholomew, but he gives the sixth place to Nathaniel Bar Tolmai.

There is a tradition that he (St. Bartholomew) travelled to India preaching the Gospel and gained a reputation for healing. One belief is that St. Bartholomew was martyred at Derbend on the Caspian Sea (a carpet making centre now). " He is said to have converted to Christianity the Prince's daughter and on this account he suffered a particularly cruel death, being flayed alive and crucified head downwards, and left exposed to sun and flies to die. The Prince, in order to prevent the body falling into the hands of the Christians had it enclosed in a leaden coffin and thrown into the Caspian Sea. By a miracle the coffin floated and

was washed up on the Island of Lipari (though it would require a second miracle to bring it from the Caspian to the Mediterrancan Sea), where it remained until 839 A.D."

Another account is as follows :—That the martrydom occurred at Albanopolis, a city in Armenia, that about 507 A.D. the Emperor Anastasius gave the body to the City of Darus in Mesopotamia. Before the end of the sixth century it was translated to Lipari. In 809 A.D. the relics were transferred to Beneventu.

In 1000 A.D. the Emperor Otho (Ortho) III insisted on having the body of St. Bartholomew, and that of St. Paulinus was given him as the genuine body, taken to Rome from Beneventu and deposited in the church of St. Bartholomew situated on an island in the Tiber. Finally, it is maintained, that in 983 A.D. the bones of St. Bartholomew himself were taken from Beneventu to Rome, where they lie beneath the high altar in the church of St. Bartholomew in the Tiber.

The Bishop of Beneventu had presented the bones of an arm, said to be those of St. Bartholomew, to Emma, Queen of Cnut, who probably deposited them in Canterbury Cathedral. In 1120 A.D., when Rahere, Founder of St. Bartholomew's was stricken ill with malaria during his pilgrimage to Rome, it is probable that he was cared for during his illness on the island of St. Bartholomew. During his convalescence, St. Bartholomew appeared to him in a dream, and Rahere vowed that he would found a hospital on his return to London.

Apart from the bodies at Rome and Beneventu, no less than three other heads exist (at Naples, Toulouse and Riechenau). Anyone who is interested in trying to unravel the various legends should follow the advice of the author and read *A Brief Relation of the Past and Present State of the Royal and Religious Foundation of St. Bartholomew's Hospital*, by Norman Moore, M.D., published in 1895 by Adlard and Son.

Quote

" . . . that estimate was the cost of a film lasting thirty minutes; a ten-minute film would, of course, be shorter."

*Dr. McD*n*ld*

ABERNETHIAN SOCIETY

FUTURE PROGRAMME

April 21st.
MR. D. M. JACKSON, M.D., F.R.C.S., Director of Burns Unit, Birmingham Accident Hospital.
" *Present Trends in the Treatment of Burns.*"

May 26th. IN THE GREAT HALL
SIR FREDERICK DUNLOP, M.D., F.R.S., Professor of Therapy and Clinical Medicine, University of Edinburgh.
" *Changing Fashions in Therapeutics.*"

June 16th.
DR. PHILLIP ADDISON, M.R.C.S., L.R.C.P., Secretary of Medical Defence Union.
" *The Legal Hazards of Medical Practice.*"

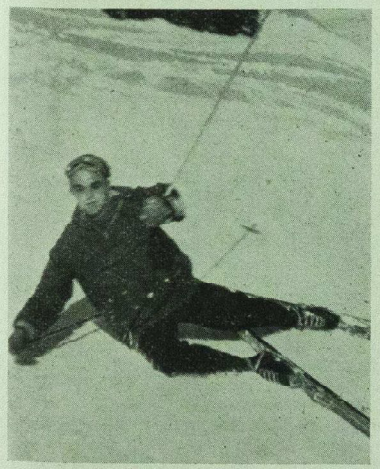
June 23rd.
SIR ROY CAMERON, F.R.S., Director, Graham Research Laboratory. Professor of Morbid Anatomy, University College Medical School.
Title to be announced later.

After the game is over . . .

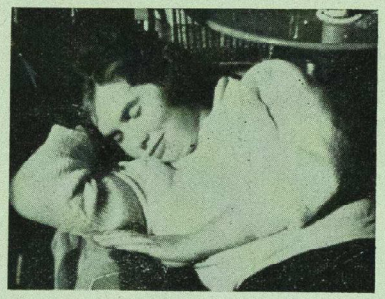
Ski Club, 1960

The Bart's Ski Club left Victoria on January 16th for Zermatt intact, with no last minute alarms or disasters, except that the reserved seats were occupied by faces which, though familiar, did not belong to the party. The channel crossing was delayed two hours by the late arrival of the boat, but we reached Zermatt safely and on time. The party soon collected skis from the Glacier Sports which, managed by Herr Perren, again gave us excellent equipment. Those who had skied before immediately attempted to regain old skills on the nursery slopes, mostly very unsuccessfully. Our accommodation at the Hotel Dom was as usual most comfortable and the food excellent. One of the first comments to be heard on viewing the glorious panorama from the hotel balcony was " Where is the ' Jungfrau ? ' " !

The weather was at first good but, unfortunately, degenerated towards the end of the first week and although there were occasional " fine periods " the weather remained rather poor, and the party returned to London several shades lighter than last year. However, this did not seriously hamper the sport, and as usual we had all grades



" A falls a hawful thing . . . " !



" Sleep that knitteth up . . . "

of skiing. Those who had never skied before attempted to familiarise themselves with the awkward instruments they were wearing. To some, skis were very frustrating, and one of the female members tried to end it all by skiing into a basement wine cellar, not to be seen again that day ! However, the majority of beginners could cope with the easier runs during the second week. Gary Renn developed his inimitable and unique ski style of last year to its logical conclusion, establishing a diurnal rhythm of sleeping by day and being socially active by night.

Those who had skied before found the runs in an excellent condition, especially above 7,500 feet, for those below, due to the warm weather, were rather slow. The Gomegrat was particularly enjoyable, as it provides all types and grades of skiing, unfortunately the bad weather at times produced blizzard conditions and the top section was occasionally closed due to the railway being blocked by drifting snow.

The accident rate this year was almost nil, the only unfortunate exception being Mr. Kingsmill-Moore, who injured his knee during the second week of the holiday. He departed for home, minus passport, but bearing our best wishes for his recovery and a large bottle of brandy for sustenance.

To those of us who visited Zermatt last year, the holiday was just as enjoyable, if not more so, despite the indifferent weather. The pleasant little cafés to which we repaired after dinner had lost none of their charm, and the consumption of Fondue and Raclettes together with prodigious quantities of Gluwein and Beer, rounded off the days perfectly.

C

The more expensive establishments provided their usual fare—dancing, wine and bacon and eggs to the early hours of the morning. One concrete palace was new this year, complete with an over-chlorinated, bean-shaped swimming pool, and ever vomiting Dolphin. Not all the party lived a life of unalloyed pleasure, however, and much interesting work was undertaken on several projects, including the incidence of hernias in Alpenhorn blowers !

All too soon the holiday drew to a close, and the last day dawned so fair and sunny that it was with the utmost reluctance that the party was induced to embark, indeed, three members decided to stay on for a few more days and were rewarded with superb sunshine. The journey home was uneventful, except one of the qualified members was called in to treat an Englishman (not from Bart's) who, while under the influence, fell off a top bunk to damage an arm. We arrived only one hour late, having lost this time between Victoria and Dover, by a curious coincidence, the reverse of the outgoing trip.

CALENDAR

MARCH

Sat. 12—On duty : Dr. E. R. Cullinan
Mr. J. P. Hosford
Mr. C. Langton Hewer
Rugger *v* Aldershot Services (H)

Thur. 17—Abernethian Society :
C. H. Andrewes, F.R.S., M.D.

Sat. 19—On duty : Medical and Surgical Units
Mr. G. H. Ellis
Rugger *v* Streatham (A)
Soccer *v* Swiss Mercantile College (H)

Sat. 26—On duty : Dr. R. Bodley Scott
Mr. A. H. Hunt
Mr. F. T. Evans
Rugger *v* Harlequin Wanderers (H)

APRIL

Sat. 2—On duty : Dr. A. W. Spence
Mr. C. Naunton Morgan
Mr. R. A. Bowen

Sat. 9 On duty : Dr. G. W. Hayward
Mr. A. W. Badenoch
Mr. R. W. Ballantine

Changes of Address

DR. E. BUCHLER, 192 Charlton Road, S.E.7.

MR. DEREK G. LAMBLEY, F.R.C.S., 58 York Road, Northampton. *Tel.* Northampton 34466. *Private address :* "Penshurst," Church Brampton, Northampton. *Tel.* Chapel Brampton 3392.

ANNOUNCEMENTS

Engagements

BADLEY—MAYER.—The engagement is announced between Dr. Bernard W. D. Badley and Ingeborg R. Mayer.

DU BOIS—LEWIS.—The engagement is announced between Dr. Henry Ellsworth Du Bois and Eryl Elizabeth Lewis.

THERKILDSEN—MACDONALD.—The engagement is announced between Lance Karl Hyde Therkildsen and Ann-Mary Ewart Macdonald.

WOOSTER—LESTER.—The engagement is announced between Dr. E. Gerald Wooster and Frances Mary Lester.

Marriage

THOMAS—CAWDRY.—On January 5th, Dr. Gareth Thomas to Elizabeth Virginia Cawdry.

Births

CAMERON.—On January 18th, to Veronica, wife of Dr. Donald Cameron, a son.

LANGDON.—On January 21st, to Susanna, wife of Dr. T. Langdon, a son (Timothy Thomas).

VICKERY.—On January 26th, to Betty and C. M. Vickery, F.R.C.S., a son (Christopher James), brother to Judy and Jane.

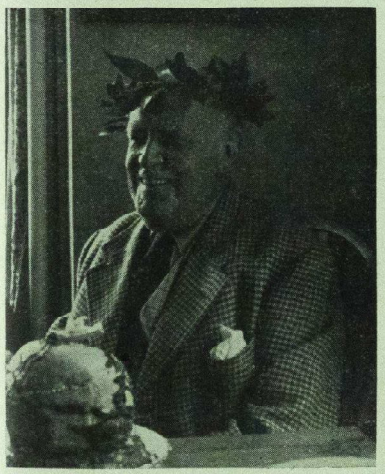
Deaths

DICKINS.—On January 13th, Dr. Sidney John Oldacres Dickins, M.B.E., aged 90. Qualified 1896.

JAMES.—On January 8th, Dr. William Morgan James, aged 89. Qualified 1900.

WEDD.—On January 7th, Dr. Gilbert Wedd. Qualified 1896.

Philip Gosse



"*Bacchus*"

Dr. Philip Gosse, who died in his 81st year at his home in Cambridge, after a short illness, on October 3rd, 1959, was one of the less conventional products of our Medical College. Son of Sir Edmund Gosse, an eminent man of letters, and grandson of Philip Henry Gosse, a distinguished naturalist, he partook of the instincts of both, instincts which were not to be obscured by his entering the medical profession. His father's famous book, *Father and Son*, having been a study of conflict between parental religious bigotry and filial desire for freedom, Philip was not subjected to any comparable pressure. Nevertheless, he entered a profession for which he never felt any enthusiasm, and succeeded also in following his natural bents, zoology and letters, both illuminated in high degree by humanity and humour. Much of the story of his life is to be found related in his two books, *Memoirs of a Camp Follower*, 1934 (afterwards published under the title *A Naturalist Goes to War*) and *An Apple a Day*, 1948, a collection of autobiographical essays. His school days at Haileybury he did not enjoy, and he was superannuated before the age of sixteen. His sensible parents then allowed him to make a prolonged visit to Newfoundland, after which he spent eighteen months at an agricultural school in Lincolnshire. He next joined an expedition to the Andes as naturalist, his "Notes on the natural history of the Aconcagua Valley" being published in 1899. At the age of eighteen he had aspired to be a keeper at the Zoo, and he now seemed to be within sight of his goal, but one day, when he was twenty-one or more, his father asked him what he intended to be. On the spur of the moment (such was his own account) he replied "a doctor." He was taken at his word and was duly admitted to Trinity College, Cambridge, where he started to read natural science and medicine. He may or may not have sat for a tripos, but certainly failed to get a degree ; retribution for this omission came many years later when it was necessary to obtain somewhere, somehow, the degree of M.D. in order that he might succeed to the post of Medical Superintendent at the Radium Institute in London. Sir Frederic Treves had found out that Durham was the only university able to grant an M.D. to a candidate who had not already matriculated elsewhere. Gosse has left an entertaining account of how he passed the Durham examination in all subjects except latin. A second attempt had to be made to cross this hurdle, and it was achieved through learning by heart a crib of Caesar's *Gallic War*, Books I to III. "Certainly," he afterwards wrote, "I had a thorough knowledge of the first three books of Caesar's Commentaries, but I kept to myself that, glib as I was, I could not have told the examiners which word in the text meant which."

From Cambridge, Gosse entered the Medical School at Bart's, and duly obtained the Conjoint Board degrees in 1907, at the age of twenty-eight. His life as a medical student had not been lacking in convivial interludes. He was one of the founders of the Fountain Club, and he enjoyed meeting his old friends at the Club dinners over the next half century.

Gosse's first professional engagement was as house surgeon at the Essex County Hospital, Colchester, and he then entered general practice at Beaulieu in the New Forest. Not long before his death he sent me a coloured engraving of a picture painted by an obscure artist in 1899, entitled "The Good Samaritan." It depicts a gipsy encampment with the kind Doctor kneeling in

front of the tent and applying his stethoscope to the chest of a small ragged girl supported by her mother. The Doctor is enveloped in a frock coat and his top hat is on the ground beside him. On the back Gosse has written : " Scene depicting an event only too frequent during Dr. Gosse's practice in the New Forest prior to 1914." He never could take his academic attainments in medicine very seriously, and anecdotes of his debut in general practice were a source of unbridled merriment. In 1914 he joined the R.A.M.C. as battalion M.O., and his delightful *Memoirs of a Camp Follower* indicate that, on the whole, he had a good war. He endured without flinching the hardships and horrors of trench warfare, but lost no opportunity of indulging his interest in natural history and fishing. He wrote that the title of his memoirs might have been *A Solace of Birds*, and he concentrated his attention also on the smallest rodents to be found in France and Flanders. He devised traps and trained his batman, Bob Church, as assistant, the resulting pelts being sent to the Natural History Museum, South Kensington. By the time the Battle of the Somme had been fought Gosse's interest in rodents had somehow become common knowledge, and one day, while enjoying an idle time in a rest area, he was astounded to receive a visit from a staff officer who announced that he had been appointed Rat Officer to the Second Army, and was to report forthwith to the Director of Medical Services at Hazebrouck. He consulted his batman as to what he should do. Bob replied : " Don't you waste no time, sir, thinking ; we've got a cushy job," and started packing at once. Rat infestation was a serious problem in the trenches, and Gosse entered with enthusiasm into his new duties, though life as G.O.C. Rats was not easy at first. In time he wore down official apathy and even ridicule, and in the end made a very important contribution to army hygiene by the measures he introduced to control the pest. His lectures on rats to the troops became a popular feature once it was realised how well he could combine instruction with entertainment, and he made an immense success of Bob's " cushy job." Towards the end of 1917 Gosse's reputation earned him his full reward in the form of a transfer to a School of Sanitation in the Far East. He had always longed for such an opportunity, and his new duties in India gave him almost unlimited chances for observation of birds and mammals, more than one of his discoveries among these proving to be new to science. After seventeen months in India he reached England again at the end of an extraordinary journey in which only two of his twenty-four large boxes of specimens were lost—and even those were delivered a few days later.

The war over, Gosse did not return to general practice, but worked at first for the Ministry of Pensions, and later joined the staff at the Radium Institute. He had no particular qualifications for this work, but he could learn, and his method of advance to the post of Medical Superintendent with an M.D. Durham has already been related. His sole contribution to clinical literature was a paper on " The screened radon seed in the treatment of malignant disease," published in the *Lancet* in 1928. He retired from the Radium Institute in 1930 and could then give more time to the pursuit of the hobbies he had already been cultivating. For many years he had been interested in islands and in pirates and their history. *The Pirates' Who's Who* had appeared in 1924, *The Pirates' Library* in 1926, and a *Bibliography of the Works of Capt. Charles Johnson* in 1927. *Sir John Hawkins* followed in 1930 and *The History of Piracy*, Gosse's most considerable work, in 1932. In 1938 he published an account of the Island of St. Helena, having lived there for some time while gathering his material. For some years after his retirement, he made his home at Steyning in Sussex. During the Second World War he returned to medical work as examiner of recruits for the army, living in Cambridge and being admitted as Research Student and Fellow Commoner of Trinity College.

It is evident from his writings that Gosse had a special feeling for cats, and a long succession of these animals had played important parts in his life. At his father's house there had been Atossa, " a proud aristocrat and a professional beauty," given by Walter Pater, painted by Sir Alma Tameda, and modelled by Hamo Thorneycroft. Atossa was followed by a plebeian Mother of Millions, and Welland Potbelly Allsop. Next came a " feline Pope Joan " (given by Sir Harry Wilson) called Joseph Patch Wilson, which unexpectedly gave birth to a single kitten. Then, in succession, came Charles Nathaniel, Mopseyman, Caruso and, finally, James Buchanan. It was natural, therefore, that the trenches in France provided Gosse with a remarkable representative of the race, called Landlady, who would wander unconcernedly on to the parapet of the fire-trench and gaze at the enemy fifty yards away. She would wash carefully in full view of the contending armies, and then return to sleep in the middle of Gosse's bunk, forcing him to occupy one edge. Many other cats had their place in Gosse's life, notably Ninny, in spite of his name a redoubtable hunter, who was the hero of a terrible story. Gosse had bought a suburban house, the late owner of which, a bird lover, had erected a cat-proof wire netting fence twenty feet high round the entire garden. Ninny emerged from his travelling basket, stretched himself, and took one look at the lawn of the bird sanctuary. . . . It was a cat's paradise.

A second Ninian Gosse was probably the last of the series. Soon after the Second World War Philip was living in a Cambridgeshire village, and conceived the wicked idea of enrolling Ninian in the Civil Defence Force. He enjoyed filling in the first form, and the the question " How occupied during the war ? " answered : " Firewatching." Embarrassments followed, as when the local officer asked the size of Ninian's boots, and when a summons came to attend a parade Philip had to plead his indisposition. A few days later the officer called at the house with friendly enquiries, and Philip was forced to tell him with a suitably lowered voice that poor Ninian had passed away. The young man was even more embarrassed than the bereaved parent at having intruded and extricated himself with murmured sympathy and blushes.

Gosse was three times married, and had a daughter by each of his first two marriages. His third wife was Anna Gordon Kcown, the writer and poetess, who died in 1957. So, in his old age, Philip became a lonely man, still young in spirit and longing for some active occupation—he would, he said, be glad to take a job, even as a barman, if anyone would have him—though handicapped by growing deafness and a tiresome skin complaint, which was treated for some time in Bart's. He was very handsome as a young man of a sensitive and affectionate nature. There was a tinge of the occasional irascibility belonging to his reddish hair and florid complexion, but his tempers were shortlived and laughter was the continual accompaniment of converse with his friends. In the last year but one of his life he undertook a journey round the world in order to visit some relations in Australia. A party was arranged for him on his return in 1958, at which he was presented with a cake representing the globe round which he had travelled, and was crowned with bay leaves. The last photograph of him was taken on this occasion, and leaves an impression of him such as he liked. He wrote on the back of the print which he sent to me : *Bacchus and the Tempter*.

ST. DAMIAN.

Gosse made a number of contributions to the pages of this *Journal*. A list of these has been compiled by the College Librarian, Mr. John Thornton, and is appended. *A Bibliographical Check-list* of all his writings up to 1952 was published at Cambridge by Mr. Raymond Lister.

Dr. Philip Gosse's Contributions to St. Bartholomew's Hospital ' Journal '

GOSSE, PHILIP. The Anaesthetic. 40, 1932-3, pp. 240-1.
——. Ancient " Surgery." 26, 1918-19, p. 6
——. A Chinese Mandarin (Corres.). 45, 1937-38, pp. 118-9.
——. Dental Misadventures. 40, 1932-33, pp. 89-90.
——. Eric Gill's Rahere (Corres.). 45, 1937-38, p. 164.
——. Fees. 40, 1932-33, pp. 107-9.
——. Fire . . . ! 40, 1932-33, pp. 127-8.
——. Four Humorous Writers from Bart's. 56, 1952, pp. 291-3.
——. Hans Sloane in Jamaica : Further Cases. 42, 1934-35, pp. 220-1.
——. Jackey Horney (Corres.). 58, 1954, pp. 182-3.
——. John Frost, 1803-1840. 57, 1953, pp. 159-62.
——. Mrs. Dwiggins. 40, 1932-33, pp. 69-71.
——. None so Blind. 42, 1934-35, pp. 90-91.
——. A Pirate and his Physicians. 42, 1934-35, pp. 205-6.
——. Questions and Answers. 40, 1932-33, pp. 145-8.
——. Spats. 41, 1933-34, pp. 95-7.
——. The Village Policeman. 42, 1934-35, pp. 123-4.
——. The Woodpecker. 40, 1932-33, pp. 191-3.

DIRTY LINEN AT THE FOUNTAIN CLUB

The Bard would explain that this public detergent operation is intended only in a Pickwickian sense

Clerk and Bursar

" Have you paid your year's Subscription ? " said the Bursar to the Clerk.
" No, in point of fact I haven't ; I regard it as a perk
Due to me for undertaking so much honorary work.

But it's up to you, good Bursar : you're the man who holds the purse :
As it seems that God hath joined us both for better and for worse,
Why not make a joint assessment, and then make us both disburse ? "

No, it ends in holy deadlock—most unfortunate of course,
But until the Clerk and Bursar can agree to a divorce
Portions of the Fountain's income are deducted at the source !

Bard and Auditor.

New Wine Tasters

Good wine, they say, requires no bush
To advertise its virtue,
Nor yet a filter to remove
Such matter as might hurt you.

Yet ancient monarchs alway kept
Some slave to taste their wines,
In order to protect themselves
From poisoners' designs.

So our Committee every year
Appoints two idle wasters,
And dignifies them with the style
Of Fountain Club Wine Tasters.

But latterly it seems to me
For reasons quite obscure
This honourable post has now
Become a sinecure.

These so-called Tasters shirk their job,
While we are left to drink
A wine not only looking like
But tasting like red ink.

Either the taste buds on their tongues
Must be extremely weak,
Or else such tasting as they do
Is done with tongue in cheek.

" Blind mouths ! " as Milton once remarked
Of slackers in his time—
" Dumb Palates " we perhaps might add
To fit this modern crime.

Who are these gustatory goons ?
I search our latest log,
And there I find inscribed the names
Of *Hancock*, and of *Hogg*.

If we must use a hogshead for
This dubious technique
At least let's turn the handcock off,
And minimise the leak !

The Fountain Club is slow to wrath,
And stirring up of mud :
How much untasted wine must flow
Before we call for blood ?

Such angry tempests can blow up
Quite quickly in a calm sea—
A well-known duke once disappeared,
Drowned in a butt of Malmsey.

Let *Hogg* and *Hancock* contemplate
That huge historic tub :
It might provide a precedent
To suit the Fountain Club.

R.B.P. Bard and Bibber.

Parasitic Fungi

by G. A. Gresham, M.A., M.D. (Cantab.)

University Lecturer in Pathology, Cambridge

Fungal diseases of man are becoming increasingly important. It is true that some mycotic infections are disappearing, an example being scalp ringworm due to the genus microsporum. However, visceral mycoses are becoming more common probably due to the ubiquitous use of antibiotics.

This brief review is intended to provide a simple classification of parasitic fungi and to indicate some of the recent advances in the field of mycotic disease. Fungi are plants without stem or root ; they do not contain chlorophyll and hence must live saprophytically on dead organic matter. Indeed the main role of most fungi is concerned with the disposal of decaying organic material ; only rarely are such organisms parasitic in man.

The toadstools of our countryside are specialised spore bearing structures derived from a dense subterranean network (mycelium) of threads (hyphae). Many parasitic fungi are composed of hyphae which are often divided into segments by septa ; they are imperfect fungi because they reproduce vegitatively. However, recent work on the *Keratinomyces ajelloi*, a soil saprophyte which is probably an ancestor of human parasitic fungi, suggests that such a sexual phase may exists particularly in the genus trichophyton.

Vegetative reproduction is achieved by means of spores (conidia); they may be born singly, in groups or within specialised structures and serve as a means of identifying the fungus in culture.

A simple classification of fungi which produce disease in man is as follows :

(i) Filamentous
(ii) Yeasts
(iii) Dimorphic fungi.

The filamentous fungi are composed of hyphae and comprise those which produce infection of skin, hair and nails and are called dermatophytes or keratinophilic fungi. Another filamentous organism of importance is the *Aspergillus* ; a common aerial contaminant which may attack the human lung.

Yeasts are unicellular fungi which reproduce by budding. They are exemplified by the genus candida which is the cause of "thrush" and the genus cryptococcus a common soil saprophyte in this country. Dimorphic fungi are rare in the British Isles : in the tissues they are yeast-like but are filamentous in culture at 22°C.; they produce diseases such as Histoplasmosis and Blastomycosis.

Three genera of dermatophytes occur in the group of filamentous fungi. They attack keratin of the skin, hair and nails; the precise mechanism of keratin invasion is still under investigation. The first of these genera, microsporum, produces scalp ringworm in children. Infections are becoming more rare and are limited by the onset of puberty; at this time the skin produces fungicidal fatty acids. *Microsporum canis* is acquired from cats and is common in New Zealand! Attempts have been made to treat infection with the new agent griseofulvin obtained from a species of pencillium. The mode of action of this substance is obscure. It may act on the keratin substrate rendering it impermeable to the penetrating hyphae. More likely it attacks the fungus distorting hyphal growth and preventing invasion of keratin ; there is experimental evidence to support this latter view.

Griseofulvin has been used in infections caused by the second genus in the filamentous group namely trichophyton. There are many species; some cause tinea pedis, others produce infections of nails and hair. *Trichophyton rubrum* is a relatively recent arrival in this country. Infections are more common since the last war ; the organism was probably imported from its endemic areas in the Far East. *T. rubrum* produces an intractable dyskeratosis of nails and in such cases griseofulvin has proved valuable.

T. rubrum is recognised, in culture, by the production of a ruby red pigment. Many fungal pigments are quinones and some are antagonistic to the growth of other fungi. The characteristic flourescent pigments of *Microsporum* sp. are pteridines. Work proceeds on the purification and identification of fungal

pigments and may lead to the production of further antibiotic substances from a group of organisms which has already yielded many.

Epidermophyton floccosum is the only species of the third genus in the filamentous group of fungi. It's curious localisation to the groins is difficult to explain. More recently foot infections, due to this organism, are being recognised.

The genus aspergillus might be grouped with the filamentous fungi. There are many species of which *A. fumigatus* is important in human and animal disease. Aspergilli are common in the air and infect by inhalation. In young birds and sometimes in lambs and piglets *A. fumigatus* produces a severe necrotising pnuemonia. The human lung is attacked only if it has been previously damaged by tuberculosis or bronchiectasis. The fungus proliferates and fills cavities producing a mass known as a mycetoma. It also produces a haemolytic toxin which may lead to progressive unexplained deterioration in a patient whose lung disease appears to be well controlled. Another form of aspergillus infection is a diffuse superficial colonisation of bronchial mucosa leading to attacks of bronchospasm together with expectoration of brown plugs composed largely of fungal mycelium.

Few fungi produce toxins ; probably the best known is that of the "death cap", *Amanita phalloides,* a common inhabitant of oak woods in the autumn. Of those fungi which attack man, the aspergillus and *Candida albicans* alone produce toxins. Candida is a saprophytic yeast commonly found on mucosal surfaces and on the skin. Debilitation due to disease or prior treatment with tetracyclines predisposes man to invasion by this organism. The species most often implicated is *C. albicans* and infections vary from superficial areas of oral ulceration, which may spread to involve the entire gut, to bronchopulmonary or renal lesions which may prove fatal. Occasional examples of endocarditis due to Candida species have been reported.

The *Cryptococcus neoformans* is another yeast commonly found in soil. It may produce areas of necrosis in lung tissue, space occupying lesions in the brain and granulomatous lesions in the liver and spleen. Interest in the latter lesions is caused by the close resemblance which they have to those of Hodgkin's disease. This fact, coupled with the paucity of organisms in such lesions raises the old hypothesis that Hodgkins disease is an infective granuloma.

Little need be said about the dimorphic fungi though mycologists are keenly interested in the factors which influence this profound variation in morphology. The infinite variability of the histological lesions produced by these organisms has served to maintain a constant awareness, in the mind of the diagnostic histologist, that many hitherto unexplained tissue reactions may have a fungus aetiology.

Medical mycology is a rapidly expanding field of knowledge and it is evident that the medical student can ill afford to neglect it if only because it indicates the dangers of the miscalculated use of potent therapeutic substances.

The Natural Barriers to Fungal Infection

by A. I. Scott, M.D. (Toronto)

Department of Dermatology, St. Bartholomew's Hospital

It is becoming generally accepted now that normal intact skin offers a strong barrier against fungal invasion, just as it possesses strong bacteriostatic properties which prevent the constant influx of surface bacteria. Recent work has demonstrated that skin scrapings may often contain hyphae and spores capable of reproducing fungal colonies on culture, although the subject may have no clinical evidence of infection. Some investigators have been emboldened to apply culture specimens to the skin of volunteers—the majority of "takes" occurred only in areas in which the skin had been devitalized by previous trauma or maceration. Why ?

The Terrain of the Host

Dermatophytes appear to be obligate parasites of keratinized material, stratum corneum, hair, nails. They do not enter living cells. Keratin itself is a protein constructed of amino acids arranged in complex cross-linkages to form an extremely coherent molecule rather like a lattice. Its degree of hardness is governed directly by the degree of cross linking between its units. In the interstices of the lattice are held other molecules —chiefly water from insensible perspiration (tissue fluid lost through evaporation), fatty acids and cholesterol from sebum and cellular breakdown, glucose and amino acids, also cellular remnants. Soft keratin, such as stratum corneum, contains a relatively large volume of these absorbed materials, while the hard keratin of nail or hair contains only minimal amounts.

The formation of keratin, although probably begun in the basal cells of the epidermis, can only be well traced from the stratum granulosum. Here there is a broad band of cells showing condensation of keratohyalin granules, increased water content, precipitation of cytoplasm, and the beginnings of nuclear degeneration — all the hallmarks of keratin development. As the process continues toward the surface, cell and structural outline become less definite until nothing remains but a relatively homogenous layer of soft keratin which presents an uninterrupted but inert surface of great importance as a barrier. Under X-ray diffraction studies and electron microscopy this protein appears like a compressed lattice with its interstitial content of material, for the most part the remnants of pre-existing cells. It is interesting that the visible band denoting the earliest form of keratin is also the site of intense enzymatic activity, and appears to be the control for absorption of any topical materials. If its integrity is disturbed the way is open to absorption of many noxious compounds as well as to the loss of the contents of the internal milieu — especially plasma. The soft and hard keratins are alike in all these features, but in the latter type, found in hair and nails the formation of keratin has continued further with the production of a sturdier protein still. Keratin is an extremely tough substance, very resistant to hydrolytic destruction—only hot, strong acids or alkalis may accomplish this in vitro. Some keratolytic enzymes exist, but they are not common, the clothes moth has one. In addition to the keratin content of water, glucose, amino acids, enzymes resulting from cell breakdown, there also percolates through the keratin acid sweat, the so-called insensible perspiration through which the body loses water by evaporation. The outer surface of keratin, in particular stratum corneum and hair, is covered by a film of sebum, a mixture of odd and even numbered fatty acids plus cholesterol. This is produced by sebaceous glands whose orifices open into the bases of hair follicles whence it spills out onto the surface to be diluted by mixture with sweat. Adult sebum contains a mixture of many fatty acids, of which the odd-numbered ones predominate. It has been demonstrated that these fatty acids, particularly those of the series C7 to C13 possess fungicidal properties. In contrast the sebum of childhood lacks these fatty acids.

The Needs of the Fungus

Of all the superficial dermatophytes, only one — *Microsporon gypseum* — has been shown to possess a keratinase capable of breaking down keratin. It would seem obvious then that unless a primary hydrolysis of keratin has already occurred from some other reason the fungus cannot derive its main nutrition from this source. It must survive by utilizing the contents of the interstices. Its own proteolytic enzymes are able to destroy sidechains of the stable keratin, but this will not disrupt the integral molecule. Besides its full complement of proteases, the fungus possesses dehydrogenases, phosphatases and other enzymes with which it can use available amino acids, water and glucose to produce energy for metabolism and reproduction, as well as growth. Its nutritive hyphae grow along interstices to reach deeper sources of food, but they are limited as soon as they reach the layers of living cells—there they cannot compete. The fungi flourish best in an alkaline medium. This is difficult to find in the normally acid body surface, especially near living cells, but as soon as disease intervenes, or trauma, in the skin the normal pH becomes more alkaline.

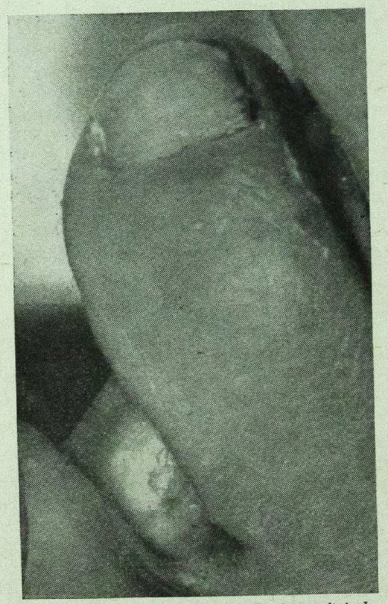
The Barriers Between Host and Invader

To review briefly then the barriers presented by the host : (1) the most important one is the integrity of the keratin surface of the epidermis and its appendages, nail and hair. By that is meant the unbroken layer of protein chains tightly linked with a minimal interstitial content of water. (2) the surface acid protective mantle, a mixture of acid sweat and adult sebum. (3) the integrity of

the mid-epidermal band of living cells undergoing active enzymatic change. A fourth, deeper, means of protection which has recently been described may be mentioned briefly here. Lorincz has demonstrated the presence in all tissue fluids of a fungistat of unknown protein structure, which inhibits the spread of fungi in regions to which, once gained, it would otherwise have unlimited access—deeper epidermis, dermis, and the circulation.

Tipping the Balance in Favour of the Fungus

Any disruption of keratin continuity and stability will provide easy access for fungal invaders. Abrasions, hangnails, cuts, or any pre-existent skin disorder such as eczema are obvious means. A slightly more subtle mechanism is the separation of the normally tight protein linkages by the increased water content of clinical maceration. This is the type of skin seen so often in the damp hands of the busy housewife, the perspiring feet



Tinea pedis showing the macerated interdigital cleft which provides an ideal breeding ground for the fungus

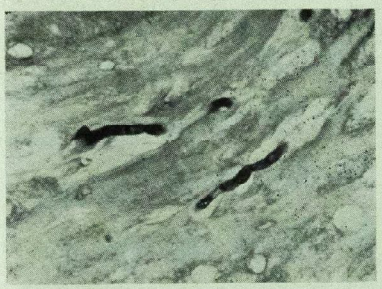
of the athlete, or the hyperhydrotic hands of the adolescent. In all these instances the keratin has imbibed too much water to permit normal maintenance. In fact the layers often separate spontaneously, giving the splitting which one sees clinically, in interdigital sites for instance.

The natural acid mantle of skin or hair surface can also be disturbed by hyperhydrosis, in which the alkaline sweat of the apocrine glands pours onto the surface producing a suitable pH for fungus survival sufficiently lasting to permit time for multiplication. It has already been mentioned that childhood sebum lacks the odd-numbered fatty acids which have fungicidal properties. This is the reason behind the prevalence of microsporon infections in childhood, and their spontaneous cure during adolescence, coincident with the production of adult sebum. We are unable to measure with sufficient accuracy the qualitative and quantitative variations in the fatty acid content of sebum to relate any alterations in that substance to fungal infection in the adult. One point of interest, *Trichophyton interdigitale (Mentagrophytes)* is able to adapt itself to survival near sebaceous glands. This is probably one reason why animal ringworm and tinea barbea are seen in the adult.

Once within the keratin layer, all the amino acids which exist there can implement the growth of the fungus. The one amino acid which will inhibit the fungus—hydroxyproline—is absent from keratin, although present in all the other formed proteins such as collagen, which are associated with skin. Many mycologists point to this feature as governing the remarkable tendency of the superficial dermatophytes to limit their activities to the superficial epidermis. The one fungus of this group which can grow in the presence of hydroxyproline is *T. rubrum*, the organism which is capable of spread through the dermis as well. Any inflammatory reaction which is present in the epidermis will increase the quantities of amino acids, glucose, etc., available for fungal nutrition as well as destroy the integrity of the mid-epidermal barrier. Parakeratosis, keratinization diverted from its usual form, may occur normally in interdigital clefts. This may be a contributing factor to the frequency of fungal infections between the toes.

Insufficient knowledge prevents one from assessing the effect of variations in the normal tissue fluid fungistat. One can only

observe the development of antigen-antibody reactions once the organism has gained the dermis. These allergic phenomena, once initiated, can be transferred to almost all parts of the body surface, producing the so-called dermatophytids, or non-specific allergic reactions to localized fungal infections.



Photomicrograph of stratum corneum showing fungal hyphae penetrating the acellular membrane

Two specialized sites for infection call for individual comment. The nail is not likely to acquire its infection from disruption of visible nail, but through entrance into the nail bed via the cuticle or the undersurface of the nail, which has been affected by the same disorders described above for the surface epidermis. The other site—the hair follicle—is a structure whose walls are a continuation of the surface epidermis to a point one third of the distance approximately from the base. Here the epidermal cells become specialized organs capable of producing the hair cuticle and matrix. At this point there is also a narrowing of the lumen, with proximal accumulation of sebum, sweat, and cell detritus, and finally, a natural disruption of the mid-epidermal barrier due to a sudden disintegration of the outer cell layers to form the external hair sheath. It would appear that the follicle can offer an ideal breeding ground for fungus as the only natural barrier capable of exerting its full potential is the sebum. These factors are involved in the frequence of follicular infection in the child, and its rarer incidence in the adult. It is however not unknown in the latter as cases of animal ringworm and tinea barbae testify. Furthermore, if the fungus does penetrate the follicle successfully it readily spreads to the surrounding dermis to form the granulomata seen occasionally with *T. rubrum* and *T. mentagrophytes*.

The Balance Tipped in Favour of the Host

Obviously it is in the interests of the host that the normal state should be maintained as much as possible throughout the epidermis. The natural barriers, are his best means of protection. Phophylaxis includes keeping the skin clean and dry. Cuts abrasions, etc. should be treated promptly and the area protected from danger of chance infections. Conditions of hyperhydrosis should be controlled and dermatoses treated promptly and adequately. It is amazing, in view of the relatively poor care most people bestow upon their skin, that fungal infections are not much more prevalent even than they are. All these various precautions are merely common sense, but they are quite adequate in the majority of instances of simple infection to minimize involvement or even stem the onset. They are not sufficient in the more virulent type of infection, notably in children with microsporon infections, and in adults with deep follicular involvement, nor will they halt the spread of *Trichophyton rubrum* disorders. What else can one do ?

Up until two years ago the treatment has been limited to the use of methods designed to remove the keratin in which the fungus has grown—namely by keratolotics (salicylic acid), avulsion of nails, or X-ray epilation of hair. Some attempts have been made to utilize the fungicidal properties of various fatty acids, notably benzoic and undecenoic acids. The more drastic methods have often succeeded by their very strength, but the therapeutic situation was not a happy one. Recently with the advent of griseofulvin, a derivative of *Penicillium*, we have a fungistat which attacks the nutritive fungal hyphae directly in a way as yet unknown. Despite our ignorance, the clinical results appear to be very rewarding, provided this systematic medication is given in a dosage sufficient to achieve an adequate concentration in the infected area, and is continued long enough to permit natural loss of the infected keratin with replacement by non-involved protein.

Several interesting questions loom—why do fungi prefer to domicile in keratin, do the sulphydryl groups so important as catalysts in normal epidermis also serve the fungus ? It is odd that superficial fungi do not grow in mucous membrane. What specifically halts

their infiltration near living cells. In what way do the fatty acids alter the organism to inhibit growth? Is the tissue fungistat an entity, or merely the non-specific proteases —we know that in the deep trichophyton infection known as kerion, the body produces sufficient inflammatory reaction to sterilize the abscess eventually. Perhaps if we can elucidate the action of griseofulvin and related chemicals we may come closer to some of the answers.

Sens Unique

by M. CHARLES

My first six months here, I often felt faint. Medicine was so seemy, too realist; it was too wrong to see people broken, sickened, decaying. Not physically faint so much as mentally faint; the spirit apalled by the sudden arrival amongst the sick. Pitying, it was hard to touch. Casting about for alternatives, here I was in a one way street. London life depressed, after cloistered courts and open skies, but only for that first winter.

Time passed, and I changed. Bart's became the new four walls, and I forgot to notice sensations and began to wink encouragement at the patients—(What else are students for?). The mysteries of medicine remained hidden in a pearly mist which thinned here and there, thanks to sweaty moments on ward rounds. The month away doing Midder was refreshing; surely the country is the place to be in hospital? London, first hated, then explored, by then was felt and lived with affection and respect, but being away, seemed grimy and groaning beneath its air. Cities. Man was made to be pastoral; only the black sheep went to the cities and made them blacker yet. H. G. Wells, lapped up at prep. school, knew about cities—his people burdened with their machinery, enduring cacophony without direction. Recall the market? Meat-stained porters loafing on the pavements, almost too apathetic to jeer. The pools, the telly, the Mirror—the most potent forces in their lives. Welfare State and Union Jack. Hey ho. And what about us?

Extraordinary that while still a student one thought little about being a doctor. Life in College Hall was splendid. I failed to understand those who decried it. Besides being convenient, the gentle simmering of characters was absorbing. Student life became better and better, even the aura of finals produced an exhilarating hypomania. (how he passed I cannot tell), then suddenly, battle done, breathless, awesome, a house job.

Alas, the sweet irresponsibility of the student days, the weekends, the friends, now blown about England, startled, responsible, ignorant. It was a profound shock. One rallied. It was extraordinary how quickly the new life became routine. The crises, the hours, the never-ending stream of patients. Two new ideals emerged. Firstly, medicine was fascinating—"if only I'd read about that"—the books became allies to be seized when the pearly mists still obscured a now hardening image. One must know what one was doing . . . Secondly, the people. Families, individuals, types; character after character thrust before you, asking this, asking that; never doubting your ability to answer. Charity, charity, and sound common sense; obviously one could not be a doctor without being also a diplomat. What an advantage a phychiatric training would be.

Training, teaching! Think of the three years of attendance—sonorous exposition—Today, gentlemen . . . Keen types agog, the rest, the most, sitting and letting it wash round their ears. (where, after much time, it fell together here and there). Would it not be better to cram, to bludgeon? Dogmatic charts, much repeated—remember your goitres? Remember a series of lectures in which a drug was identified during the first two minutes and thereafter referred to as "the substance"? (If you were late, you were cornered, because the lecture seemed both interesting and vital, but your friends were scribbling hell for leather and had time neither for you nor your signature!)

I may be wrong about the dogma. Florence Nightingale, influenced by the army no doubt, brings up her daughters with discipline, but little encouragement to use the nut. "But nurse, that drip is in an antecubital vein, why splint the wrist?" "Oh! we always put this splint on for drips!" Also, there must have been a surplus of eligible young ladies in Florence's day; perhaps today's dearth will see matron's writing at last for motion study experts. If the workers don't want automation, I'm sure that the nurses won't be so averse.

No doubt we'd all like to change the world in retrospect, but I think that housemen hardly have time to analyse theirs until they have finished their round of jobs. Poor burdened houseman with no court of appeal —his medical lot shouldered with fortitude, and his mess life at the mercy of caterers and hospital secretaries. The greatest injustice of the Health Service must surely be the power misused by these men; five messes I have known, and only one where they cared. Not that bitterness helps, there are too many opportunities on the precarious ladder—we should have been warned at birth.

"Oh, the great days in the distance enchanted" goes a school song, "How will they seem . . .?" Great; no doubt of it. Bart's the great oak tree, ageless and gnarled. Strange how time sifts memories into a bright kaleidoscope. Crystal clear moments—people, friends—fixed as stones set in dull silver, but reflecting a fiery image. Water slooshing round College Hall, old X asleep again on a ward round, surgeons dramatic, physicians lordly. Majestic chorales at Bart's the Great, the square at night, cool and enduring; upstairs the circle round the box in R.S.Q.—"deep down clean" they all shout, in time to the music. The tongues of the humourists flicking their quips across the oval table, leavening the day's events. Remember them in ward shows, grotesque and fantastical, houseman's escape. Remember them gay at Hill End, grey eyed in town, duty weekended, off on a spree. May the sons of Rahere continue unabashed, some grinning, some groaning, but always with that subtle mockery which is the speciality of the house.

They were right, the Art is Long.

Medical Memoranda from the History of the Royal Manx Fencibles 1779-1811

by A. M. WARD

The Royal Manx Fencibles were raised in four Corps during the period 1779-1811 for the home defence of the island. Although no overseas service was contemplated when they were formed, considerable attention was paid to the physical fitness and the health of the troops. Medical examinations for potential recruits are no recent innovation, but as each recruit meant three guineas Levy Money for the recruiting officer, no doubt some agreement was reached with the less scrupulous regimental surgeons. Even the form of attestation for the First Corps paid particular attention to physical fitness.

"I, ..., do make oath that I am a ..... and to the best of my knowledge and belief was born in the Parish of ..... in the Isle of Man, and that I have no rupture, nor ever troubled with fits, that I am in no ways disabled by lameness or otherwise, but have the perfect use of my limbs, and that I have voluntarily enlisted myself to serve His Majesty King George the Third in the Royal Manks Fencibles, commanded by His Grace the Duke of Atholl, to serve in the Isle of Man and not to be drafted into any other Regiment, that I am no apprentice, nor belonging to the Militia or any other Regiment or to His Majesty's Navy."

The earliest Corps, raised in 1779 and disbanded in 1783, contains little of medical interest, save for the fact that a Surgeon, Patrick Scott, was commissioned.

Surgeon Scott was again commissioned in the First Corps of the Royal Manx Fencibles, raised in 1793 and disbanded in 1802. In the early days of his appointment he seems seldom to have been on duty, as on the 15th July, 1793, the Fencibles were informed that all those that had need of the doctor should apply (until the hospital was fitted up) at Mr. LaMothe's between the hours of 10 and 12 o'clock, as they could not expect the

doctor to be always in waiting. Sick parades were evidently much the same then as now, for when all troops were assembled for muster on March 23rd, 1796, at Castletown they were told that " . . . no man is to be left at the outposts except such as are sick, and for these the surgeon must certify." Again, on June 15th, 1796, a Field Day having been organised, " . . . no man was to be absent unless sick on examination of the surgeon. The Officers commanding Companies were to take care to see that the orders for dealing with the sick and pretending sick were strictly complied with."

One of the main troubles of the medical officers was sanitation. Sanitary conditions in the barracks were far from good, and there was considerable overcrowding. It is to be wondered that there was not a larger mortality among the men than actually occurred. On July 1st, 1794, the officers of the corps were again reprimanded for not conducting their barrack tours as was evident from the almost putrid state of the barracks in Castletown. A remedy was immediately put into effect, as on the same day the following order was issued. " As from the confined situation of the barracks at Castle Rushen, and the warmth of the weather, there is reason to apprehend a sickness among the troops unless the numbers in the said barracks be lessened, Lt. McHarg of Lt. General Douglas's Regiment with one sergeant will march tomorrow morning at 6 o'clock to Douglas with so many privates of the said Corps as will reduce the numbers remaining in the barracks to TWO men per bed."

In October, 1798, an Assistant Surgeon was appointed, John Nelson Scott, having been transferred from the Second Corps. Surgeon Patrick Scott went sick in March, 1801, and did not rejoin the Corps again. Work for the Surgeons must have become very slack in the later years, for his assistant went on leave for a month before the Corps was disbanded.

Although Surgeon John Nelson Scott had been appointed to the Second Corps in April, 1795, he did not join until December, as the officer strength of the Corps in the autumn only mentions a Surgeon's Mate, Ensign John LaMothe. Before the arrival of Scott, the strengths of the First and Second Corps, and of the Royal Dublin Regiment, all in the island, were each approximately 275, each regiment having one surgeon or surgeon's mate. In December, however, when Scott joined the Corps, its nominal strength rose to 617, thus the relationship of one surgeon or assistant to every 250-300 men appears to have been maintained.

Both Scott and LaMothe seem to have been drawing double pay for their services, as they were double commissioned, as Lieutenant and Ensign respectively. This does not seem so unreasonable when one finds that a surgeon was paid four shillings per day, and a surgeon's mate three shillings and sixpence. At least two other officers in the Corps were similarly double commissioned, the Quartermaster and the Adjutant. Just before Scott left to join the First Corps he was joined by another surgeon, Surgeon Lt. Edward Kingsley, again double commissioned.

In 1802 one finds that no allowance had been made for discharging men from the Corps for being over a certain age, but provision had been made for those men that, from bodily infirmities, were totally unfit for further service.

The formation of the Third Corps, soon after the disbanding of the First and Second Corps, sees Surgeon Scott again in uniform. But this time with a new assistant, Assistant Surgeon Frederick LaMothe, the doctor referred to in the order of July, 1793.

When the new Commanding Officer, Major Stewart, took command of the Corps in 1806, he found the state of the troops to be so bad as to prompt a letter from the Adjutant-General. Conjunctivitis was prevalent among the forces generally, and Stewart ordered that redoubled attention should be given to the cleanliness of quarters and of the men of the Corps, and he required the medical officer to make frequent inspections of the several quarters. He further urged the necessity of each individual soldier paying the strictest attention to the cleanliness of his bedding and quarters, since the disease, if not taken in time, might totally deprive a man of his sight, and in such cases he would be discharged and unable to support himself and his family.

In January, 1808, Stewart again drew his officers' attention to medical matters, and directed attention to " the present alarming state of Douglas from the prevalence of a serious complaint, which, without immediate medical attention, has in every instance proved fatal," and he ordered the officers to be most attentive in their duty of looking after the men, and upon the slightest appearance of sickness to take them immediately to the surgeon. The nature of the complaint was not specified in any report, and notwithstanding his observations and instructions, Major Stewart moved more troops into Douglas from the country in the next few days.

Under the date of April 25th, 1808, there appears a memorandum from H.R.H. the Commander-in-Chief, that the Corps should be examined by the Surgeon " with a view to such men as have no appearance of having had the Small or Cow pock being inoculated with the vaccine matter." This must be one of the earliest reports of Vaccination in the Armed Forces of the Crown. At least the army cannot be said to have been slow in the adoption of this means of combating a disease that must have been a scourge in the overcrowded barrack rooms that seem to have been the order of the day.

On this note of medical foresight the history of the Corps must end. The duties of the surgeons were restricted to those of any garrison medical officer of the period during the whole of the thirty-two years of rather interrupted existence that the Corps enjoyed.

Letters to the Editor

SPORTS CLUB TOURS

To the Editor.
Dear Sir,

It was interesting to read in the February *Journal* confirmation from the pens of the gentlemen of the Soccer Club that their tour to Cambridge had cost only £24. Interesting, because this now becomes the only accurate fact in the letter from the Spheroids in the December *Journal*.

In defending the Rugby Club from the accusations of the Spheroids, I wish only to point out their inaccuracies and not to answer their petty and spiteful jibes such as " we doubt if the Rugger Club are our best ambassadors " and " drank less than usual and behaved more quietly than usual in order to try and leave a more favourable impression in their wake than they have managed to do in recent years." Such comments by one group of Bart's students about their fellows are most unpleasant, from anonymous pens they are despicable.

To take the facts in order, then :—

1. " The Rugger Club spent something in the region of £130 on their recent tour of the West Country." In fact, the Club was allotted £130 by the Students' Union to spend on their tour. They actually spent under £105.
2. " The team put up with a 10s. 6d. Bed and Breakfast." This figure is pure fantasy.
3. " The high cost of transporting twenty-two men to the West Country." There were not twenty-two men, but nineteen. The transportation costs work out at 12s. per day per man—reasonable enough for an extended tour.
4. " Why do the team go to the West Country ? " The Rugby Club attempts to build up a team in the early part of the season. They are the only hospital club, for instance, which has mid-week training at Chislehurst (for which the participants have to pay in full). They also organise evening training in the Gym. The November tour is an excellent way of getting the First XV fit and playing as a team. The Rugby XV is the only hospital team which plays against first-class opposition. (The Cricket Club meet village teams on their tour, and the Soccer Club play, and regularly lose to, the weaker Cambridge Colleges on theirs.) The only Rugby Clubs able to provide suitable opposition are in the Midlands, South Wales and the West Country. In the Midlands there would be no gates for mid-week games, the same applies in South Wales, where suitable fixtures cannot be obtained for at least five years ahead. In the West Country, inconveniently far away though it is, the clubs played are the right opposition, close together, and the gates help to cut down the expenses.

In conclusion, I should like to express regret that the Editor should print such a derogatory and inaccurate letter about the biggest sporting club in the Hospital, which also attains the highest standard without making some effort to check the facts with the Club, so that, at least, a reply could have been printed contiguously, and not many months later.

Yours faithfully,
J. D. Scobie.

The Abernethian Room,
St. Bartholomew's Hospital.

Since the information in the letter by " The Spheroids " perported to come from a member of the team, Mr. Watkins assumed that it was accurate. We apologise for publishing the letter without an answer.—*Editor.*

CAMBRIDGE CLUB DINNER

The Editor,
St. Bartholomew's Hospital Journal.
Dear Sir,

Except for the interruptions of war, the Cambridge Graduates' Club of St. Bartholomew's Hospital has held a dinner every year since its foundation in 1876, and, with the permission of the Ladies, the male members continue this custom. This year, the dinner will be held at the Connaught Rooms, on Friday, March 25th, at 7 for 7.30 p.m., with Dr. H. F. Brewer in the Chair. The secretaries endeavour to inform every Bart's man in this country who is a Cambridge Graduate, and they would be grateful to hear from any whom the notice has not reached.

Yours, etc.,
H. Jackson Burrows
R. A. Shooter
Honorary Secretaries.

APATHY ?

The Editor,
St. Bartholomew's Hospital Journal.
Dear Sir,

We are surprised to note that Mr. Julier found it necessary in his speech to the Students' Union Council (reported in the January issue of the *Journal*), to dispel the notion of apathy among the women students of this hospital. It is not possible to dispel a notion which does not exist.

We remain, Sir,
Yours faithfully,
"THE SIXTH FLOOR."

College Hall.

Not much apathy about this, *and* they've won the hockey again!—*Editor.*

SALE OF PERIODICALS

The Editor,
St. Bartholomew's Hospital Journal.
Dear Sir,

At the Students' Union Council Meeting, held on February 10th, it was decided not to allow the sale of the *Evening Standard University of London Supplement* within the Hospital precincts. The reason given was that permission for the sale of *Sennet* had also been refused.

I do not object to the Council's decision, but why is the sale of *Sennet* forbidden while the *B.M.S.A. Journal* is on sale in our cloakrooms? Surely this is inconsistent.

Yours faithfully,
BRIAN HORE.

Abernethian Room.

ALDERMASTON

Dear Sir,

One can think of several reasons why not to march in protest against nuclear weapons. Why protest against a Government that is trying to keep us out of war. Surely that is the Government's aim; to provide a deterrent against enemy attack. In fact, to use Mr. Macmillan's words, we have already achieved a "stalemate of strength." This being so, where do we go from here?

Is the Government not obliged to defend us against enemy attack? Quite realistically the Government is emphasising defence rather than trying to achieve parity with Russian missile or bomber strength. This is discretion. NATO is a team, and it is right and proper that each of the members have their own speciality. Our geography places us in an advantageous position to give early warning of attack. The Government seems to be intent on pressing this advantage. The Government does not suggest that we alone can defend ourselves against surprise attack. (And surprise attack is certainly the most likely kind.) However, by co-operating with our NATO team-mates we can provide invaluable assistance for their defence. American retaliatory power might, we hope, deter enemy action against ourselves. We find ourselves then tacitly, or perhaps even enthusiastically, standing watch while our Government steers a careful course through the tricky waters of deterrents, missiles and early warning systems. Is all this very satisfying?

Few people, even counting the enthusiastic supporters of present defence policy, would not welcome some degree of international disarmament. The pressing problem is how to start disarming and how to insure our security during disarmament. However much we can, as individuals, exert pressure on the Government, we are not the Government. We can decide to play the game, but they will write the rules and appoint the referee. All we can do (and I wish we could do more) is to give our support and encouragement to those who will program disarmament.

It would be surprising if we all held the same opinion on this problem of disarmament. Even among those of us who hold disarmament desirable there is little agreement as to the way it may be achieved. Let there be no doubt, however, that marching from Aldermaston is a sign of support for disarmament. On last year's march faculty staff outnumbered students three to one. Surely the proportion should be the other way round.

Yours faithfully,
F. POPE.

Medical College,
Charterhouse Square.

Examination Results

CONJOINT BOARD
Final Examination, January, 1960

M.R.C.S., L.R.C.P.

Thomson, R. G. N.

Supplementary Pass List

Pathology

Andan, A.
Weaver, P. C.
Walker, K. A.
Gray, D. J. P.
Mackenzie Ross, R. K.
Goodchild, M. C.
Tufft, I. J.
Craggs, J. C.
Musgrove, J. S.

Medicine

Andan, A.
Fasan, P. O.
Bonner-Morgan, B. M.
Goodchild, M. C.
Tufft, I. J.
Roles, W.
Chawner, J. M.
Walker, K. A.

Surgery

Almeyda, J. J. R.
Booth, D.
Gletsu, A.
Vollum, D. I.
Almeyda, J. J. R.

Midwifery

Andan, A.
Tufft, I. J.
Roles, W.
Muzio, D. M.
Gletsu, A.
Vollum, D. I.
Pemberton, M. J.

Sports News

VIEWPOINT

After a spate of games, the Rugby 1st XV has, this year, been knocked out of the United Hospitals' Cup Competition by St. Thomas's. Our team is vastly different to that which so nearly won the Cup last year. Not only have most of last year's stalwarts left the Hospital, but also there have been a number of recent injuries. The team were five short of their full strength when playing against St. Thomas's. But still, we were defeated by a superior side.

The weather this season has so far been extremely mild, and there have been very few matches cancelled due to adverse conditions by any club. The Hockey Club, it seems, always suffers more than other clubs. It cannot play in wet conditions, nor on hard and frosty ground. Winter is hardly the time for dry pitches. Many people consider hockey to be basically a summer game. The Indians and Pakistanis are the leading teams in the world and, in both countries, players learn the game on grounds as hard as rock.

Another plea must be made on behalf of the Sports Editor for Club Secretaries to hand in their reports promptly at the end of a month, or when asked to do so. It is true that there has been a certain amount of chaos since the printing strike, but slowly everything is returning to normal. All possible co-operation is always very welcome.

RUGGER

Hospitals' Rugby Cup. Bart's *v* Charing Cross. Richmond Athletic Ground. Tuesday, January 26th.

On a dull misty afternoon on the Richmond second pitch, Bart's took the field anxious to delay their path to the Second Round no longer. Rees Davies, the captain and fly half, kicked off with a gentle breeze at his back.

After a period of early pressure, when the Charing Cross pack made some penetrating hacking rushes down the touchline, the Bart's team settled down and played enterprising open Rugby. This was rewarded when, after R. R. Davies had made a break from a tight scrum on the Charing Cross 25 yard line, the ball went loose to Letchworth who picked up, passed to Harvey, who threw the ball out to Halls who went over in the corner. Pennington's kick was only just wide of the post.

With only a quarter of an hour gone, Bart's seemed well on top and were leading 3—0. However, bad heeling in the loose and untidy handling by the backs led to a long period of scrappy play and, towards the end of the first half, Charing Cross were looking the more dangerous of the two teams. Brown was jumping particularly well in the line out for Charing Cross, and was supported better than was Orr, who jumped well for Bart's.

In the second half the play continued scrappily, although there were good foot rushes by both packs, and Letchworth in the centre showed a promising ability to penetrate the Charing Cross defence with swerving runs. Unfortunately, Bart's were unable to score again, although coming near on several occasions, and four minutes from no side, following a scrum on the Bart's twenty-five, the Charing Cross full back kicked hard and high across the Bart's goal where it was misfielded, and Hutcheson, the Charing Cross centre, came in quickly, gathered the ball, and went over near the posts. Bart's had a lucky reprieve when the kick went wide. Soon after this the whistle went.

There were two lessons to be learnt from this game by Bart's. Firstly, that the ball should have gone out to the three-quarters more often where Letchworth, with his running, and Bamford, with his kicking, at least had the measure of their opponents. Secondly, the forwards must break quicker from the loose mauls, where there was a great deal of fruitless expenditure of energy.

On the credit side, the Bart's defence was sound, with Goodall making a promising debut at blind side wing forward, and Niven showing great kicking ability at full back.

Team : P. A. R. Niven, S. Harris, A. T. Letchworth, J. K. Bamford, J. Stevens, R. R. Davies (*Capt.*), A. P. Ross, J. A. Harvey, M. Jennings, A. Knox, J. H. Pennington, M. M. Orr, D. Goodall, R. J. Jones and G. J. Halls.

Hospitals' Rugby Cup. Bart's *v* Charing Cross. Second Replay. Saturday, 29th January.

On a beautiful Friday afternoon at Richmond, Bart's kicked off with the sun behind them.

Undeterred by this initial disadvantage, the Charing Cross pack were soon hacking the loose ball down into the Bart's half, much as they had done in the previous two ties.

Within minutes, following a set scrummage, a Bart's forward unwisely ventured off-side. A penalty was awarded to Charing Cross, and their full back scored with an excellent kick, to make it 3—0.

However, Bart's were undeterred by this setback, and moved the ball about with increasing confidence. Under pressure, Charing Cross gave away a number of penalties and, after twenty minutes, Pennington levelled the score with a fine 45 yard kick, and so, at half time, it looked as if it was going to be another indecisive result.

Shortly after half time Bart's began pressing strongly, and there appeared to be a better understanding between Ross at scrum half and Bamford deputising for the injured captain, R. R. Davies at stand off. But the try resulted from a good inter-passing movement among the forwards, Halls giving the ball out to B. O. Thomas, who passed quickly to Pennington, who went over near the posts. J. Stevens converted to make the score 8—3.

Charing Cross never looked like reducing this deficit, though Bart's could at no time afford to relax.

Ten minutes from the end the issue was settled when Halls, following up fast, took advantage of the absence of the Charing Cross full back, who was up in their line in a last do or die effort, picked the ball up during a forward rush and went over to make it 11—3, and Stevens again converted.

With the final score 13—3, Bart's were at last through to the second round, although their performance gave no grounds for confidence against a strong St. Thomas's side only three days later.

Team : P. A. R. Niven, S. Harris, A. T. Letchworth, J. Stevens, J. Burbridge, J. K. Bamford, A. P. Ross, B. O. Thomas, M. Jennings, A. Knox, J. H. Pennington, M. M. Orr, D. Goodall, R. J. Jones, G. J. Halls.

Hospital Rugby Cup, Second Round. Bart's *v* **St. Thomas's.** Tuesday, February 2nd.

For this match Harvey replaced B. O. Thomas in the front row of the pack. With a team otherwise unchanged from that which defeated Charing Cross in the first round of the competition, Bart's faced St. Thomas's at the Richmond Athletic Ground on a dull cold day on a muddy and inhospitable pitch.

St. Thomas's kicked off, and very soon began to look a markedly superior team. From the first line outs they easily gained possession, and their backs were allowed considerable freedom. The first score came when Boggon, the St. Thomas's captain and Number 8, picked up a loose ball on the Bart's 25, and sent his right centre through to score an unconverted try. Soon after this he was allowed to cut through the Bart's defence to score near the post, converting the try himself. At this stage Bart's were well beaten up front, and the tackling of the back row and three-quarters was markedly irresolute, the only exceptions being Bamford and R. Jones.

For the remainder of the first half Bart's, when hey got possession, attempted to work the touchline n order that the vigour of the St. Thomas's back row might be contained. There was no further score before the interval.

In the second half the Bart's performance was much improved, and though this did not result in a score, the three-quarters figured prominently in a most enjoyable display of open rugby. St. Thomas's went further ahead with another goal and a try, both scored by their scrum half, after quickly taken penalties near the Bart's line. This gave them victory by the comfortable and not unflattering margin of 16—0.

The result of this match was not perhaps surprising, for among the St. Thomas's team there were many familiar faces from last year's epic, whereas Bart's were only represented by J. Bamford, G. Halls and J. Stevens of last year's victorious team. The remainder of the team, with some exceptions, seemed surprised by the vicissitudes of Cup rugger. It is, however, a young team which shows considerable promise for the future, when enthusiastic leadership might mould them into a first-class side.

Bart's v Charing Cross. Second replay

SOCCER

United Hospitals League. Bart's *v* **Westminster Hospital.** Away. Wednesday, January 20th. Drawn 1—1.

Hoping to record their first League win Bart's put up a good fight against an improved Westminster side. The latter had the edge during the first half, the football being keen and fast. Haig played well in goal, while Davies had several good runs down the left wing, but his centres were not followed up. Turning round, Westminster continued to exert pressure, but our defence remained solid until a rather scrambled goal was conceded. One down and with the forwards never looking like scoring, all seemed lost. But Bart's fought back. With Jailler prompting the forwards, and even Kennedy moving right up, the equalising goal came when a Perriss centre was tapped home by Williams. In the closing minutes it was all Bart's, but the ball refused to find the net.

Team : G. Haig, M. Jennings, R. Kennedy, J. Jailler, B. Hore, M. Noble, B. Perriss, M. Williams, T. Herbert, H. Phillips and N. Davies.

Bart's *v* **Caledonians.** Home. Saturday, January 23rd. Lost 0—2.

Earlier in the season we had beaten Caledonians 2—1, so hopes were high for completing the double. But the opposition was stronger this time, settling down quicker to the slippery conditions. Bart's were awarded a rather unjust penalty, but Gould failed to convert. Gould was closely marked throughout the match, thus effectively blunting our attack, which again showed little goal-scoring potential. The score was 0—0 at half time. Caledonians opened their score midway through the second half when their left winger, moving into the centre, became unmarked and scored from close in. Soon after another was added following a breakaway, when Bart's were putting everything into the attack.

Team : J. Davies, M. Noble, D. Prosser, J. Jailler, B. Hore, B. Perriss, P. Savege, H. Phillips, A. Gould, M. Williams and J. Kuur.

Bart's *v* **Royal Veterinary College.** Away. Wednesday, January 27th. Won 4—3.

For this game we welcomed back Dr. Wills to the team, who showed us he is still an effective full-back. Taking advantage of the fact that R.V.C. started with only eight men, Bart's were soon one up when Prosser, with a defence-splitting pass, gave Jailler a simple goal. At the other end, a R.V.C. forward missed a glorious chance to equalise before their team was at full strength. The rest of the first half was played out without further score, the football being of a good standard considering the muddy pitch and dank weather. In the opening minutes of the second half, R.V.C. had all the initiative and were soon rewarded with an equalising goal. Against the run of the play, Bart's suddenly took a 3—1 lead. A Noble centre led to Perriss scoring, then Noble, robbing a defender inside the penalty box, scored with a low shot from an acute angle. R.V.C. hit back to score again, but a fantastic goal kick by Kennedy sent Noble away, who dribbled past two men before scoring a brilliant goal. R.V.C. reduced the arrears but, though pressing hard in the closing minutes, failed to equalise.

Team : G. Haig, M. Jennings, Dr. Wills, J. Jailler, B. Hore, R. Kennedy, N. Perriss, T. Herbert, L. Iregbulem, D. Prosser and M. Noble.

Bart's *v* **Worcester College, Oxford.** Home. Saturday, January 30th. Lost 0—2.

Through last minute changes Bart's fielded a much weakened side, yet if only the forwards had taken a few of the many scoring chances that came their way, we could have easily won this match. The defence was solid and rarely bothered and, at half time, the score sheet was blank. A similar pattern of play continued in the second half, and it wasn't until the last ten or so minutes that Worcester College scored, the first from a long range shot that was deflected into the net, the second from a weak shot that caught Davies out of position. Hore continues to improve at centre half, while Herbert in the last few games has shown himself to be a useful player.

Team : J. Davies, M. Jennings, M. Noble, P. Savege, B. Hope, T. Herbert, B. Perriss, J. Jailler, M. Williams, H. Phillips and P. Stanley.

LADIES' HOCKEY

Bart's *v* **Atalanta 2nd.** Home. Saturday, January 9th. Won.

Team : I. Tomkins, J. Tufft, R. Murray, M. Childe, E. Knight, T. Coates, J. Arnold, J. Hartley, R. Walters, S. Minns and J. Swallow.

Hospital Cup, Semi-Final. Bart's *v* **St. Mary's Hospital.** Home. Saturday, January 23rd. Won 7—1.

The game started slowly and within five minutes St. Mary's got very near to scoring, but Bart's defended well and soon scored themselves, after which they never looked back. It was a hard fast game throughout, and not as one-sided as the score might suggest. St. Mary's got very near to scoring a second time when a penalty bully was awarded after the Bart's goalkeeper sat on the ball, fortunately Miss Tomkins knew how to bully.

Team : I. Tomkins, J. Tufft, R. Murray, M. Childe, E. Knight (*Capt.*), T. Coates, J. Arnold, J. Hartley, R. Walters, S. Minns and J. Swallow.
Umpire : S. Cotton.

Bart's *v* **Reading University.** Away. Saturday, January 30th. Drawn 2—2.

This was one of the best games of the season—clean and fast on a dry warm afternoon. Bart's were playing one short, but everyone played hard and the gap was hardly noticeable. Miss Hartley played an extremely energetic game—making up for a missing member of the forward line and coming back to help the defence as well. The first Bart's goal was scored by S. Minns, and the second by J. Hartley following a long run down the field taking the ball all the way and passing at least four people *en route*. Both Bart's backs played well, although the efforts of J. Tufft were not always in the right direction !

Team : I. Tomkins, J. Tufft, R. Murray, J. Thorogood, E. Knight, T. Coates, J. Arnold, J. Hartley, S. Minns and S. Cotton.

Bart's *v* **King's College.** Away. Saturday, February 6th. Won 4—2.

Team : I. Tomkins, J. Tufft, G. Turner, M. Childe, E. Knight, T. Coates, R. Walters, J. Hartley, M. Robertson, S. Minns and S. Cotton.

TABLE TENNIS CLUB

U.L. League. Bart's 1st *v* Sir John Cass College. Home. Thursday, February 4th. Won 8—2.

The Hospital team continued its unbeaten run this term with a fine win over John Cass College. J. Collier was up to his usual excellent form ; whilst B. Bhagat gave us a demonstration of some excellent defensive play.

Team : J. Collier, B. Bhagat and B. Hope.

Bart's 1st and **2nd *v* Biochemistry Department.** Home. Tuesday, February 9th. 1st won 5—4. 2nd won 5—4.

This, our annual encounter with the Biochemistry Department, proved to be as enjoyable as ever, even if the table tennis was not of the standard seen in League matches.

1st Team : A. Miller, B. Bhagat and B. Hore.
2nd Team : A. Gallup, B. Perriss and A. Marsh.

CRICKET CLUB DINNER

A dinner was held by the Cricket Club on Wednesday, February 10th, at Diviani's Restaurant, in honour of its retiring President, Mr. J. E. A. O'Connell.

Approximately fifty players, both past and present, met in the Hospital Library for Sherry beforehand. After an excellent dinner, Dr. N. C. Oswald, the recently elected President, proposed a toast to the Club. In his speech he mentioned his experiences while playing for the Past against the Present, and the gravitational problems of fielding at fine leg at Chislehurst. A. C. Warr, the Captain, replied on behalf of the Club. He mentioned in particular his pleasure in seeing both Mr. White, the groundsman, and Mr. Dear, the Club umpire, present at the dinner.

Mr. W. R. Capper proposed a toast to Mr. O'Connell. He praised Mr. O'Connell, not only for his invaluable work for the Club as President in the last fifteen years, but also as a playing member while a student at Bart's. Mr. Capper was a contemporary of Mr. O'Connell's, and had the privilege of giving him his Cricket Colours. Mr. O'Connell, in reply, gave a short history of the Club from the time it was mentioned in the first *Journal* ever published in the 1890's. Dr. W. G. Grace is probably the most famous of all the past members of the Club.

The evening was brought to a very successful conclusion at " The Three Compasses."

Book Reviews

THE CRANIAL NERVES by A. Brodel. **Published by Blackwell, Oxford, 1959.** Crown 8vo. 141 pp., 25 figs. Price 15/-.

Any small monograph treating of cranial nerve anatomy must inevitably recall old wine in new bottles, since both the topography and much regarding the deep connections of these nerves has for so long been sufficiently well established. The present volume, however, justifies itself by the liberal inclusion of relevant clinical considerations and by its incorporation (in smaller print) of the fruits of the most recent neurological research. Thereby structure is so carefully linked with function and dysfunction as to assume its true and proper dignity. The clear and authoritative text will, therefore, make immediate appeal to anatomists, physiologists and students of medicine, whether undergraduate or post graduate. It must prove a valuable aid to those in process of gaining acquaintance with the most difficult aspect of neurology and of convenient assistance to those for whom revision may become necessary. The text is clear, attractively written and dependable. The diagrams provided are generally plain and helpful : from the nature of the case some of these cannot be other than traditional, despite the implications of their accompanying legends (e.g. Figs. 6, 11, 13) ; and by an unfortunate slip in Fig. 7 the hypoglossal nerve is depicted as innervating the geniohyoid muscle.

The printing is excellent : the employment of smaller type for research information maintains a sense of proportion : the neurological references given, though biased somewhat towards the Scandinavian literature, are sufficiently catholic to satisfy the most critical. The price is remarkably low, bringing this commendable little volume within the reach of all. It may be unreservedly recommended to all who would be familiar with the *nova et vetera* of cranial nerve anatomy, whether descriptive or applied.

A. J. E. Cave.

CLINICAL CHEMICAL PATHOLOGY by C. H. Gray, D.Sc., M.D., F.R.C.P., M.R.C.S., F.R.I.C. Second edition. **Published by Edward Arnold, 1959.** 160 pp. Price 14/-.

This well-known little book, which fits so conveniently into the students' stethoscope pocket, has now been brought up to date and revised by Professor Gray. It is a personal, as opposed to an inclusive, book, in which the author, from his experience, dwells on those topics which are fundamental to the subject, but which the student finds difficult to understand. The first third of the book is devoted to kidney function and fluid and electrolyte balance, in which modern theory and nomenclature are exclusively employed, viz. azotaemia instead of uraemia, and " fixed base " is only occasionally mentioned, and is then placed in inverted commas. Liver function, diabetes and calcium and phosphorus balance are also clearly discussed, although the diagrams in the latter chapter are not very helpful. The explanation of endocrine function and its tests is so brief that it would only be of value in a final revision. At the end of the book is a useful account of the routine testing of urine and faeces, including the use of recently introduced proprietary reagents, which, however, have not replaced the classical methods for examination purposes.

J.C.C.

OUTLINE OF HISTOLOGY by M. M. Hoskins and G. Bevelander. Fourth edition. **Published by Henry Kimpton.** Price 36s.

This is a book full of pleasant surprises, not the least of which is the price ! American books are usually expensive, yet here we have 332 pages of text and illustrations at a very competitive cost. Nor is the book lacking in that freshness and punch which characterises American publications. The economies seem to have been effected in the printing and binding, for this is a " paper-back " textbook and the printing, which is very attractive and a model of clarity, appears to have been done with an electric typewriter !

The chief merit of the book lies in its illustrations, of which there are 175. Gone are the peculiarly uninformative black and white photo-micrographs of the conventional histology book, and instead we are presented with a series of drawings of a quality to which we all aspire but few of us have the ability to imitate. However, in order that the student may make his own notes and drawings, a liberal supply of blank pages is included in the book. This is, then, the ideal companion to the microscope, providing a competent guide to what you see and space to record your observations.

The text is clear and to the point. The fundamentals of histology are briefly set out without long discussions of physiology such as are found in certain other books. One third of the volume is devoted to the embryology and histology of the face, jaws and teeth, and this should endear the book to dental students.

This is an ideal book to have beside you in the laboratory.

A POCKET MEDICINE by G. E. Beaumont. Fourth edition. **Published by J. and A. Churchill Ltd.** Price 12s. 6d.

" In this work, when it shall be found that much is omitted, let it not be forgotten that much likewise is performed . . . " *Johnson.*

One of the aims of Dr. Beaumont's book is that of an introduction to Medicine and a hasty review for finals. In this he generally succeeds, although in reading one must remember the admonition he quotes above. Obviously there is little scope for pathology in a book of this sort, and hence one must either be familiar with it already or be prepared to explore it in relation to the particular disease under study.

There does not appear to be rhyme or reason in his classification other than that of the system, but as the index is reasonably comprehensive, this does not matter provided that one realises that the order in which the diseases are described bears no relation to their incidence. One of the better features of the book is that of the treatment prescribed, although some of these are definitely out of date (bromides for epilepsy), in spite of revision for this edition. On the whole, the information is adequate and well presented, but I do not feel that this book would fulfil Dr. Beaumont's hopes for its use to General Practitioners or Service M.O.'s—if they were not familiar with a particular case, they would fine more comprehensive information and treatment elsewhere. But for those students who so often find themselves at the mercy of British Railways or hastily require to refresh their memories, " A Pocket Medicine " may well fulfil their needs.

J.C.S.

A HISTORY OF BIOLOGY by Charles Singer. **Published by Albelard-Schumann.** Third and revised edition. Pp. 580+xxxvi. Price 50/-.

This is a new and revised edition of a deservedly popular history of biology from classical history to the beginning of the century. It comprises three sections, the first dealing with classical and medieval biology, the second with the development of the cornerstones of modern biology, the scientific method, classification, the comparative method and evolution, and the third discusses some important problems of modern biology, the cell, the nervous system, embryology and heredity.

Short histories of a subject are usually disappointing with space at a premium the author can be neither discursive nor critical, and is compelled to present his material in terse and, often, uninteresting fashion. Dr. Singer's book escapes all these criticisms ; by concentrating on essentials he has managed to produce a well-balanced and suitably critical review of biological thought. The book is interspersed with well-chosen passages and illustrations from original sources, and whilst it is realised that lack of space has prevented more liberal use of such material, the inclusion of a bibliography and guide to further reading would be a welcome addition.

The production and layout are good, and this book can be warmly recommended to all interested in biology or the wider aspects of medicine, but (especially to 1st M.B. candidates who are meeting biology for the first time, for it will give them an excellent perspective of the subject.

G.L.S.

BOOKS RECEIVED

Notes on Injections for Nurses, by T. H. White, M.B., Ch.B., D.T., M. and H. Published by John Wright & Sons Ltd. Price 2/6d.

Aids to Bacteriology for Nurses, by E. Jean Bocock, S.R.N., S.C.M., D.N.(Lond.) and Katherine F. Armstrong, S.R.N., S.C.M., D.N.(Lond.). Published by Baillière, Tindall and Cox Ltd. Price 10/6d.

General Anaesthesia (2 vols.), by Frankis T. Evans and T. Cecil Gray. Published by Butterworths. Price £7 7s. 0d.

Surgical Note Taking by Saint and Louw. Published by H. K. Lewis. Price 12s. 6d.

Biochemical Values in Clinical Medicine by R. D. Eastham. Published by J. Wright and Sons. Price 15s.

Aetiology and Arrest of Pre-eclamptic Toxaemia by K. D. Satzmann. Published by H. K. Lewis. Price 10s. 6d.

Outline on Orthopaedics by J. C. Adams. Published by Livingstone. Price 35s.

Practical Procedures in Clinical Medicine by R. I. S. Baylis. Published by Churchill.

A Short History of Nursing by W. R. Bett. Published by Faber. Price 12s. 6d.

Practical Electrotherapy for Physiotherapists by B. Savage. Published by Faber. Price 30s.

Contraceptive Technique by Helena Wright. Published by Churchill.

Acknowledgement in this column does not preclude a review.

Recent Papers by Bart's Men

continued from January issue

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*REESE, A. J. M. (and others). The absorption of surgical catcut. *Brit. J. Surg.*, 46, May, 1959, pp. 638-642.

*RENBOURN, E. T. A contribution to the physiology of damp cold, an aspect of temperate climate. *Int. J. Bioclim. Biometeor.*, 3, Section A, July 10, 1959.

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SARMA, Vishnu. The urinary organs of the foetus as a cause for labour dystocia. *Brit. J. clin. Pract.*, 13, Oct., 1959, pp. 707-710.

———— (and Nemiraia, N.). Sacro-coccygeal teratoma of the foetus with special emphasis on prenatal diagnosis by radiology. *Brit. J. clin. Pract.*, 13, Sept., 1959, pp. 628-633.

SCOTT, R. Bodley. Blood diseases. *Med. Annual*, 1959, pp. 137-148.

SCOWEN, E. F., *see* CRAWHALL, J. C. and others.

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————, and others. Nasal staphylococci and sepsis in hospital patients. *Brit. med. J.*, Oct. 10, 1959, pp. 658-662.

SIMON, George. Radio-diagnosis. *Med. Annual*, 1959, pp. 418-420.

SPENCER, A. G. Recent advances in the treatment of renal disease. *Postgrad. med. J.*, 35, Nov., 1959, pp. 612-619.

SWAIN, R. H. A. The nature of the Newcastle Agglutinin in infectious mononucleosis and infective hepatitis. *J. Path. Bact.*, 78, 1959, pp. 67-80.

TAYLOR, G. W., *see* SHOOTER, R. A., and others.

TAYLOR, M. G., *see* McDONALD, D. A., and ————.

THORNE, Napier A. (with others). Dermabrasion; an appraisal. *Brit. J. Derm.*, 71, Nov., 1959, pp. 371-378.

WATTS, R. W. E., see CRAWHALL, J. C., and others.

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———— (and Williams, P. L.). Size relationships in teased nerve fibres. *J. Anat.*, 93, Oct., 1959, p. 560.

———— (and Williams, P. L.). Some effects of myelinated nerve fibres. *J. Anat.*, 93, Oct., 1959, p. 560.

WICKES, Ian G. Psychosomatic disorders in childhood. *Med. Press* 242, Nov. 25, 1959, pp. 457-460.

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EDITORIAL

Parkinson's Law states that work expands to fill the time available for its completion ; that is to say, if you have all afternoon in which to write two postcards, then it will take you all afternoon to write them ! The corollary of Parkinson's Law is a much older observation of human nature, namely that it is always the people with most to do who seem able to fit in something more.

People may well wonder how it is that a busy surgeon is able to find enough time to undertake the office of Dean of a Medical College, especially one that has a full programme of rebuilding and expansion. Nevertheless, our Dean has found time to undertake yet one more task, namely the " open days " to be held on June 10th and 11th.

The afternoon of June 10th is intended as an " open day " for the parents of preclinical students only (this restriction being based purely on the number of people for whom the administration can cater) and on June 11th, old Bart's students are invited to return to look over the hospital and to attend a series of clinical demonstrations. The number of persons who can attend the demonstrations is limited, and early application is advised.

These two " open days " have involved a lot of extra work for the Dean and his staff, and it is to be hoped that they will be well supported so that they achieve the success which they deserve.

While still on the subject of Parkinson's Law, people have been heard of late to make two diverse complaints which nevertheless spring from a common cause. Some have found parts of the clinical course dull as their time is not fully occupied, others have grumbled that certain specialist aspects of medicine and surgery are not catered for in the organisation of the clinical course. These people must have been allowing trivia to completely fill the time available for their completion, if they have not seen that the remedy lies in their own hands.

The Dean has recently called attention to the fact that ward rounds are open to all students in the hospital and not restricted to members of the firm. Furthermore, most of the specialised out-patient clinics are prepared to undertake teaching and students should make their own arrangements with the chiefs concerned. In future, any aspiring cardiologists, urologists or endocrinologists should make their own arrangements and not wait to be spoon fed. The facilities are there.

It seems a pity that there is no organised system of intelligence whereby the students of this hospital might learn from their colleagues elsewhere who are the outstanding teachers in the other London hospitals. We are fortunate in having a high proportion of excellent teachers and lecturers on the staff of this hospital, yet contact with outside ideas

and other men of outstanding ability is always stimulating, and we would surely benefit from occasional visits to other hospitals in the same way as their students would benefit from visits to us. Such student enterprises seem to have been fairly common in pre-war days, and if such activities are no longer considered desirable from the official point of view, perhaps an official exchange of lecturers could be arranged.

New Treasurer

We would like to extend a hearty welcome to Mr. M. W. Perrin, the new Treasurer of the Hospital, who succeeds Sir George Aylwen. Sir George, who has held the position since 1937, was formerly a most distinguished figure in the City, and was Lord Mayor of London for the year 1948-49; he is, in addition, President of the Medical College and a member of the Management Committee of King Edward's Hospital Fund for London.

Mr. Perrin, who is fifty-five, is the Chairman of the Wellcome Foundation Ltd., and of the Postgraduate Institute of Cardiology. Educated at Winchester and New College, Oxford, he has studied also in Toronto and Amsterdam. Mr. Perrin was Deputy Controller of Atomic Energy (Technical Policy) at the Ministry of Supply from 1946-51, and Research Adviser to I.C.I. 1951-52. We wish him a successful tenure of office.

Dr. M. J. Blunt

The good wishes of the Medical College will go with Dr. M. J. Blunt on his appointment to the foundation Chair of Anatomy in the University of New South Wales.

Dr. Blunt came to Bart's in October 1955, from the Royal Free Hospital, bringing with him interests in the blood supply of nerves, and women's hockey. He has been a most valued teacher, colleague and prandial connoiseur, and will be greatly missed from the Anatomy Department. Before leaving, he was initiated into the superior habit of snuff-taking, and this will serve to refresh his memory of Charterhouse.

The University of New South Wales received its charter in 1958, and has Faculties of Science and Technology already in existence. The Faculty of Medicine is about to be established, and Dr. Blunt will have the exciting task of planning and supervising the erection of its Anatomy Department, in which task his natural gifts of organisation will have full scope.

C.J.P.

It was with great regret that on March 5th we said goodbye to Dr. Blunt. On March 20th, Dr. Blunt sailed for Australia to take up his new appointment and with his departure the Hockey Club loses one of its most keen and loyal supporters. For four years Dr. Blunt has followed our fortunes with interest and, together with Mrs. Blunt and their daughter Jackie, has cheered us from the sideline many, many times. All present members of the Club and very many past members will wish to join me in thanking them for their kindness and enthusiasm, and to wish them every success and happiness in their new life in Australia.

E.K.

News in Brief

Mr. G. W. Taylor has been appointed to the University of London Chair of Surgery tenable at the Medical College of St. Bartholomew's Hospital.

Mr. C. Naunton Morgan was made a Honorary Fellow of the American College of Surgeons at their annual meeting in Atlantic City.

Mr. D. A. Macfarlane, M.Ch., F.R.C.S., Surgical Tutor and Casualty Surgeon, has been appointed Consultant Surgeon to the Chelsea Group of Hospitals.

Mr. R. S. J. Clarke, M.D., M.B., B.Ch., B.A.O., B.Sc., has been appointed Lecturer in Physiology and Tutor in Anaesthetics.

Dr. D. W. Gould, B.Sc., M.R.C.S., L.R.C.P., D.T.M.H., has been appointed Lecturer in Physiology.

Dr. R. E. Watts was successful in the University of London examination for the degree of M.D. held in February.

The Sailing Club Regatta will be held at Burnham-on-Crouch from May 18th to 20th. All are welcome to attend.

In the March issue of the *Practitioner*, Dr. A. W. Spence writes on the "Endocrinological Problems of Adolescence." Dr. C. Nicol contributes a paper on "Homosexuality and Venereal Disease" to the same issue.

Dr. G. Simon addressed the North-Western Thoracic Society on March 10th on the subject, "Radiological Changes in Heart Disease."

The following lectures were given by Bart's men at the Royal College of Surgeons during the month of March :—

Thursday, 3rd, 5.30 p.m. Dr. R. B. MacKenna : The dermatological aspect of certain of the diseases of the mouth and ear (Otolaryngology lecture).

Thursday, 24th, 5 p.m. Dr. A. G. Stansfeld : Necrotising arteritis (Erasmus Wilson Demonstration).

Wednesday, 30th, 5 p.m. Prof. J. P. Griffiths : The dissemination of cancer cells during operative procedures (Hunterian Lecture).

Antibiotics

Professor Garrod has recently published a report of some work with a new oral penicillin, the potassium salt of 6-(alpha-phenoxypropionamido) penicillanic acid. This has been marketed under the name "broxil." The activity of this penicillin against penicillin-resistant staphylococci in a form of test which measures resistance to penicillinase shows that it is generally more effective than both penicillin V and G.

The latest issue of the *British Medical Bulletin*, "Antibiotics in Medicine." is edited by Professor Garrod. Now that there is such a wide choice of antibiotics available, great care is needed in their use if the formation of resistant strains is to be minimised. Some advice given by Professor Garrod and Dr. Scowen in the *Bulletin* is that :—"Each case must be judged on its merits, but if these are deliberately assessed, and if treatment has an explicit rational basis, really indiscriminate use will thereby be excluded."

Abernethian Society

The Abernethian Society hooked a large and topical fish on March 3rd when Mr. A. Dickson Wright, of St. Mary's Hospital, came to proclaim his policy of "Keeping the Patient in Ignorance." The case was presented at length, and with admirable skill, and a wealth of corroborative case histories. Hypertension and cancer were put on the secret list, with reasons for their choice. Tales of heroism and suicide were successively recounted to illustrate the disastrous taste of the apple of knowledge in the welfare Garden of Eden. Once his patients had eaten of it, Mr. Dickson Wright found it beyond his power to help them.

At the beginning rows of ethical gentlemen sat hatchet-faced and eager for the blood sport of question time, but before the end their stamina was exhausted. The clock (obvious only to the audience, unlike that in the clinical lecture theatre) called to dinner. The questions were emasculated and the answers authoritative. Tray in hand in the dinner queue, we knew that our fish had got away, line and all.

D.G-M.

Dr. C. H. Andrewes, Deputy Director of the National Institute of Medical Research, spoke to the society on March 17th. Because Dr. Andrewes was once a President of the Abernethian Society, and in view of the recent progress which had been made in the study of colds and influenza, this was a particularly interesting meeting.

He started his talk by describing the early work which was done on the transmission of influenza. The ferret was found to be a very important animal in the experiments and was particularly susceptible to influenza. The study of cross infection and immunity was made very difficult because of the marked "antigenic drift" which the influenza virus exhibits. The technique of innoculating eggs with the virus has helped work greatly and it should be possible in theory now to predict the spread of an epidemic and check its advance by innoculation.

The common cold has many features which make it as difficult to study as influenza. In addition to the difficulty of transmitting the virus and clinically estimating whether the subject has a cold, there is still the great difficulty of growing it. Recent work has led to a method by which

the virus can now be grown successfully in human embryonic tissue. First lung was used and now kidney seems to be the tissue of choice. Perhaps this is because kidney grows epithelial tissue so readily.

Dr. Andrewes made one or two speculations about the outcome of the present work. Certainly a very important step has now been made by the new culture techniques. However before we start to think of producing anything like a live attenuated strain for a vaccine there is a lot of work to be done in the study of the natural history of the disease and in starting a reference laboratory of the different viruses which are continually being found.

Film Society

On Monday, April 25th, the Film Society is showing "Strange Incident" with "His Marriage Wow" and "Persian Story."

"Strange Incident," a Western, starring Henry Fonda, was originally entitled "The Oxbow Incident" in the U.S.A. It was refused general release by the major distributors in this country after the war, because in its novel and intelligent use of shadows and arrangement, it had pulled too far ahead of the mass audience, in the same way as "Citizen Kane." The film is a devastating portrayal of mob hysteria, culminating in a lawless lynching.

"Persian Story" is a BP film about the development of Persia's natural wealth; and "His Marriage Wow" is a Harry Langdon comedy ending with the inevitable car chase.

As regular members will know, the quality of the sound has been considerably improved.

A.P.

The Christian Union

There have been two open meetings this term, and it was good to have such a large attendance, particularly at the first, on Tuesday, January 26th, when Lieut.-Gen. Sir Arthur Smith, K.C.B., K.B.E., D.S.O., spoke on "A Purpose in Life." From his own experience he showed clearly how a personal relationship with Christ gave him a real purpose in life.

On Tuesday, March 8th, Mr. Morgan Williams, F.R.C.S., gave a most thought-provoking address on the "Reality of Christianity." After pointing out that there are hypocrites in every sincere body of people or group of society, he went on to discuss the reality of true Christianity. He showed that there is factual evidence for the truth of the Bible, and quoted a barrister who studied in an attempt to disprove the Resurrection of Christ, and was ultimately convinced of its truth. He then pointed out the practical influence of Christianity through the ages; and the experience of men of God, such as George Muller, who ran an orphanage in Bristol for 2,000 children. He never issued an appeal, but every need was met, for he prayed earnestly over his requirements, and then trusted that God would answer. For example, on occasions Bristol merchants felt compelled, on waking during the night, to arise, load a carriage with food and then to take it to the home, in order that the children might have food for breakfast. Thus did Muller show the practical reality and power of prayer.

Mr. Williams then closed by telling of his own experience of Christianity and suggesting that we find out and test its reality for ourselves.

Students' Union Council

At a meeting held on March 9th it was decided to allow the sale of *Sennet* within the Medical College. The Council agreed that there was no point in discriminating against *Sennet*, and as there are people prepared to distribute this paper, its sale will be permitted in the future.

The Film Society applied for official backing from the Students' Union for the making of a film of student activities at the Hospital. The film would be of 30-40 minutes' duration and would be suitable for showing to freshmen. The council approved the scheme in principle but, before promising financial support, asked the Film Society to go ahead with a pilot scheme, a ten minute film, showing Saturday afternoon activities.

The Council approved the official formation of a Ladies' Squash Club.

Bart's-Cambridge Club

The annual dinner of the Bart's-Cambridge Club was held at the Connaught Rooms on Friday, March 25th, with Dr. Brewer in the Chair. An excellent dinner was served, which prepared the way for the speeches which followed. Of these, probably the most illuminating was Dr. Abercrombie's speech proposing the health of the Chairman! It was a pity that more junior members of the hospital did not avail themselves of the subsidy offered, as this was a most successful occasion, for which our thanks are due to the two Secretaries.

Dr. R. A. Shooter would be glad if all members of the Club would keep him notified of their various changes of address. His records are most lacking in this respect for members who are in their first five years after leaving the hospital.

Twelfth Decennial Club (1925-1935)

The Annual Dinner of the Twelfth Decennial Club is to be held at the Naval and Military Club, 94 Piccadilly, W.1, on Friday, May 13th. Chairman, Dr. Kenneth Latter.

Will any member who does not receive notification, or any eligible non-member who would like to attend the Dinner, please get in touch with W. D. Coltart at 58 Harley House, N.W.1.

Wessex Rahere Club

The Spring Dinner of the above Club will take place at the White Hart Hotel, Salisbury, on Saturday, April 30th. It is hoped that, as usual, a member of the Staff will be present as Guest of Honour. Membership of the club is open to all Bart's men practising in the West Country. Further details will be circulated to members and to any other Bart's men who are interested and who will get in touch with the Hon. Secretary, Mr. A. Daunt Bateman, 11 The Circus, Bath.

Infant Feeding

On March 8th, the firm of Trufood Ltd. gave a press preview of their new film, "Tailored for Timothy" at the British Council Cinema. Designed for showing to pupil midwives, mothercraft classes and antenatal clinics, this well made film, which runs for about thirty-five minutes, sets out to reassure the mother who is unable to breast feed her baby. It shows how cow's milk can be specially prepared (mainly by the removal of indigestible protein and the addition of vitamins) to provide a satisfactory substitute for mother's milk. The audience is shown factory shots of this work in progress at the Trufood Creamery, and the techniques of bottle feeding are well illustrated.

The film has been made in close association with the Royal College of Midwives and the staff of St. Thomas's Hospital, where many of the live sequences were filmed. The film is available free to those interested, and copies may be ordered either from Trufood Ltd., at 113 Newington Causeway, S.E.1, or through the Company's representatives.

Film Festival

The first British Medical Film Festival will be held in London on July 5th to 7th inclusive. It is intended that the Festival, which is organised by the *British Journal of Clinical Practice*, shall become an annual event at which practising, teaching, nursing and student members of the profession will have the opportunity to see some of the best of the many fine medical films made in this country.

Fifteen films will be shown at the Festival, covering general medicine (including paediatrics), surgery (general and specialised), and obstetrics and gaenecology. The films will be judged by a panel appointed by the Editorial Board of the *British Journal of Clinical Practice*, and all films shown at the Festival will be awarded a Medal of Merit.

Further details, including the conditions of entry of films, can be obtained from the B.J.C.P. Offices at 171 New Bond Street, London, W.1.

Miss E. Knight, captain of the victorious Ladies' Hockey Team, is chaired from the field after the Cup Final

Building at Charterhouse

The University Grants' Commission and the University of London have approved the erection of the Library block on the site of the old Great Hall at Charterhouse. The hiatus due to the lack of £26,000 ready cash (mentioned in the Dean's report—January issue of the *Journal*) has been closed, and it is hoped that work will be started on the site this year. The cost of the building will, however, absorb the whole of the Medical College's reserves, and it is hoped to raise at least £25,000 by private subscription to cover the cost of the Library itself. A Research and Development Fund has been opened to enable the College to rebuild its Endowment Fund and plan for future extensions.

Cleaning of Hogarth Murals

Work has been in progress since the beginning of February on the cleaning and restoration of the Hogarth paintings on the Grand Staircase leading to the Great Hall. These pictures were painted by Hogarth (1697-1764) in memory of his birth near the Hospital.

Mr. Freeman, of Albermarle Street, and his assistant, Mr. Ellison, have removed all the old varnish and have thoroughly cleaned the pictures. In the course of their work they have removed some sepia over-painting which they think must have been added by restorers in the last century who did not fully appreciate the meaning of the pictures. As a result of this, the grisailles (monochrome paintings below the main subjects showing Rahere's dream, the foundation of the hospital and a patient on a stretcher being received in the cloisters) are now seen in their true colour.

The restorers are now revarnishing the pictures and touching up areas of minor damage, joins in the canvas and places where previous over cleaning, when the paint was newer and cleaning techniques less refined, have left the image rather thin.

During the cleaning process the restorers have found evidence that Hogarth changed the design of his murals even while he was working on them ; for example, the leg of a cherub has been discovered appearing from behind a tree. Such over-painted remnants of earlier design are known as pentimentos.

These unique canvases are in fine condition, having escaped any major damage and, as Mr. Ellison pointed out, there is no evidence of cupping of the paint or stretcher marks. The brushwork is of a high standard and compares well with Hogarth's easel paintings.

It is to be hoped that after all the hard work which has been expended on these paintings, a consultant electrician will be called in to arrange for their proper illumination.

Renovations

On Monday, March 7th, workmen started the systematic removal of furniture and fittings from the Pathology Classroom and the adjoining lecture theatre. Both are to undergo a complete refit. The lecture theatre will contain an increased number of seats of a more modern and comfortable design and the classroom is to be laid out on one level only with the benches facing the doors leading into the Pathology Department. It is expected that the work will be completed by November and, in the meantime, practical classes are being held in the museum.

The design of the old Classroom, with its close resemblance to a court of law, is attributed to the late Sir Bernard Spilsbury, the eminent pathologist.

Sir Bernard Spilsbury was born in 1877 in the town of Leamington, where his father, James, had a prosperous wholesale pharmaceutical business. During his youth he was subject to the marked Non-Conformist influences which prevailed in the Midlands —influences, which though narrow in their outlook, produced great men such as Lister, Kelvin and Crookes. It may have been these influences which helped to form his attitude towards criminal abortion and led to his vigorous investigation of such cases.

James Spilsbury was a restless man, moving about the country as the interests of his business dictated, and Bernard was sent to Leamington School, University College School, Manchester Grammar School and Owen's College, successively.

With general practice in view, Bernard was sent to Magdalen College, Oxford (where he had rooms overlooking the Deer Park), to do his preclinical work. On coming down from Oxford he went to St. Mary's Hospital where he met Drs. A. P. Luff, W. Willcox and A. J. Pepper—at that time, probably the three most eminent forensic patholists in the country. Under their tutelage his bent for pathology and interest in medico-legal work rapidly developed. Indeed, his profound interest in morbid anatomy caused him to devote so much time to that subject that he delayed qualification, and it was not until 1904 that he gained M.R.C.S., L.R.C.P. He did his first post mortem in January, 1905, and within two years of qualifying was giving evidence in ten London Coroner's Courts.

The Crippen case in 1910 was the first of many in which he was to play a leading role, and in which he was to become known to the public, in Lord Darling's words, as " that incomparable witness." The long list of his cases is the history of crime between 1910 and the Second World War, and includes, apart from the Crippen trial, the Seddon case, the Brides in the Bath and the Armstrong case.

In November, 1920, a quarrel with a colleague led to his resignation from the staff of St. Mary's Hospital and, later in the year, he came to Bart's as Lecturer in Morbid Anatomy. Here he was as busy as ever, and was soon working more than twelve hours a day. He gave three morbid anatomy lectures a week as well as a special course in forensic medicine, and his morbid anatomy demonstrations were always popular. In July, 1923, at the St. Bartholomew's Fair, he was photographed in an undignified position for the first and probably the only time in his life, for having been waylaid by a group of students, he was clapped in the stocks, where Lady Spilsbury found him some time later !*

Sir Bernard suffered a stroke in 1940, and from that time his health slowly and almost unperceptibly declined until his death in 1947.

" . . . it has been said, he raised the giving of professional evidence from a suspect and controversial status to an honourable and exact plane."*

* Bernard Spilsbury : His Life and Cases. D. G. Browne and E. V. Tullet. Harrap.

Fifty Years Ago

At the time of the Franco-Prussian war we are told by Henry Rundle, F.R.C.S., how ' a great wave of excitement and concern swept over England, followed by an outburst of sympathy.' In his article he tells of how a medical expedition went out from England to help the sick and wounded of both sides. This mission, he recalls, started by an appeal to *The Times* and led to the formation of the Red Cross Society.

' Our neighbours were on the eve of a fight of gigantic magnitude, and as the fumes and aftermath of our recent experience of war still lingered with us, we knew only too well the hardships and perils of the strife upon which our neighbours were embarking. A letter appeared in *The Times* of July 22nd from Col. Lloyd Lindsay (afterwards Lord Wantage), asking for aid for the sick and wounded in their hour of need, and a public meeting was held in Willis's rooms on August 4th in support of this object.

It is difficult to say how much of the inevitable horrors and misery of the war were mitigated by the humanity and generosity of Col. Lloyd Lindsay. The Red Cross Society, which owes its existence to him, is a permanent memorial to the nobility and goodness of his life and a confirmation of the belief :—

" . . . that somehow good
Will be the final goal of ill."

An office of the society was opened at 2, St. Martin's Place.' It was evidently not long before the organisation began its work, for ' The *Pall Mall Gazette* of August 11th, 1820, contained the following paragraph : " The Committee of the Society for aiding the sick and wounded in the French and Prussian Armies, after communicating with the committees formed in Paris and Berlin, and learning from them in what manner the most effectual assistance could be given, have sent out six surgeons to the seat of war, who will work under the Red Cross Society, and receive their instructions from the president at Berlin and at Paris. The Society will defray the expenses of these gentlemen, but their services will be in other respects gratuitous. The Society has also sent £500 to Paris and a similar sum to Berlin."

We all crossed the Channel together, and my readers can imagine the hopes and fears, the plans and ambitions that filled our minds on such a journey. We were all eager to get to the front, impatient to know what the future held in store for us. It was a crossing from the routine of things familiar into the darkness of the unknown. Everything seemed vague and adventurous, except the fact that there would be work to be done, and plenty of it, and each of us was determined to do our utmost for the honour of our country, our profession and those who had chosen us.

On the day after our arrival in Berlin the Crown Princess of Prussia very graciously received us . . . even the Royal Palace at

Potsdam had been placed at the disposal of the authorities for the storage of articles for the use of the sick.

Before we could begin active service we had to obtain from the military authorities our war passport, or " Legitimations Schein," and badges bearing the distinctive symbol of the red cross. Once in possession of these we were free to join the army before Metz.

Many churches in the district had been utilised for the reception of the wounded. There was urgent need of a reserve hospital and the Hessian War officers placed at our disposal a drill ground on the outskirts of the town. Four large well equipped pavilions were erected. Provision was made for 120 beds, which were ultimately increased to 250. In this hospital 926 sick or wounded soldiers were treated. Many of them were cases of enteric and dysentry, but we saw and did much good surgical work.

This, the only hospital in Germany under British management, was founded under the auspices of the Princess Louise of Hesse-Darmstadt (Princess Alice of England), and was known as Alice Hospital.'

World Refugee Year

As this is World Refugee Year, the Students' Union has decided to support the University Carnival. A most successful collection of jumble has already been made and our beer drinking team reached the final of the contest (see below). More events are to take place in the near future, culminating in a Fête on May 14th, details of which will be posted later. The Carnival procession will be the climax of the festivities, and it is hoped that the Hospital will enter a float on the theme " A Penny for Them." Offers of assistance or ideas for this would be of greatest value, and anybody interested should contact the Publicity Officer (J. U. Watson).

The collection organised by the B.M.S.A. representative has so far realised £70.

Beer Drinking Contest

With the third best time in the eliminating round, Bart's entered the final confident that time spent in practice would be rewarded ! Unhappily it was not the team's good night, and their time of 88.1 seconds (three pints per man) was twenty seconds slower than the Guy's team, who carried off the very handsome pin of ale provided by Messrs. Courage and Barclay. In the reeking atmosphere of the New Merlin Cave the performance of the immaculately attired Guy's men had to be seen to be believed, and they are to be congratulated on upholding the honour of the profession against all comers.

The Bart's times were as follows :—

R. Bergel, 18.5 seconds
C. Burke, 18.4 seconds
C. Craggs, 22.8 seconds
M. Ernst, 28.4 seconds

Times are for three individually timed pints.

Symposium on Rheumatic Diseases

It appears that the word " Rheumatism " was coined in the reign of Queen Elizabeth I, but until some twenty-five years ago little work was done in this field. No adequate classification of the various syndromes which come under the heading " rheumatism " was attempted and consequently little science could be applied to the subject.

Just before the last war, the Royal College of Physicians evolved a scheme of nomenclature which forms the basis of the clinical terminology which is used today. " Once clinicians were able to differentiate the various types of rheumatism and diagnose them on the basis of a common nomenclature, research became possible."*

In 1936, the late Lord Horder founded the Empire Rheumatism Council to promote interest in the rheumatic diseases among doctors and lay-people alike. The Council also aimed to give financial support to research in this field, and to help in improving methods and facilities for treatment. Amongst other achievements the Council has now established two professorial chairs, endowed research work by its Fellows in eight British universities and has been able to finance a number of Travelling Fellowships.

The present symposium illustrates well how far our ideas on the aetiology and treatment of rheumatic disease have advanced in recent years, and we would like to thank contributors for all the hard work they have put into it.

General Practitioners and others who wish to keep abreast of developments in the field of rheumatology might be interested in the excellent series of Reports issued and obtainable from the Empire Rheumatism Council, Faraday House, Charing Cross Road, London, W.C.2.

* Reports on Rheumatic Diseases, No. 1 (January, 1959). Empire Rheumatism Council.

Supplement

In order to help those who have a spare morning or afternoon to know what is going on in the hospital, the centre page pull-out supplement contains lists of ward rounds and out-patient clinics. The Editorial staff and Appointments Bureau have done their best to ensure that these are up to date and accurate. We would, however, like to apologise for any mistakes which have eluded us.

" Charley's Aunt "

" Charley's Aunt " was first produced at the Royalty Theatre, London, in December, 1892. Its original London run lasted for four years. Since then it has been revised on numerous occasions, and has been filmed very successfully. It is an amusing play, and is so constructed as to be an easy production for amateurs to achieve a high standard.

The Dramatic Society has been criticised in the past for lack of originality in its choice of play, yet when they have stepped outside the libraries of " drawing-room comedy " they have been criticised for biting off more than they can chew. Much praise should be given to them for putting on this play in the three weeks which were available for rehearsing, learning of parts (some of which are long) and getting programmes printed and tickets sold. Quite a lot of energy and time was expended to produce the two nights of theatre, which the audience enjoyed at the Cripplegate on February 22nd and 23rd.

Amateur actors often believe that the main object of their society is that they, themselves, should enjoy the production, and yet it is very rarely that the audience is not expected to pay to watch them doing it. In fact, the first principle of amateur and professional theatre alike must be to give the audience their money's worth, even if that calls for a great deal of hard work for the cast and the back-stage staff. Ultimately, the enjoyment of the final product is greatest for audience and cast alike, for in the theatre the maxim that the more one puts into a thing, the more one gets out of it, is most certainly upheld.

In this production the audience, which was made up mainly of personnel of the hospital, thoroughly enjoyed viewing a show in which the cast were so obviously enjoying themselves as well.

All would-be actors should remember that when stage movements and actions are included in the script (and a great many are in this play) then they are usually the movements which were made in the original production and are only to serve as a guide to the action, and must be adapted to the stage and to the individual actors. It is useless for an actor to make a gesture just because it is noted in the script ; he must understand the reason for it, or not make it at all. Too often did we see unnecessary or awkward changes of position spoiling the stage picture. Some of the actors had a nasty habit of fidgeting when someone else was speaking, which is very distracting to the audience. It is easy to ruin another player's best lines by one false gesture at a crucial moment.

David Gibson, as John Chesney, gave an excellent performance ; he has a fine command of the stage and convinced at least one member of the audience that he was the dominant character—which is just what the author wanted.

Brasset—the manservant—was played by Basil Middleton, in a plain, unmoved manner, which well suited the part, and Charley Wikeham, portrayed by Mike Thomas, was rather too awkward in his shyness, and lacked the charm which this part called for, nevertheless, he improved as the evening progressed and he gained confidence.

Lord Fancourt Babberly is a very difficult character to portray. Those who have seen the play will recall that it is he who, dressed as an elderly woman, impersonates Charley's Aunt, in order to provide a chaperone for two young ladies. The problem for the actor is to choose a happy medium between clowning and being over serious. Undoubtedly, this is a frolic and the trend should be towards clowning. Nick Roles managed to select almost the degree required, although there were moments when we witnessed a little too much horse play.

The two young ladies, Kitty Verdun and Amy Spetigue, were played by Janice Swallow and Diane Tobitt, Miss Tobitt suffered a little from inaudibility. Miss Swallow acted and re-acted splendidly in her scene with David Gibson. Love making, even of a Victorian kind, is not the easiest thing to portray on the stage.

John Creightmore—surely Bart's will miss him greatly when he leaves later this year—was Colonel Sir Francis Chesney, and Donald Gau was Stephen Spettigue—the bad tem-

pered, pompous, yet charming solicitor.

Wendy Roles was a high spirited Ela Delahay but made one wonder, on more than one occasion whether she understood the meaning of the words she was speaking, as the intonation of her voice seemed wrong.

The real Charley's Aunt, Donna Lucia D'Alvadorez, from Brazil—" where the nuts come from "—Vanessa Jones, looked every inch the part, and acted extremely well. She held the stage whenever it was necessary, but never intruded when it was not.

The stage staff worked much harder than many believe. Stage management was undertaken by John Newton, properties by Gillian Turner and Judy Darmady looked after the costumes, which were very pleasing, except for Nick Roles' " Aunt " costume, which should have been much smarter—this looked rather like a piece of blackout material left over from the last war. Grateful thanks are due to " Bert " junior for the excellent make-up.

The stage lighting—there was no acknowledgment on the programme—was disappointing. Characters walked from light to shade in at least four different places across the stage. Surely the Cripplegate Theatre is equipped to do better than this ? The play was well produced in a short time by Trevor Robinson. The Dramatic Society must ensure that there is longer to rehearse in future, and properly advertised auditions would be welcome. The choice of future plays is problematic. Other hospitals produce such plays as " The Crucible," but while this is praise-worthy, is it good box-office ? In this day and age when few arts thrive without a subsidy, the Students' Union should be prepared to cover the Dramatic Society's losses. Looking further ahead, let us hope that the Students' Union building in Charterhouse Square will include a properly equipped stage.

C.A.H.

Errata

November, 1959 (Vol. LXIII, No. 11) : Mr. S. H. C. Clarke's new address is 105 The Drive, Hove, 4, Sussex, not 104.

February, 1960 (Vol. LXIV, No. 2) : p. 34, para 4, for Hole read Place.

The Editor regrets any inconvenience caused by these errors.

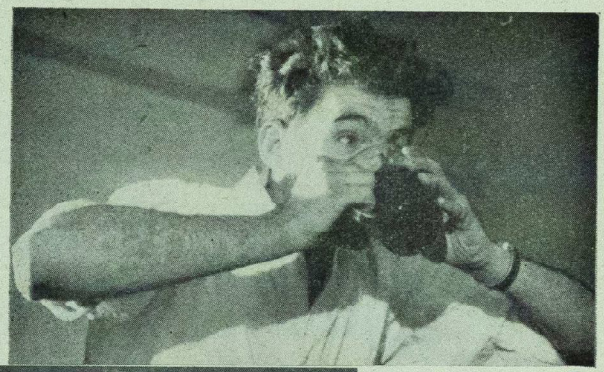
Historical Diagnosis

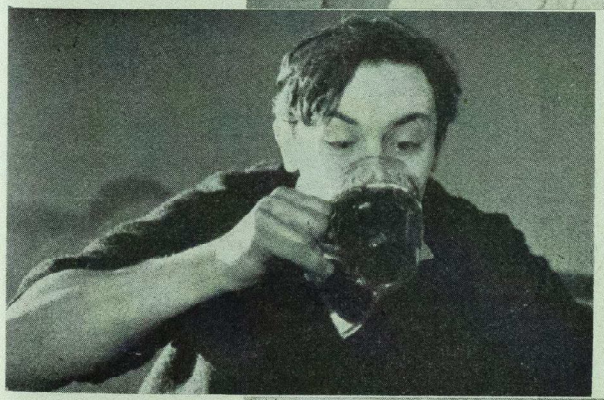
TIMON OF ATHENS IV, III, 152

Timon. Consumptions sow
In hollow bones of man ; strike their sharp shins,
And mar men's spuring. Crack the lawyer's voice,
That he may never more false title plead,
Nor sound his quillets shrilly : hoar the flamen,
That scolds against the quality of flesh,
And not belives himself : down with the nose,
Down with it flat ; take the bridge quite away
Of him that, this particular to forsee,
Smells from the general weal : make curl'd-pate ruffians bald
And let the unscarr'd braggots of the war
Derive some pain from you : plague all,
That your activity may defeat and quell
The source of all erection. There's more gold ;
Do you damn others, and let this damn you,
And ditches grave you all !

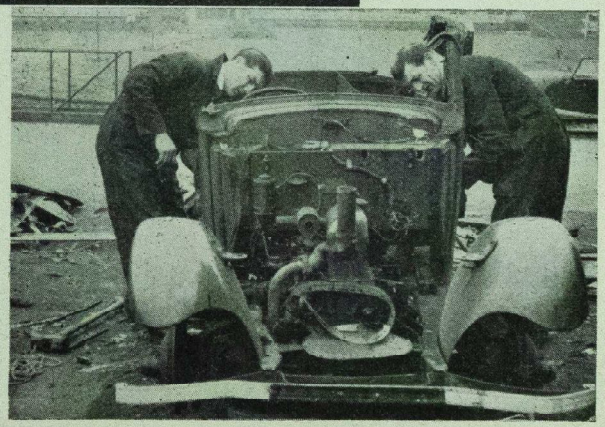
There is no prize for guessing what Shakespeare had in mind !

" *Cheers* "





" *Bottoms up* "



The Medical College pursues a strong line over derelict cars

CALENDAR

APRIL

Sat. 16—On duty : Dr. E. R. Cullinan
Mr. J. P. Hosford
Mr. C. Langton Hewer
Thur. 21 Abernethian Society : Mr. D. M. Jackson, F.R.C.S.
Sat. 23—On duty : Medical and Surgical Units
Mr. G. H. Ellis
Mon. 25—Film Society : *Strange Incident*
Sat. 30—On duty : Dr. R. Bodley Scott
Mr. A. H. Hunt
Mr. F. T. Evans

MAY

Sat. 7—On duty : Dr. A. W. Spence
Mr. C. Naunton Morgan
Mr. R. A. Bowen

Wed. 11—VIEW DAY
Thur. 12—View Day Ball : Quaglino's Ball Room
Sat. 14—On duty : Dr. G. W. Hayward
Mr. A. W. Badenoch
Mr. R. W. Ballantine

Deaths

BARFORD.—On February 23rd, Dr. Percy Crompe Barford, aged 91. Qualified 1895.

CARTWRIGHT.—On March 2nd, Dr. John Fraser Cartwright. Qualified 1940.

DOCKRAY.—On February 21st, Dr. John Dockray. Qualified 1925.

GROVES.—On February 25th, Dr. John Nixon Groves, D.S.O. Qualified 1932.

LEON.—On March 7th, Dr. Kenneth Leon. Qualified 1922.

LONGFORD. On February 10th, Dr. W. U. Desmond Longford. Qualified 1917.

MCINDOE. On April 11th, Sir Archibald McIndoe, C.B.E., aged 59.

RUSSELL.—On February 7th, Dr. Edmund N. Russell. Qualified 1908.

THOMSON.—On February 10th, Dr. David Maitland Thomson, aged 50. Qualified 1933.

ANNOUNCEMENTS

Engagements

SCORER—JEFFREY. The engagement is announced between Dr. Michael John Stephen Scorer and Sarah Helen Poppy Jeffrey.

WELLS—TURTON.—The engagement is announced between Dr. David Paulett Wells and Gillian Hermione Christian Turton.

Marriages

EAST—MERRYFIELD.—On February 12th, Dr. Cecil John East to Eileen Merryfield.

GRAY—INSKIP.—On March 5th, Dr. John Maurice Gray to Janet Fiona Inskip.

Births

DALLAS ROSS.—On February 26th, to Margaret, wife of Dr. W. P. Dallas Ross, a son.

DRAKE.—On March 7th, to Doreen, wife of Dr. Patrick Drake, a daughter.

DURHAM.—On March 6th, to Mabel and Surg.-Commander Peter Durham, R.N., a daughter (Katharine Eve), a sister for Anthony and Jonathan.

FREEMAN.—On February 3rd, to Daphne, wife of Peter Freeman, F.R.C.S., a daughter (Ann Lindsay).

HILL.—On February 12th, to Margaret, wife of Dr. John M. Hill, a daughter.

LEVIN.—On February 11th, to Alice, wife of Dr. Arthur Levin, a daughter, sister to Richard and Diana.

LUMLEY.—On March 3rd, to Fay and Dr. Philip William Lumley, a daughter (Diana Frances).

MCKENZIE.—On February 17th, to Sally, wife of Dr. Alexander McKenzie, a second daughter (Tessa Frances Elizabeth), a sister for Miranda.

MARKER.—On February 18th, to Helen and Dr. Roy Marker, a son (Ian David).

POCOCK.—On February 28th, at the Royal Bucks Hospital, to Angela (*nee* Tresidder), wife of Eric Pocock, M.R.C.V.S., a son (John David William).

STRUTHERS.—On March 7th, to Valerie, wife of Dr. John Struthers, a daughter.

WHEELER.—On February 5th, to Pat and Dr. Barry Wheeler, a son (David Laurence Reid), brother for Jennie and Guy.

The Aetiology of Rheumatic Disease

by L. E. GLYNN M.D. (LOND.)

M.R.C. Rheumatism Research Unit, Taplow

The various diseases loosely grouped together as rheumatic, have but two features in common, they interfere with movement, largely, but not entirely as a result of pain, and their aetiology is unknown. It is not surprising that with so little in common the group includes diseases of most diverse clinical features and probably of equally diverse aetiology. Clearly delimited and aetiologically distinct are rheumatic fever with a fundamental causal relationship to the haemolytic streptococcus, rheumatoid arthritis and disseminated lupus erythematosus probably related to some disturbance of immunological tolerance, gout with its undoubted association with uric acid metabolism and osteoarthritis, a degenerative state normal in old age but accelerated by many factors known and unknown. Other well defined conditions whose aetiology is almost entirely obscure are scleroderma and dermatomyositis. Finally, there are several ill defined conditions lacking not only a known aetiology but also largely devoid of known pathology, e.g. fibrositis, neuritis and lumbago.

The aetiological role of streptococci in rheumatic fever was first suggested by Westphal, Wassermann and Malkoff (1899)[1] when they isolated these organisms from the blood of a patient with rheumatic endocarditis. The following year Poynton and Paine[2] published the results of their extensive study of this disease from which they concluded that the causative organism was a special variety or group of closely allied strains of streptococcus viridans. The evidence collected during the next 30 years, however, failed to substantiate these claims, because the vast majority of blood cultures taken during the febrile stage remained sterile and it proved seldom possible to cultivate any organisms from local lesions taken during life. Further, such organisms as were isolated, although usually streptococcus viridans, failed to produce in experimental animals lesions that could be accepted as those of rheumatic fever.

Between 1931 and 1936 Coburn[3] and his colleagues collected strong epidemiological evidence implicating haemolytic streptococci. They demonstrated, for example, the remarkable frequency with which an infection of the throat by these organisms preceded by 1-5 weeks the clinical onset of rheumatic fever, as well as the frequency with which a relapse followed the recurrence of such a throat infection. These important findings have since been supported by several studies of streptococcal epidemics, notably in army camps in the U.S.A.[4] and in Great Britain[5] during the Second World War.

Further support of the aetiological role of the haemolytic streptococcus came from the study of the level of antibodies to various streptococcal products in the blood of patients with rheumatic fever. The first of these antibodies to receive serious attention was that to streptolysin 0 and Todd (1932)[6] found a rise in titre of this antibody not only in those cases of rheumatic fever known to have been preceded by a haemolytic streptococcal infection of the throat, but in many patients without such a history. Since the immunological response to different streptococcal antigens may differ widely in any one individual, the evidence for a recent streptococcal infection is enhanced by increasing the number of antigens used. Thus the incidence of a raised antistreptolysin 0 titre in acute rheumatic fever is about 80 per cent : a similar percentage show a rise in antistreptokinase, but if both tests are used 95 per cent show a rise of one or other, and if four different antigens are used positive results approach 100 per cent.[7]

Confirmation of the aetiological role of haemolytic streptococci in the genesis of rheumatic fever has been obtained in a practical and convincing manner from the successful use of prophylactic measures directed against these organisms in reducing the incidence of clinical recurrences in a susceptible population, i.e. individuals who have already suffered one or more attacks of the disease.[8] The large scale success of such measures in many countries is at present strong evidence for the streptococcal aetiology of rheumatic fever. Failure to find these organisms within the specific lesions and the

characteristic interval between the throat infection and the appearance of rheumatic fever both suggest that the lesions are not caused by the direct local action of the organisms but are the result of a hypersensitivity to one or more of their products. The clear interval thus represents the time required for hypersensitivity to develop. Rich and Gregory[9] have, moreover, claimed that the cardiac lesions in rabbits that develop as a result of repeated massive injections of foreign serum are virtually identical to those of rheumatic fever. Against this simple hypothesis however must be set the following observations :—Despite the close similarity of the lesions produced by Rich and Gregory to those of rheumatic fever they are nevertheless distinguishable from them. No one has succeeded in producing experimental lesions identical to those of rheumatic fever by injecting streptococcal fractions or products. Although tests in human cases of rheumatic fever for hypersensitivity to various streptococcal products give more positive reactions than normal subjects, many of the test subjects are negative and many controls positive.[10] Finally, it is difficult on this hypothesis to explain why the undoubted relationship of the disease to streptococcal infection does not extend to related micro-organisms.

In recent years there has been a growing realisation that some diseases may be caused by a breakdown in the immunological tolerance of an individual to one or more of his own antigens, and rheumatic fever is one of the diseases which might arise in this manner. Of the various ways in which a breakdown of immunological tolerance can be achieved the alteration of a body protein by interaction with a foreign antigen is the one most readily brought about. This, for example, underlies the development of thrombocytopenic purpura in some individuals as a result of taking Sedormid. As Ackroyd[11] convincingly showed, the platelet-sedormid complex acts as a foreign antigen to which specific antibodies are formed. The subsequent interaction between this antibody and the platelet-sedormid complex results in clumping and elimination of the platelets. It will be noted that in this situation a complete antigen capable of eliciting an auto-antibody response has arisen by the complexing of an exogenous hapten, Sedormid, with an endogenous protein, the platelet. It is conceivable that an antigen similarly capable of exciting an auto-antibody response could arise from the interaction of an endogenous hapten, e.g. a polysaccharide, and an exogenous protein, e.g. a streptococcus. That haemolytic streptococci are capable of adsorbing minute amounts of non antigenic polysaccharides and converting them to complete antigens has now been demonstrated with a number of vegetable polysaccharides[12] as well as with several human blood group substances.[13] We have therefore suggested that the role of the streptococcus in the pathogenesis of rheumatic fever may perhaps be a similar conversion of some tissue hapten to complete antigenicity, the lesions resulting from the subsequent interaction of such an antibody with the hapten wherever in the body the latter is to be found.

It must be admitted, however, that there are several weak links in this hypothesis, the most important of which is the failure so far to induce a true auto-antibody as distinct from an iso-antibody by this technique. Of perhaps equal significance is the absence from the plasma of patients with rheumatic fever of any demonstrable antibody against any known tissue antigen. Recently, however, Kaplan[14] has found such an antibody that specifically reacts with an antigen in the subsarcolemmal cytoplasm of cardiac muscle.

A notable feature of the relationship of haemolytic streptococcal infections to rheumatic fever which any satisfactory hypothesis must account for is the small proportion of individuals suffering such a throat infection that subsequently develops rheumatic fever. The data from several epidemics in widely different parts of the world indicate that this occurs in only about 3 per cent of such infections.[4] Yet another significant factor is the virtual absence of rheumatic fever following streptococcal infections elsewhere in the body, e.g. erysipelas or puerperal sepsis. This strongly suggests that not only is there something peculiar about the throat environment, but also that there may well be certain features in the throat peculiar to those capable of developing rheumatic fever. A well known variable simple to investigate is the presence or absence in the saliva of an individual of his ABO blood group substance. Such a study of 611 patients with rheumatic fever showed that the incidence of non secretors was significantly higher than in a control group of 1,129 normal schoolchildren.[15] The hypothesis put forward to

ST. BARTHOLOMEW'S HOSPITAL JOURNAL

SUPPLEMENT

Containing times for attendance at the Out-Patient and Special Departments, together with a list of Ward Rounds

NOTES :

* By appointment only with Appointments Department (MONarch 7777, ex. 103/104)

† There is a Fracture Clinic daily at 9.30 a.m., attended by a Registrar to the Orthopaedic Department.

‡ Children's Casualty : Monday to Friday, 1 p.m., Saturday, 9 a.m.

§ In addition to the Clinic times listed, a Male Orderly will be on duty and a House Physician on call 9 a.m. to 5 p.m. daily : and 9 a.m. to 12.30 p.m. on Saturday.

** These hours are intended only for patients who cannot attend at Mid-day.

	MONDAY	TUESDAY	ESDAY	THURSDAY	FRIDAY	SATURDAY
*MEDICAL OUT-PATIENTS	Dr. K. O. Black, 9 a.m. Dr. N. C. Oswald, 10 a.m.	Dr. A. G. Spencer, 10 a.m. (Medical Unit)	Dr. Webb, 9 a.m. Dr. Hulme, 9 a.m.	Dr. N. C. Oswald, 9 a.m. Dr. K. O. Black, 10 a.m.	Dr. A. G. Spencer, 9 a.m. (Medical Unit) Dr. E. F. Scowen, 10.30 a.m.	Dr. R. Bodley Scott, 9 a.m. Dr. H. W. Balme, 9 a.m. Dr. W. E. Gibb, 10 a.m.
*SURGICAL OUT-PATIENTS New Cases, 9 a.m.	Mr. E. G. Tuckwell, 9 a.m.	Surgical Professorial Unit, 9 a.m.	Mr. Johnson 9 a.m.	Mr. D. F. Ellison Nash, 8.45 a.m.	Mr. Ian P. Todd, 9 a.m.	Duty Surgical Firm
*Diseases of Women, Ante-natal	Mr. J. Beattie, 9 a.m. (Ante-natal) Leucorrhea Clinic, 1.30 p.m.	Mr. J. Howkins 9 a.m. (Ante-natal) Mr. J. Beattie, 1.30 p.m. (Gynae.)	Mr. J. 9 a.m. (Int Post-a 15 a.m.	Mr. D. B. Fraser, 12.45 p.m. (Ante-natal)	Mr. J. Howkins, 9 a.m. (Gynae.)	Mr. D. B. Fraser, 9 a.m. (Gynae.)
*†Orthopaedic Department	Mr. H. J. Burrows, 9.30 a.m. (Fracture Clinic) Mr. H. J. Burrows, 1 p.m.		Mr. J. on, 9 a.m. cture Clinic)	Mr. W. D. Coltart, 1 p.m.	Mr. W. D. Coltart, 9 a.m. (Fracture Clinic)	
*Ear, Nose and Throat Department	Mr. J. W. Cope, 9.15 a.m.	Mr. F. W. C. Capps Mr. J. C. Hogg alternately, 9.30 a.m. Mr. N. A. Jory, 1 p.m.	Mr. J. ee, 2 p.m. (De linic)	Mr. J. C. Hogg, 9.30 a.m.	Mr. N. A. Jory Mr. J. W. Cope alternately, 9.30 a.m. Mr. F. C. W. Capps, 1.30 p.m.	
*Ophthalmic Department	Mr. J. H. Dobree, 9 a.m. Refraction Clinic, 1.30 p.m.	Mr. H. B. Stallard, 1 p.m.		Mr. J. H. Dobree, 9 a.m. Refraction Clinic, 1.30 p.m.	Mr. H. B. Stallard, 1 p.m.	
*Skin Department	Dr. R. M. B. MacKenna, 1.45 p.m. Wart Clinic, 1.45 p.m.	Dr. P. F. Borrie, 9.15 a.m.	Dr. R. MacKenna, 9.15 a.m. Dr. P. e, 1.45 p.m.		Dr. R. M. B. MacKenna, 9.15 a.m. Dr. P. F. Borrie, 9.15 a.m.	
*‡Diseases of Children	Dr. C. F. Harris Dr. A. W. Franklin, 1 p.m. (under 1 year)	Dr. C. F. Harris, 1 p.m.			Dr. A. W. Franklin, 1.30 p.m.	
Dental Department	Mr. G. A. Cowan, 9.30 a.m.	Mr. G. T. Hankey, 9.30 a.m.	Mr. J. brook, 9.30 a.m.	Mr. G. A. Cowan, 9.30 a.m.	Mr. G. T. Hankey, 9.30 a.m.	Mr. T. T. Schofield, 9.30 a.m.
Tuberculosis Dispensary		New } 12.20 to 1.30 p.m. Cases } **5 to 7 p.m. Art. Pneumothorax Clinic, 3 p.m.			By appointment only, 3 p.m.	
Maternity and Child Welfare (City Residents only)	2 to 4 p.m.		2 to 4			
§Department of Venereal Diseases	Men : 11 a.m to 1.45 p.m. Women : 4 to 6 p.m.	Women : 11 a.m. to 1.45 p.m. Men : 4 to 6 p.m.	No C	Men : 11 a.m. to 1.45 p.m.	Women : 11 a.m. to 1.45 p.m. Men : 4 to 6 p.m.	Men and Women : 9.15 to 11.15 a.m.
*Plastic Surgery			Mr. P s, 1.30 p.m. (1st Wednesdays)			
*Department of Psychological Medicine				Dr. Linford Rees, 2 p.m. (new cases only) 5.30 p.m. Old cases by appointment with Psychiatric Social Worker	Dr. Linford Rees, 2 p.m. (Old patients and new children seen by appointment with Psychiatric Social Worker)	
*Neurological Department		Dr. J. W. Aldren Turner, 1.15 p.m.			Dr. J. W. Aldren Turner, 1.15 p.m.	
*Department of Neurological Surgery		Mr. J. E. A. O'Connell, 1.15 p.m.			Mr. R. Campbell Connolly, 2 p.m.	
*Thoracic Surgery	Mr. I. M. Hill, 1.30 p.m.		Mr. C s, 10.30 a.m.			
*Cardiological Department			Dr. G ward, 10 a.m. (Fri (Co Holey)	Dr. G. W. Hayward, 9.30 a.m. (Cardiac)		
*Special and Follow-up Clinics		Speech Therapy, 1.30 p.m. Mr. Nash (Enuresis), 1.45 p.m. (1st and 3rd Tuesdays) Mr. A. H. Hunt, 12.30 p.m. (Varicose Vein) Mr. Naunton Morgan, W.F.U. (2nd and 4th)	Mr. J ord, 12.45 p.m. Mr. 2 p.m. (G ary) Mr. t, 9.30 a.m. (Fi day of month) Mr. A , W.F.U., 2 p.m. Dr. R and 4th) (R	Dr. Cullinan, 10 a.m. (Gastro-enterological) Dr. Bodley Scott, 1.45 p.m. (Anaemia) Surgical Unit, W.F.U., 2 p.m. Dr. Black, 4.30 p.m. (Diabetic) Dr. Spence, 4.30 p.m. (Endocrine)	Dr. Scowen, 10.30 a.m. Dr. Black, 10.30 a.m. (Diabetic) Surgical Unit, 1.30 p.m. (Vascular diseases) Speech Therapy, 1.30 p.m. Mr. Robinson, 11 a.m. (Personal)	Dr. Spence, 9 a.m. (Endocrine)
Radiotherapy Department	Dr. W. M. Levitt, 1.30 p.m.	Mr. I. G. Williams, 1.30 p.m.		Dr. A. E. Jones, 1.30 p.m.		

explain these figures suggests that only those individuals homozygous or heterozygous for the non-secretor gene are capable of developing rheumatic fever ; individuals homozygous for the secretor gene can not, on this hypothesis, develop the disease. Whether this be true or false the significant difference established between the two groups emphasises the importance of the throat environment in determining whether or not a streptococcal infection of the throat is to be followed by an attack of rheumatic fever.

In none of the other diseases of the rheumatic group is an aetiological agent so clearly implicated as is the haemolytic streptococcus in rheumatic fever. In both rheumatoid arthritis (R.A.) and disseminated lupus erythematosus (D.L.E.) however, the accumulating evidence of recent years points strongly to the participation of some disturbance of the individual's immune mechanism. Since the early days of immunology the ability of an individual to distinguish its own antigens from those that are antigenically foreign has proved an intriguing phenomenon and for many years it was regarded as impossible for an animal to produce an antibody response to such an auto-antigen. Several factors, however, have combined to weaken resistance to the concept of auto-immunity, i.e. immune reactions directed against an individual's own antigens. The demonstration that acquired haemolytic anaemia is frequently associated with the presence of antibodies specific for one or more antigens on the red cells emphasised the need for a reappraisal of the problem. The experimental production of a variety of lesions, e.g. encephalitis,[16] thyroiditis,[17] adrenalitis[18] and azoospermia,[19] by the parenteral injection of organ emulsions with an adjuvant such as Freund's that is known to enhance immune responses provided further evidence implicating auto-immune mechanisms in pathogenesis. Furthermore, the nature of the lesions obtained in these experiments bears such close resemblance in many instances to those of some human diseases of unknown cause that the role of "auto-immunity" in pathogenesis is rapidly commanding wide acceptance. An equally important contribution to this change in mental attitude is our increased understanding, thanks to the work of Medawar and his colleagues,[20] of the mechanism of immunological tolerance. They have shown that the ability to recognise an antigen as foreign is largely determined by the absence of that particular antigen when the antibody-forming tissue is coming to maturity, i.e. at about the time of birth. In consequence, if a foreign antigen be introduced into an individual at about this time, the ability of the individual to respond immunologically to a later exhibition of the antigen will be lost or significantly impaired. They were able to show, for example, that a mouse can be induced to accept a skin homograft if the recipient receives at about the time of birth a parenteral injection of cells from the prospective donor. It is apparent from these and similar experiments that in a normal subject a recognition mechanism exists enabling the antibody-forming tissues to differentiate self from non self. How precisely this differentiation is achieved is the subject of much speculation and experiment. The important fact, however, is that such a mechanism exists : and like all other known mechanisms must be subject occasionally to defect or breakdown. The problem today is to what extent are any of the rheumatic diseases the result of such a defect or breakdown ?

In both R.A. and D.L.E. phenomena have been described which are indeed most readily explained as examples of auto-immune reactions. The presence in the great majority of rheumatoid arthritics of a serum factor capable of agglutinating sensitised erythrocytes[21] has been shown to be due to the presence of a γ-globulin, the so called rheumatoid factor, with a specific affinity for aggregated or slightly altered γ-globulin of widely diverse animal, including human, origins. This rheumatoid factor is itself a component of the γ-globulin fraction with a sedimentation coefficient of 19S to which many known antibodies belong. It is apparently synthesised like other antibodies by the plasma cells and its reaction with aggregated γ-globulins has most of the features of an antigen-antibody reaction. There is, however, no evidence that this factor is in in any way responsible for any of the lesions of rheumatoid disease.

In the same way, the factor in patients with D.L.E. that is responsible for the positive L.E. cell test, so characteristic of this disease, is apparently one of a group of antibodies directed specifically against various components of cell nuclei, such as nucleoprotein or histone.[22] Here, too, as with the rheumatoid factor, no pathogenic role can be assigned to these antinuclear factors.

WARD ROUNDS

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Dr. Alden Turner, 10.30†	Dr. Cullinan, 10.30	Dr. Black, 10.30	Dr. Bodley Scott, 10.30	
Dr. Spence, 10.15	Dr. Hayward, 10.30			
Sir James Paterson Ross, 10.00			Mr. Taylor, 10.00	Mr. Naunton Morgan, 8.45*
Mr. Hosford, 10.00				
Mr. Badenoch, 11.00				
Dr. Harris, 10.30	Dr. Franklin, 10.30			
		Mr. Beattie, 10.00	Mr. Fraser, 10.00	
Dr. Oswald, 1.30	Dr. Scowen, 2.00		Dr. Scowen, 2.00	Dr. Spencer, 2.00
Dr. Bodley Scott, 2.00			Dr. Cullinan, 2.00	Dr. Black, 2.00
			Dr. Spence, 2.00	Dr. Gibb, 2.00
			Dr. Balme, 2.00	Dr. Hayward, 2.00
Mr. Hunt, 1.30	Mr. Naunton Morgan, 1.30*		Mr. Tuckwell, 1.30	Sir James Paterson Ross, 1.30
Mr. Todd, 2.00	Mr. Robinson, 1.30			Mr. Nash, 1.30
				Mr. Hunt, 1.30
				Mr. Badenoch, 2.00

† Fourth Floor Demonstration Room

* At the Fountain

in the evolution of D.L.E. This raises the important question of the role of circulating antibody in the pathogenesis of any auto-immune disease, a question that has been especially emphasised by the high incidence of rheumatoid arthritis in patients suffering from congenital agammaglobulinaemia. It must be recalled, however, that many immunological phenomena are known which are apparently independent of circulating antibody. Outstanding amongst these is the tuberculin reaction which is presumably mediated by the specific sensitisation of leucocytes (probably lymphocytes) since it can be readily transferred passively by such cells, but not by serum. Presumably, if R.A. and D.L.E. are indeed examples of auto-immune disease, the immunological reaction is of this delayed type and the specific serum factors are to be regarded as but bye products of the more fundamental immune reactions of the cells.

Even if it be accepted that these diseases are the result of auto-immune reactions there is at present little evidence to indicate how or why the breakdown in tolerance has occurred. Useful clues may perhaps be obtained from the study of other diseases more definitely mediated by auto-immune mechanisms, suc has Hashimotos thyroiditis[28]. Here it has been suggested that tolerance has never been acquired as the antigens concerned are normally confined to the gland with little chance of access to the antibody-forming tissues. But many other theoretical possibilities exist and no doubt the manner of tolerance breakdown may well vary from one disease to another. One important possibility recently advocated by Burnet[24] attributes the loss of tolerance to somatic mutation of antibody-forming cells with the emergence of a clone of cells that has lost the tolerance acquired during the critical neonatal periods. Since somatic mutation is presumably a constantly occurring process, it is necessary to postulate that normally there exists a homeostatic mechanism for the suppression of such non-tolerant clones. Breakdown of tolerance thus becomes breakdown of this homeostatic mechanism : but whether this brings one any nearer to a solution of the problem of immune tolerance may well be questioned. Nevertheless, despite the present inability to understand the complexities of immune tolerance, and although auto-immunity as a pathogenic mechanism is still open to question, these concepts at present have no equals as stimuli to research in the field of rheumatic disease.

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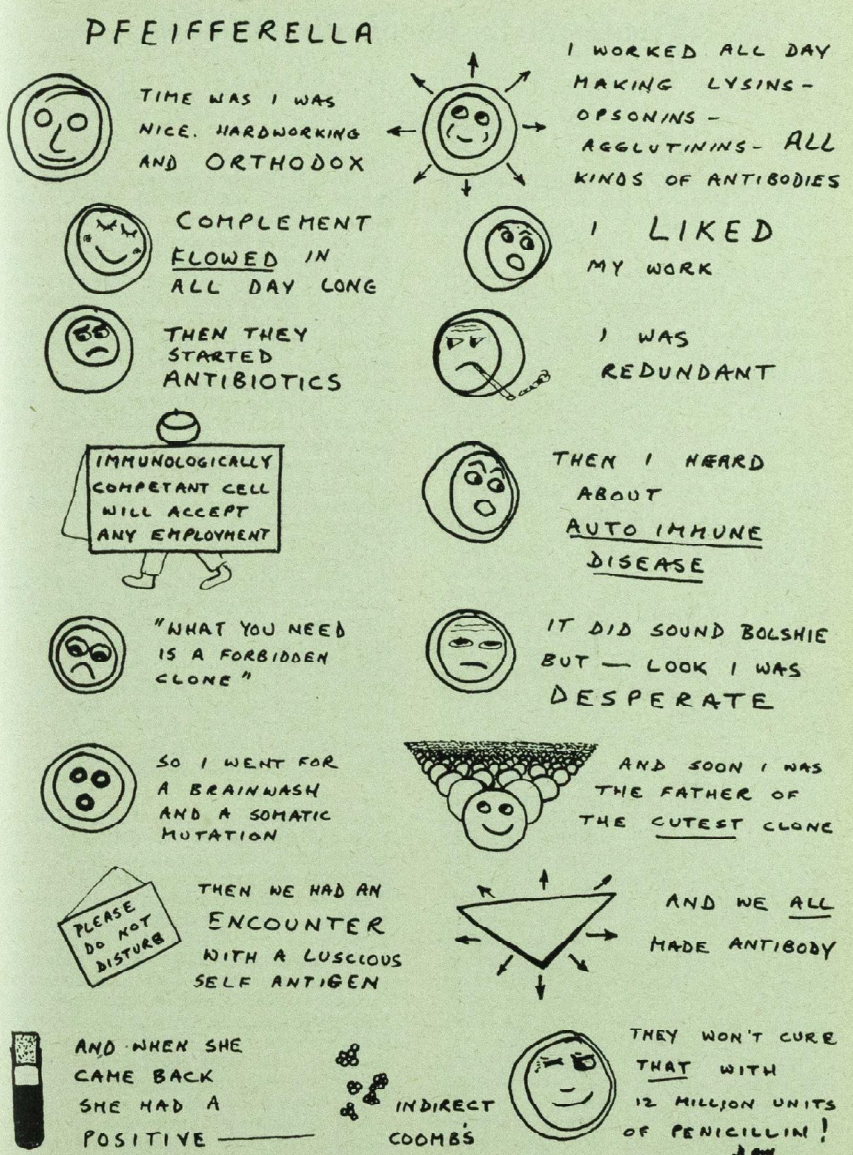


Treatment in Rheumatic Diseases

by H. Wykeham Balme, M.A., M.D.(cantab.)

St. Bartholomew's Hospital

Patients suffering from rheumatic diseases can nearly always be improved, often very greatly. The principles of treatment that must be followed are quite simple.

Inflamed Joints

It is well known that inflamed parts must be kept at rest, but it seems to be by no means well enough known that inflamed joints will be improved by rest also. Obvious enough in acute gout or in suppurative arthritis, where the slightest movement causes severe pain, the effect of rest is far too often overlooked in the milder joint inflammations and exercise wrongly prescribed instead. In the case of rheumatoid arthritis the patient himself commonly influences his doctor in this direction, having found that exercise helps him to work off his morning stiffness ; but this is an entirely different matter, and it is quite definite now that just as rest leads to subsidence in the activity of a tuberculous joint, so it also leads to a lessening of the inflammation in a rheumatoid joint.

The methods of resting joints are now well established, thanks to the ingenuity of the orthopaedic surgeons. Plaster of Paris is the main standby, and calcium sulphate, applied externally, thus becomes our most important prescription. In this context its function is purely protective, the splint keeping the joint quiet and in the proper position. It may be necessary only to wear it at night, but it is often feasible, and a good thing, to provide splints for use in the daytime too, the patient wearing them then and even working in them. If a joint is expected to give trouble for a long time materials other than plaster of paris may be used, such as plastic or Glassona—and these have the advantage of being washable and more durable—but in any case it is always better to tailor-make the splint rather than to use ready-to-wear metal or wooden ones.

The wrists, which are so often affected in rheumatoid arthritis, can be beautifully protected in this way. When the knees are affected splints can be made to be worn only at night, and after the first few uncomfortable nights have been spent in these the patient will soon start admitting that his knees are better. It may even be worth while encasing one knee in a complete cast for a week or two and allowing the patient up and about in it. The feet are very difficult to splint, but here the surgical shoe maker comes to one's assistance, and his work is of vital importance. A stiff deformed foot is very painful and crippling so it is essential, directly trouble starts there, to provide proper shoes which fit well and support the foot all round. It is a good working rule to provide them as a matter of urgency if the patient finds that he gets about better in slippers than in his ordinary shoes. The neck, which is often affected, can be immobilised by a collar, of which various designs are now available.

Ill Patients

Patients who are ill will become less ill if they rest in bed ; arthritic patients may be made quite ill by their disease, and in these cases rest in bed is beneficial too. This applies not only to acute conditions such as rheumatic fever and serum sickness but also again to rheumatoid arthritis, and a surprising thing is that following a period of only a few weeks of proper rest the joint condition may continue to improve even after the patient is up and about again.

Damaged Joints

Normal joints are kept healthy by being used, and prolonged disuse of a normal joint is unkind to it. Joints that have been damaged, but are not inflamed, can be greatly harmed by prolonged disuse, capsular adhesions forming readily and limiting movement severely. On the other hand, excessive use of a damaged joint will lead to traumatic inflammation in it and will cause further damage ; and in the same way weight-bearing, which is good for a normal joint, can be very harmful indeed to a damaged one. One has to be careful therefore in estimating the extent to which a damaged joint can safely be used.

Severely damaged joints may be able to tolerate very little movement or weight-bearing, and if there is much pain arthrodesis, or perhaps arthroplasty, often offers an excellent solution. Less damaged joints can often be kept comfortable if unnecessary strains are avoided, and by this means further damage may to some extent be prevented. The stability of the knees for instance is dependent on the strength of the quadriceps muscle, so if they are damaged exercises to keep up the strength of the muscle help a great deal. In the case of osteoarthritis of any weight-bearing joint obesity is obviously very harmful, and it is often necessary to insist that such patients lose as much as half a hundredweight.

After they have achieved this it may be possible to increase the mobility of the joint, and eventually lessen the pain in it, by persevering with active exercises. Exercises will also help to improve the mobility of a joint damaged by previous inflammatory disease, but it is obviously important to make sure that they are not excessive enough to cause a recrudescence of inflammation. The exercises will inevitably be uncomfortable or even painful, so it is a good idea to make the joint more comfortable first by applying heat and perhaps some nice consolatory massage. Mobilising a joint that has become stiff in a bad position can be a very difficult task and sometimes impossible. The problem arises very frequently indeed, particularly in the case of the knees and wrists which too often become fixed in flexion, even (bow your heads in shame !) when the patient has throughout his illness been under medical care. Serial plasters, perhaps with manipulation (by an expert only !), often do the trick, but osteotomy may be necessary.

Cripples

Patients who are not ill will be made fitter by exercise ; arthritic patients who are not ill will be benefitted by it too. Sometimes exercise becomes of overriding importance, even in spite of the persistence of mild joint inflammation, and an outstanding example of this situation is provided by ankylosing spondylitis. In this condition the patients are not usually ill, despite their high E.S.R.'s—as ever a rotten guide—and the more they are rested the more their joints will ankylose. They must be exercised skilfully and unmercifully.

A very stiff upper lip is required of arthritic cripples when the time has come for them to get on their feet again. Self-pity at this stage is fatal, and if they have been neglected for long and have the inevitable joint contractures and muscle wasting as a result, much determination will be required of them. Following orthopaedic correction of those deformities that require it, the basic principle of rehabilitation consists in exercise. Special efforts are made towards restoring those movements which are particularly necessary for the patient's independence, such as feeding himself. Even after maximal improvement has eventually been obtained, it is still possible to help the patient immensely by providing him with gadgets, such as thick-handled knives and forks, levers on water taps, a heightened seat on the lavatory, a long handle to his razor, and a rail to grip on so that he can get out of his bath. If plenty of ingenuity is used even the wheelchair life that the severe cripple may be forced to lead can be rendered quite endurable and come to allow of a little independence.

Special Considerations

Pain : Analgesics are not the whole answer to pain in rheumatic conditions. Immobilisation for inflammation and mobilisation for mere stiffness are the first steps. Keeping the part warm with suitable clothing and soothing it down with the actual application of heat are the second. Bracketed with this is the use of counter-irritation, which is still as strangely effective now as ever it was : old-fashioned Scott's Dressing, buttered on lint and applied to an osteoarthritic knee, is certainly worth remembering. Next in importance comes aspirin, which is very effective so long as the pain is not severe. The patient is usually frightened to take enough of it and may have to be persuaded to do so, but the relatively mild pain of rheumatoid arthritis will usually be controlled if he will take 60 to 100 grains (12 to 20 tablets) of it daily. The severe pain of gout or of a bad osteoarthritic hip will not really be touched by it, however. Ordinary cheap aspirin should usually be prescribed, as there is disappointingly little advantage in the fancy soluble varieties.

Stronger than aspirin is phenylbutazone (" Butazolidin "), and as long as its dose is kept to 400 mgm. a day or less the risk of toxic effects is reasonably small. But it is not usually necessary to prescribe it. For the pain and stiffness of ankylosing spondylitis however, it seems to be remarkably effective and may be used preferentially. Steroids are not analgesics and are not to be used as such.

Insomnia : Do not go messing about giving barbiturates to patients who are kept

awake by pain. Splint the painful joint so that it will not be inadvertently moved in bed, give plenty of aspirin, and your sleep-starved patient will require no hypnotics from you.

Anxiety : This, rather than pain, may well be the cause of insomnia, the patient, reasonably enough, worrying during the night hours over the prospect of crippledom. Barbiturates will in no way dim this night-mare but will rather, by causing mental confusion, render it more vivid. A doctor's optimism and cheerful competence are what is required here, not a putting of the head in the sand, and it is astonishing to see how morale improves when the patient realises he has at last found a doctor interested in his condition.

Gout : Acute gout responds miraculously, and entirely mysteriously, to colchicine, 1 mgm. every 2 hours by mouth until the pain abates or until diarrhoea or the threat of it arises. Usually about 6 doses are needed ; thereafter 1 mgm. t.d.s. for a few weeks until the attack is over. If the patient is intolerant of it, phenylbutazone, in biggish doses (600 mgm. to 1.0 gram daily for a few days), can be used. Steroids are almost never required.

Chronic gout responds well to uricosuric agents, acute attacks lessening in number and severity and tophi disappearing ; probenecid (" Benemid ") 1.0 to 2.0 grams per day is nearly always effective, but newer and more potent drugs are on the way. Salicylates are not good uricosuric agents and are not advised ; moreover they inhibit the action of probenecid and must not be used in conjunction with it. Cinchophen used to be used, but killed a few gouty victims off by destroying their livers and is now obsolete. With colchicine and probenecid little else is required in the treatment of gout, and no great dietary restrictions need usually be imposed on the ordinary abstemious Englishman. A good fluid intake will protect against uric acid calculi (which are rare) ; perhaps it might be wise to recommend that the fluid used should be bland.

Radiotherapy : There is some, but not much, doubt that radiotherapy temporarily lessens pain and stiffness in active ankylosing spondylitis. There is more doubt whether it halts the disease or even slows its progress. There is much doubt whether it in any way acts as a prophylactic or ought to be used early. There is no doubt that it increases the risk of leukaemia (though I doubt whether the riskiness of it is any greater than the riskiness of the M.1). And it certainly can only be used sparingly at any one site or the skin will give way.

Gold : If it works at all, gold works best in those cases of recent acute or acute-ish rheumatoid arthritis in whom the prognosis is in any case good. Advocates claim that it works best if it nearly kills the patient first. It is very difficult to tell if it has any effect that is worth while when set against this toxicity : two thirds of rheumatoid sufferers will improve anyway ; even more of those for whom it is considered indicated will improve anyway ; and the outcome in any given case if left untreated is always impossible to tell.

Chloroquin : This again is said to work best in acute or acute-ish rheumatoid arthritis ; but even the makers do not claim that it has any effect in under a month or more, by which time many cases would have spontaneously improved immensely. It works in discoid lupus erythematosus ; it appears to work in disseminated lupus erythematosus ; it probably helps a little in some rheumatoids. But it is reasonably non-toxic and can happily be given if you like.

Steroids : Steroids can achieve miraculous improvement in some cases of rheumatoid arthritis if they are used properly ; but there are some things they cannot do and some terrible things they can do. They are no substitute for rest, and if either the patient or his joints require rest they must have that first. The are in no sense analgesics, and the mere severity of pain is of no relevance as an indication for their use. They have risks to life and obviously should not be used in mild cases ; and if spontaneous remission seems likely it is surely sensible to wait and see if it will occur. To give them just for good measure for a short time and then stop them, or in general to fiddle about with their dosage, not only achieves nothing in the way of benefit but in effect gives the patient a medical adrenalectomy and is downright wickedness.

Among the rheumatic diseases rheumatoid arthritis is their main indication, but even so less than 5 per cent of those rheumatoid sufferers bad enough to attend hospital require treatment with them. Their effect is to reduce the intensity of the inflammation —in the joints, synovial sheaths, tendons, bursae, subcutaneous nodules—and at the same time to make the patient feel better. But unfortunately if they are used alone, and not in combination with other forms of treatment the most important of which is rest, they are very rarely adequate. It is true that in a very small proportion of cases the patient is restored virtually to normal with quite small doses of steroids well within the limits of immediate safety. The much greater majority, however, would require doses outside the limits of safety, and the dangers of this get steadily higher as the months go by. Worse still, a sizeable proportion of these patients would require their already high steroid dosage to be still further increased as time goes by if they are to remain free of symptoms. The end result is that the patient is rendered dangerously ill with the excessive dosage, and becomes severely demoralised, with his arthritis remaining uncontrolled in spite of everything.

Steroids are to be used as a strategic and not as a tactical weapon. The most they are likely to achieve in safety is a moderate lessening of the severity of the disease, and if used alone this effect is far from dramatic. If a patient with bad rheumatoid arthritis however is first rested, both himself if need be, and certainly his joints, then the steroids can really make an immense difference. If the rest and the analgesics are persevered with alone for a few weeks it may be found that quite small doses of steroids are all that is required to get the patient reasonably mobile and to keep him thus more or less indefinitely. Usually he will have to accept the position that the relief allowed him is only partial, so it is wise to start low and not with an initial high loading dose. This also means that he must still be watched over in case individual joints start needing local treatment again, arising out of the continued activity of disease. This combination, rest plus steroids, is the sort of regime that is suitable for a fair number of the real rheumatoids—those with nodules, toxicity, anaemia, weight loss, bone destruction and generalised illness, and not merely a few swollen joints—and evidence is now accumulating that not only does it make them better for the time being, but that it actually slows down the disease and improves the ultimate prognosis.

Steroids can also be injected into joints, and exert a local action there ; but from what has already been said, this will not often be necessary. Inevitably there is some risk of infection, particularly as the injections usually have to be repeated every few week for a long time. But if persistent activity in one joint is particularly disabling this can prove a very useful trick. Naturally, steroids can do nothing to improve a destroyed or disorganised joint, whether applied locally or given systematically ; in the absence of the signs of inflammation there is no point in using them.

The most widely used steroids just now are prednisone and prednisolone. They have definite advantages over cortisone, which in this connection is obsolete. Ten mgm. of either a day is about the highest safe maintenance dose, and one prefers it to be less ; over 15 mgm. daily is definitely dangerous and not justifiable in these non-dangerous diseases. Of the newer steroids, methyl prednisolone seems to have no advantages over prednisolone ; triamcinolone causes queer side effects including sometimes much loss of appetite and has not proved satisfactory ; dexamethasone on the other hand may cause such uncontrollable greed that the patient may quickly gain two or three stone, and I have known one put on 13 pounds in one weekend of glorious eating. This is not kind to weight-bearing joints. Alternatively one can use ACTH by subcutaneous injection, and this method has its advantages, but although the material is more uniform and reliable nowadays than it used to be the patient's response to it remains variable, and for long-term use this means that some measure of the adrenal stimulation must be regularly applied. The usual thing is to measure the urinary output of 17-hydroxy-corticosteroids, an aliquot of the measured 24 hour sample being sent for analysis weekly. For local action one uses hydrocortisone or its analogue prednisolone, as much being put into a joint as one comfortably can—say 50 mgm. for a knee, 5 mgm. for an acromio-clavicular joint.

Focal Sepsis : A septic lesion anywhere is a pretty nasty thing to have, and it may make one mildly ill ; if one is already ill with a chronic disease it is even nastier to have, and it may be even more effective in making one more ill. Nowadays one does not search for focal sepsis in rheumatoid arthritis, theories of etiology having changed, but if one sees it one deals with it so that the patient will feel better.

In Conclusion

Incurable diseases are not necessarily untreatable ; on the contrary, a disease that is

incurable requires more treatment than one that is curable. This is really very obvious. The exciting thing about the rheumatic diseases is that with care, and attention to detail, quite astonishing results can be obtained and they prove to be eminently treatable although neither cause nor cure is known. The secret lies in the careful assessment of each patient: deciding to what extent pain is due to inflammation, to mechanical stress, or to fear; distinguishing between reversible and irreversible joint damage; estimating how ill the patient is and how much in need of rest, whether he has the moral courage to work with you in the long and painful months ahead, or how much he is addicted to invalidism and will resist your efforts to improve him; making some reasonable prognostic guess as to whether the disease will remit, or whether it will inexorably progress and justify you in the taking of therapeutic risks.

The subject brings one into close relationship with orthopaedic surgeons and with physiotherapists (the latter not the least of its compensations) and is often mistakenly identified with physical medicine, but I would earnestly advise that nobody take it up as an exclusive speciality unless he has first for some years been properly immersed in general medicine. For these are general medical diseases and not just disorders of joints. It is the patient as a whole that is in need of treatment, and to treat him properly it is necessary that one be thoroughly used to dealing with whole patients.

The Social Problems of Rheumatic Disease

by MISS K. MACINDOE

Arthur Stanley Institute, Peto Place

The social problems of rheumatic disease are many and varied, depending largley upon the diagnosis. Those suffering from rheumatoid arthritis with either severe crippling or the fear of it, are likely to be faced with the most problems, although osteo-arthritis and those suffering from non-arthritic forms of rheumatism may also have theirs.

In cases of rheumatoid arthritis the prolonged nature of the illness and the variable prognosis create serious problems, to which, very often, no end can be seen. No hard and fast social plan can be made, and the patient's personality and attitude to their illness become vital. The patient not only has to learn to live with the disabilities he has at the present moment, but he may have to adapt himself at longer or shorter intervals to increased disabilities, with the uncertain hope that his arthritis will eventually burn itself out. Problems of this sort often are in connection with the patient's job. Mr. W., a man of 45, was a bricklayer, and had arthritis for a few years. His condition was deteriorating and he began to worry about the future. He was naturally reluctant to face a change of job, as he knew this would almost certainly mean a drop in pay, and he had fairly heavy financial commitments. After a short spell off work, and with winter weather looming closer, he was prepared to consider a change. He was registered as disabled at the Labour Exchange, and as he fortunately lived in an area where there was a training centre, the Disablement Resettlement Officer was able to arrange for him to train as a typewriter mechanic. On completing his training he got a job near his home. All through this period he had been having treatment for his arthritis. After eighteen months in his new job his condition flared up, and he was advised to have in-patient treatment, and then to have an operation on his elbow. While in hospital he was extremely worried and depressed about employment prospects and his ability to use his tools again, particularly as his old firm had closed down. He needed constant encouragement, as he thought that his retraining might have been all in vain. However, he was determined not to depend on his wife's earnings, and after applying for various unsuitable jobs, found one near his home as a typewriter mechanic. Without determination to help himself he might well have drifted along either unable to work, or in some unproductive and frustrating "light" job.

The patient may appear to have some simple problem, such as the young housewife who needs a home help to relieve her of some heavy chores and thereby avoid stress and strain. This may, however, mask the real social problem of the patient's attitude to her arthritis. Mrs. J., a woman of 34, is married to a schoolmaster and has two children under school age. She has had rheumatoid arthritis for about ten years, and had a flare-up after the birth of the second child. She is anxious to keep her home nicely and give her children all the care and affection she should. She was becoming increasingly tired and, as her general health deteriorated, her arthritis also got worse. She realised that she must have help to break the vicious circle, but thought the family could not afford a home help. The acceptance of chronic disease and the replanning of her daily routine and of the financial pattern of expenditure was the real problem which faced her. Fortunately she was intelligent and had an understanding husband, so that she was enabled to do this. Inevitably she still has periods of overwork, e.g. when the children are ill, but she has learnt how to meet her difficulties and does not feel so inadequate when she accepts help, or makes plans for the children so that she can rest.

The endless nature of the rheumatoids' problems is illustrated by the case of Mrs. M., a widow of 58. She has had rheumatoid arthritis for many years and has struggled to bring up her family of three children, who are now married, and she lives alone. She is immensely independent, hates asking for any help, even from her daughter and son-in-law who live upstairs, and prefers to do everything for herself in spite of grossly disabled hands and very painful knees and other joints. A typical pattern of ups and downs emerges—she is sent to a Spa for a month in the summer, and with treatment, good meals, rest and no worries, comes back feeling fine, and able to cope with her pains and family worries. Gradually during the winter, her health deteriorates a little, she loses her appetite, she has more to do when her daughter has 'flu, her arthritis gets more painful, she worries more about her family, she feels an unwanted burden, her pain gets worse, she can hardly face the journey to a Spa when it is suggested, but is encouraged to go and is physically and mentally built up for another year. The problem is to enable this patient to have all the help that is available from community sources without undermining her independent spirit, and to give her encouragement over the bad patches.

Both mental and physical strain are social factors affecting the rheumatoid arthritics, and in many cases nothing can be done to ease the situation. For example, the young married woman living with in-laws, may be fond of her relatives but feels unhappy and frustrated that she cannot run a home of her own as she likes. An elderly woman may have a landlady who is entirely unsympathetic and who seems to make difficulties for her arthritic tenant. The man, who is the breadwinner of the family, has the constant fear that he may be unable to earn, and will stay in a dull and frustrating job rather than risk a change to one where he might be happier.

Many arthritics live in most unsuitable "flats," particularly in some older London houses where water often has to be carried up and down two or three flights of stairs, and the only lavatory may be in the yard at the back. Even if the flat is all on one level the occupant may be virtually marooned owing to his or her inability to negotiate stairs. If someone living alone is thus prevented from going out, he or she often will find it very difficult to accept the fact of their dependence on others, whether visiting friends and relatives, or welfare services such as Home Help, District Nurses, Meals-on-Wheels, etc. A problem which comes to the older rheumatoid arthritics living alone is how long can they continue in their own homes. Miss C., aged 60, could hardly move across her room, but she was determined not to go into a home if possible. She had always been the slave of her family, and when her parents died, she was at last able to live an independent life. She fought hard to maintain this independence and although her own general practitioner, her relatives, the consultant, almoner and physiotherapist at the clinic where she had treatment, all thought she was quite unfit to live alone, she struggled on for some years until she finally was entirely dependent on a neighbour helping her to move at all. She then agreed that she must

go into a home where she could have nursing care.

Many of the same social problems arise with osteo-arthritis, but generally not in such an acute form because there is not the fear of serious incapacity and crippling, even at an early age, as there is in rheumatoid arthritis. If one joint is affected, and the patient realises that he or she must avoid wear and tear on that joint, the patient can often adjust his or her life without any serious social problem arising. Many people, however, are reluctant to face the evidence of advancing years, and to admit that they must do less. For example, the house-proud woman, who has always kept her house spotless, done all her own laundry, and looked after the garden, and suffers from osteo-arthritis of the knee or hands, even though she admits her joints are worse after a heavy day's work or spring-cleaning, cannot accept the idea of having help or using a laundry.

Some of the problems have a different emphasis, when they affect the older age group. A man of 60 or so with osteo-arthritis of the hip, who has been in a job involving much walking, may well find employers reluctant to take him on for a sedentary job, even if he has the inclination and knowledge. However, by the time he has reached that age, he may not be quite so concerned at the thought of a reduced income, as his family will probably have left school and be more or less independent. He may therefore be readier to take any job that is offered even if it is less lucrative.

Even if severe crippling may not be expected with the resulting social problems, a rheumatic condition may be aggravated by tension, stress or strain. A woman in her 50's may only have minimal osteo-arthritis in her spine, but this can be grossly aggravated by her social situation. She will have a job to hold down, with the possible fear that she may be supplanted by someone younger. She may have one or both elderly and infirm parents to look after, and this may mean that all her spare time from her job is devoted to household chores and shopping with little or no time for rest and relaxation, possibly not even a proper holiday each year. Even if she has domestic help, she will have the responsibility of running the home and keeping her parents well and contented. If she takes time for treatment of any sort, this increases the pressure either at her job or at home. If she can be helped to see the effects of stress and strain, she may be able and prepared to help herself by having a proper holiday and getting her parents cared for temporarily.

Many practical suggestions can be made to help the rheumatic sufferers to overcome individual difficulties and obtain independence. A long-handled shoe horn, elastic shoe laces, and a stocking aide may make a woman with stiff hips or knees entirely independent in dressing. A long pick-up stick, a raised chair and lavatory seat, may mean that a severely disabled arthritic can be left happily alone at home all day. A razor with a long handle will enable a man with limited use of hands, arms and shoulders to shave himself and not depend on his wife's help to get off to the office in the mornings.

Even with all the available resources for advice and practical help in dealing with social problems, some patients do not seem to have the courage and personality to cope with them. Many arthritics who are severely disabled, make light of the disabilities and do jobs which may appear impossible for them. In the same way, some accept and make the best of difficult and often insoluble social problems, while many others can be helped to do so.

Research at Bart's

DEPARTMENT OF MEDICAL STATISTICS

The Department of Medical Statistics is probably the newest as well as the smallest of the separate departments whose work is being described in this series of articles. But although the department is barely more than ten years old, its roots go back to the middle of the nineteenth century. In 1859 the first registrar to the hospital was appointed—a physician whose task was to supervise the "registers" and to compile from them the annual Statistical Tables. However, in the course of time, other duties pressed in on the registrars (a second was appointed in 1864) and the last volume of Statistical Tables that they produced was in 1932.

After the war the present department was set up with the primary task of compiling the annual Statistical Reports. These include tables giving details of the diagnoses of in-patients, surgical operations performed, etc.; whilst they may provide material for research, they cannot themselves be classed as research and therefore do not come into the scope of this article.

Are these figures signficant?

To many research workers the essence of statistics may be summed up by the question: "Are these figures significant?" Before describing some of the work actually carried out in the department, it may be useful to describe the contribution of statistical ideas to medical research in terms of this question. What the questioner usually means is "Do these figures prove what I want them to prove?" To take an imaginary example: a doctor has treated 30 patients suffering from a particular disease with a new drug and found that 60 per cent have recovered compared with 40 per cent on the standard treatment. Does this prove that the new drug is better than the standard treatment? From a purely commonsense standpoint the answer is obvious: "It depends." It depends on whether the two groups of patients were comparable, whether the criteria of recovery were the same in each group, whether the patients or the doctor were biassed in any way. Only after assuring oneself on these and many similar points, or, to use the current phrase, that the trial has been "properly controlled," is it relevant to ask the question about significance; "Is there a statistically significant difference between the two cure-rates?" or "could the observed difference between the cure-rates have occurred by chance?" These questions can be answered in precise terms by means of a simple mathematical formula (the chi-squared test).

The point of the foregoing example is to show that the purely mathematical aspect is the last, and often the simplest, problem in assessing the results of a therapeutic experiment. The science of statistics is as much concerned with the design of experiments as with their analysis.

The Sequential trial

A type of investigation which has recently become popular is that known as a sequential trial. In the standard clinical trial, of the type which has been widely used by the M.R.C. during the last fifteen years or so, it is necessary to determine the size of the trial in advance. Even if the early results appear to show overwhelming preference for one of the two treatments, one is not, strictly speaking, permitted to draw conclusions until the trial is finished. Such a procedure may be wasteful of time and energy and, what is worse, ethically indefensible. The sequential method of comparison is, in effect, a statistical trick which enables the significance of the results to be assessed as they become available.

The principles underlying the method may be illustrated by a trial now being carried out by Dr. M. A. Smith, of the Skin Department, and designed to compare the efficacy of a new anti-pruritic drug with that of a placebo. Each patient is treated for a week with the drug and a week with the placebo; at the end of a fortnight he is asked which he prefers.

There are two points to notice in the design of the trial; both arise from the fact that almost the only useful criterion of the effect of the treatment of pruritus is the patient's own, often highly subjective, judgment. It will therefore be difficult to make a valid comparison unless the patient acts as his own control; fortunately we were able to arrange this as the drug is a short-acting one and the condition relatively chronic. But the more important point is that every possible precaution must be taken

to avoid bias ; the patient must have no clue as to which is the active drug ; he might easily, for instance, think an unusual-looking pill more potent than one that looked like an aspirin (fortunately most drug firms are now often prepared to provide dummy pills to match those containing any new preparation). Furthermore the doctor also should, if possible, be unaware of which pills are which ; several investigations have shown that even the most well-intentioned clinicians can impart bias by their manner of asking questions and recording the answers. A trial in which the identity of two treatments is concealed from both the patient and the doctor is called " double-blind " ; this method should, if it is practicable, be used in any trial in which the assessments rely on opinion rather than fact. It is obvious that the patients should not all have the two drugs in the same order ; not only might the actual responses be governed by the order of administration but also it would be difficult to maintain the double-blind principle if the order was the same in each case. In this trial the key to the allocation of tablets was held in the Statistics Department (with a sealed copy in the Skin Department in case of emergency) ; this allocation was based on random numbers in such a way that, in the long run, an equal number of patients would have each type of tablet first.

The essential characteristic of a sequential trial is a specially constructed chart (shaped rather like an arrow-head) on which the results are recorded as they come in. When the graph crosses a boundary the trial stops, the results being judged " a significant difference " or " not a significant difference " according to which boundary was reached. In the itching trial only eleven preferences were needed (of which ten were for the active drug) before the boundary was crossed indicating a significant result—the conclusion being that the new drug did offer a real relief of the patient's symptoms.

I have described this trial in some detail ; apart from its being an example of a relatively new method of investigation it illustrates several points likely to be of importance in any trial. But in fact no two trials are alike ; in some investigations ethical considerations may play more of a part than in the trial just described ; in some there may be several criteria (some objective and some subjective). Other trials (not sequential) in which the Statistics Department has taken part in recent years, have included one to compare an oral with an injected penicillin in the treatment of boils, and one to compare the rates of recovery from two short-term anaesthetics ; in the latter the criterion analysed was the ability to trace some lines and make a simple drawing.

Surveys

Clinical trials are the most spectacular, and possibly the most rewarding, application of medical statistics. But in some ways they are the simplest. Once the planning and organisation is complete the amount of analysis and calculation necessary may be trivial (this is particularly true in a sequential trial). Part of this simplicity usually arises from the fact that in a clinical trial the investigator has only a few definite questions to answer. In direct contrast to this is the " survey "—a word I will use to cover enquiries in which the investigator has no control over the factors he is studying. He collects data relating to a number of cases of a particular disease (it may be 20 or it may be 2,000) and tries to find out what light, if any, such data may shed on the aetiology, diagnosis and prognosis of the disease. The number of questions asked is potentially almost infinite. A survey may be retrospective—that is to say, based on records already in existence when the investigation starts, or it may be prospective—based on data collected specifically for the investigation. Generally speaking the prospective method is to be preferred if only for the reason that clinical notes are seldom complete ; items of information, such as physical signs, which the investigator may consider of importance in the study of the disease in general, may have been thought irrelevant in the case of the particular patient (or may have been missed through carelessness). In a prospective study the investigator has some control over the collection of his data.

An example of a prospective survey is one now being carried out in association with the Department of Bacteriology and the Casualty Department ; this is designed to find out something about staphylococcal infection. Swabs are taken from boils and septic wounds of patients attending the casualty department and from the noses of these and other patients. The patients are asked various questions about recent medical treatment (including antibiotics) and whether any of their families have recently been in hospital. The answers to these questions, together with the relevant bacteriological data, are recorded on punched cards in the Statistics Department.* These will enable us to relate, for example, the acquisition of resistant strains to previous medical history. Another prospective enquiry carried out in recent years was one designed to test whether there was a hereditary factor in lactational failure.

When time for research is limited it is inevitable that many investigations must be retrospective. The physician or surgeon studying a relatively rare condition may not be able to collect enough cases of his own ; or the purpose of his investigation may be to find out the results of other people's methods of diagnosis or treatment. At this level the " survey " is simply an extension of the oldest of all methods of advancement of knowledge—learning by the experience of others. If it is worth studying other people's results it is worth studying them methodically. The investigator who ploughs through 500 notes, abstracts them and has them recorded and analysed by means of punched cards, will seldom " prove " anything about a disease in the sense, for example, of discovering a causal relationship between a method of treatment and its response, but he may well learn a great deal about the disease. Even if he only learns what are the questions that really need asking he will have taken a step forward.

Cancer follow-up

There is little that need be said about such surveys that we have been associated with but it may be of interest to conclude this article with a short description of a project, partly prospective and partly retrospective, which is by far the most extensive of any that we have undertaken. Every year about a thousand cases of cancer are seen in the hospital. The Follow-up Department (whose activities were described some years ago in a *Journal* article) records such basic facts about each of these patients as their age, sex, diagnosis and method of treatment, and keeps in touch with them as long as they survive either by arranging that they should visit the hospital periodically or by writing to their general practitioners. This system began in 1947, so that by now that are records of more than 10,000 cases of malignant disease, half of whom have been followed up for five years or more. This survey is prospective in that the basic records are kept in accordance with a pre-arranged plan and that the machinery of the follow-up department ensures a coverage of 100 per cent, but is retrospective in that much of the details must still be dug out of the notes in the same way as in all the other retrospective trials I have mentioned. At present we are preparing, with the co-operation of various members of the staff, a Report which will show the five-year survival pattern of patients seen in the five years 1948-52. This is a task of considerable complexity, but the work, when completed, should provide a useful measure of the success of various forms of cancer treatment and a base-line from which to assess the value of the newer methods now being brought into use.

* We use the Hollerith System, in which a card, measuring about 3 in. by 7 in., is punched with holes in such a way as to record, for instance, the results of 80 questions, each with 12 possible answers. The cards can be mechanically sorted and counted (by means of what Miss Hector calls our " iron piano ").

Letters to the Editor

THE MERITS OF A SCIENTIFIC EDUCATION

Dear Sir,

A recent editorial in this *Journal* (February, 1960) raises an interesting question which affects the opinion we have of ourselves as doctors and as persons supposedly qualified to be authoritative, often on matters outside clinical medicine. I refer to the conflict between The Arts and The Sciences, a problem which in many ways concerned our grandfathers more than ourselves, although in thinking circles in our time it causes difficulty. In the first place, the methods of science are different from those of the humanites, so each way of thought should be applied in a different sphere ; each gives an alternative solution to the thinker's query, unless his thought, like that of Socrates, embraces both. Herein lay the intellectual strength of the Greek culture, and much of its weakness also ; for this thought-process breeds generality in philosophy to the extent that no answer is forthcoming to the lay-

man's question, so that the man in the street loses confidence in his intellectual superior. Nowadays, people label this way of thought " academic " in a disparaging tone. In the second place, the " arts brain " is found in a different kind of person from he who has a " scientific mind," and it is not as usual as it ought to be for each to choose a friend with the other. Those who have argued all night with historians and Greats students will, I think, understand this feeling.

An (Oxford) historian remarked to a physicist friend during one of those undergraduate arguments, " Oh yes, but you aren't qualified to talk, because what sort of education is a scientific one anyhow." He was young, and unfortunately meant this remark, because, like many artists he did not comprehend the scope of science. It is my belief that the study of Natural Philosophy is the finest training of the mind. At most schools, Sixth Form scientists, because of the danger of specialisation, are made to attend classes on subjects like Musical Appreciation, the History of Science, Art Appreciation, Ancient and Modern Literature and Modern Languages, all of which is right and useful, because it brings young scientists into contact with arts ideals and people. Many undergraduate scientists, however, have a grievance that the reverse does not occur in school to the arts Sixth-formers, who remain ignorant of the real meaning of scientific method unless they are lucky or clever enough to find out for themselves. Teaching the properties of salt is not to be compared with making a boy digest a large chunk of literature, and this represents the sort of scientific knowledge that many arts students have when they take their degrees. They should be taught epistemology, say the scientists, and relativity and about stars and the Philosophy of Science. These are the things of which the universe is made and the things which can bind us all together under one philosophy, they say, and certainly any student who thinks in terms of the universal significance of these parts of science will have a broad outlook. They represent the greatest intellectual advances of our age, and it is for this reason that philosophers such as Russell and Whitehead have spent so much time and paper writing about them.

It is for this reason, too, that a good scientist will have a coherent system of thought into which he can fit most of his problems. The complaint is often made that this kind of education does not fit a person to deal with other people or to express himself to them, and this is true ; but these abilities have more to do with the personal qualities of the thinker than his approach. Nevertheless, it is little use having a brilliant mind if it remains locked behind the doors of incoherence. This is especially true for the doctor. It is my view that neither the arts nor the sciences equip a man for self-expression, and this lack can only be rectified by something altogether outside formal education. If one's schooling trains one to use the mind, it has been effective.

Yours sincerely,
C. W. BURKE.

Abernethian Room.

LADIES' HOCKEY TEAM

Dear Sir,

An account of the Hospitals' Final for the Women's Hockey Shield will doubtless, in due course, appear in your columns, but I thought it might not be out of place to draw additional attention to the remarkable nature of the achievements of the Women's Hockey Club. Since 1954 the Hospitals' Shield has been won consecutively by the Bart's team, a remarkable series of victories apparently unrivalled in the history of all sports clubs in this Hospital. All honour is due to the nucleus of women students who have made this record possible, and in the face of most formidable opposition from schools carrying a far heavier proportion of feminine hockey talent. For the seventh successive year the Shield has come back to the College, having been wrested from vigorous competitors with a determined grace and elegance that must command the admiration of all Bart's supporters—Ad multos annos !

Yours sincerely,
MICHAEL J. BLUNT.

c/o The Westminster Bank Ltd.,
High Street, Guildford.

WASP STINGS

Dear Sir,

I was interested to read, in your February issue, Dr. Castleden's article on wasp stings, and the variable reactions so produced.

Whilst keeping wicket for the Southend Doctors' Cricket Club last season, a colleague of mine was stung three times in the course of one over by a wasp that had secreted itself in his " box." The only reaction in this instance was the passage of twelve byes.

The Cricket Club present an annual trophy for the most outstanding performance on the field of play, and my colleague has been nominated for this merit award.

The only other nominee, to date, is a student, borrowed for a needle match, who, in demonstrating his agility in the field, lost his glass eye. The ensuing search by the two teams, umpires and spectators, wasted sufficient time to save the Club from an ignominious defeat.

The outcome of this interesting presentation is awaited expectantly by both medical and cricketing communities alike.

Yours sincerely,
W. R. HUNT.

81 Kings Road,
Westcliff-on-Sea,
Essex.

APPRECIATION AT LAST

Dear Sir,

May I begin this letter in the New Year by congratulating you and your recent predecessor, as Editors of the *Journal*, on a first-class job well executed. The *Journal* is awaited eagerly by myself, and each time read with saitsfaction. May I call your attention to my present address, and express the hope that any Bart's men in the area will drop in. May I add that after one week in this place I met one of the nursing staff from P.Pott who had worked with me when I was a budding houseman ! (Joan Featherstone). We had a truly overseas Bart's natter.

In addition, may I thank your predecessor for inflating my ego by considering my articles on St. Bartholomew as " authoritative," but I hope you can enlist someone to go on from where I left off, as the subject was fascinating.

Yours sincerely,
JOHN B. DAWSON.

University House
Australian National University,
Canberra, A.C.T.,
Australia.

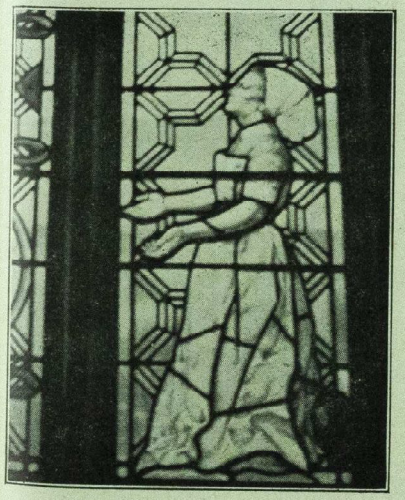
Dear Editor,

I thought the last number of the Bart's *Journal* most excellent—it has encouraged me to renew my subscription. I had begun to wonder whether it was worth going on with it. All success in 1960.

Yours sincerely,
AUBREY WESTLAKE.

Fordingbridge,
Hants.

This letter refers to the November issue.—*Editor.*



Bart's Nurse

George's Nurse

MEMORIAL WINDOWS

Mr. F. C. Pitts, of Streatham, has written to the Editor pointing out that the nurse in the memorial window in the Church of St. Bartholomew-the-Less is a twin of the girl in the famous memorial window in Westminster Abbey. The twin, he says, has the same air of dedication and devotion and is, to all appearances, the same woman.

Mr. Pitts questioned the designer, Mr. Hugh Easton, on this matter. Mr. Easton said that he had designed both windows but made separate drawings for each, one at Bart's and one at St. George's. There are, he says, " small differences between them." Mr. Easton added, " it just goes to show that good-looking nurses in uniform are not easy to tell apart."

Sports News

LADIES' HOCKEY

United Hospitals' Hockey Cup Final

On Saturday, March 5th, there met once again on the Middlesex ground at Chislehurst, the hockey teams of Bart's and the Royal Free Hospital, to do battle for the United Hospitals' trophy.

Both teams were rather nervous, and the standard of play was not of the best. At first the play was on the left, and Miss Swallow, just recovered from 'flu and playing in her seventh Cup Final, was hard worked.

The first goal was against the Hospital, being scored by the left inner in the Royal Free team. Play continued evenly and, just before half time, the Royal Free defence allowed a ball to run off her foot into the goal. So, at half time, the score was 1—1.

After the interval, Bart's were playing downhill and, after several corners, there came one from which Jennifer Hartley scored a fine goal, putting Bart's ahead. All efforts were now concentrated on resisting the very many attacks on the Bart's goal made by the Royal Free forwards.

Eventually the final whistle blew and Bart's had retained the trophy for the seventh successive year. The Shield was presented by Mr. Nash, the President of the U.H. Women's Hockey Club, to the Bart's captain, Elizabeth Knight. She thanked Mr. Nash for sparing his valuable time to watch the game and, then turning to the Bart's Club, she thanked the President, Prof. Wormall, and the three Vice-Presidents, Dr. Blunt, Mr. Hume and Dr. Lehmann, who had all come to support the team. Finally, she thanked the opponents, the Royal Free Hospital, for making it such a good final.

The team rests at half time

Book Reviews

MIDWIFERY (A TEXTBOOK FOR PUPIL MIDWIVES)
by Garland & Perkes

Publishers: English Universities Press - Price 21s.

The authors of this book set out to produce a textbook of reasonable size and price, containing sufficient material to meet the requirements of the pupil midwife, and in this they have succeeded admirably.

The book is clear, well set out and up to date in its contents; the facts are presented fairly, conflicting view points and their supportive evidence given with impartiality. The glossary is helpful in orientating the nurse to the language of obstetrics, while the proper names in heavier type make reference easier and also help to imprint them on the mind.

Illustrations are good, the clear line diagrams being easy to produce, with the exception of the foetal circulation (page 54) which may prove confusing since the atria are shown below the ventricles. The direction of vessels in the cord, and vessels to the liver might have been shown with advantage, giving insight into injection and replacement therapy by these routes.

Use of the metric system is a welcome innovation but the retention of the British Imperial System by its side it helpful.

The anatomy is perhaps a little on the brief side, but the physiology is clear particularly the menstrual cycle and the development and embedding of the ovum.

Chapters dealing with pregnancy, labour and the puerperium are clear and concise; abnormalities and their treatment simply explained with accent on aspects of particular interest to the midwife. Special tribute must be paid to their handling of ante partum haemorrhage and funic presentation and prolapse, no outmoded remedies having been suggested.

Although this book presupposes a background of General Training, there is much that would be useful to the "two yearly" pupil. The diseases associated with pregnancy such as cardiac and pulmonary conditions; and the section relating to rhesus incompatibility are simply explained and would be helpful in understanding certain alteration of treatment in these instances.

The normal and abnormal infant is clearly depicted and many modern trends given in this field. Finally the chapter on Social Services and Statutory Bodies is exceedingly useful for quick reference.

Altogether this is a book which can be thoroughly recommended to the nurse about to commence her midwifery training.

Miss R. E. Bailey,
Midwife Teacher's Diploma.

UROLOGY IN OUTLINE. By T. L. Chapman. E. and S. Livingstone Ltd. pp. 176 *27s. 6d.*

The author in his preface to this first edition writes —"The presentation is somewhat unorthodox. Most people carry information in their minds as successions of simple mental images" . . . and . . . "It is in the form of simple images that this introduction to urology is presented". Those drawings, to which the author refers, are very clear, lucidly portraying anatomical, pathological, physiological, embryological surgical and instrumental details. Each chapter is introduced by a short text followed by the drawings which adequately summarise the main points of the text.

An evening will suffice to read this book and the student will find it stimulating and consider it time well spent. Some students would appreciate more books, dealing with the subjects, written and illustrated in a similar vein

GENERAL PATHOLOGY AND BACTERIOLOGY FOR DENTAL STUDENTS by Ronald L. Bishton, M.D. **Published by John Wright, Bristol.** Price 42s.

This well presented and illustrated book will certainly serve a need in the dental curriculum. It has excellent chapters on fundamentals, although "Inflammation" should surely come early in these basic first ten chapters. Staining procedures are deliberately omitted, but culture methods receive considerable space. Venepuncture, described in some detail, is omitted from the index, which does, however, score in incorporating the illustration figure numbers. Leucoplakia of the tongue would appear to be the only wise choice of the sole six coloured plates. As the book is written primarily for Dental Students, more stress could possibly have been given to dental aspects of disease, this would increase its undoubted value to students and practitioners.

A BIOCHEMICAL APPROACH TO PATHOLOGY by M. J. R. Dawkins and K. R. Rees. **Published by Edward Arnold Ltd., 1959.** 128 pp. Price 18/-.

Attempts have recently been made to correlate the morbid anatomical findings in disease with variations in the biochemical behaviour of cells from the normal. It will be seen from this book that the subject is still in its infancy, but some very interesting observations have already been made. The first chapter summarises in a simple manner the biochemistry necessary to understand the subsequent contents of the book. This is followed by a chapter on the submicroscopic organisation of the cell which in itself is not difficult to understand, but which is not generally taught in medical biochemistry. The authors then discuss the effects of toxic agents on the cells of the body, deficiency states, metabolic disorders and conclude with a chapter on the biochemistry of cancer. The book is too small for much detailed discussion to be possible, but the current theories are presented from an original viewpoint. The reader who is interested in the causes of certain diseases, rather than their appearance, will find this book stimulating, but its value is rather limited by the almost complete absence of references and the statements remain opinions of the authors rather than verifiable facts.

J.C.C.

HAEMATOLOGICAL TECHNIQUE by E. M. Darmady and S. G. T. Davenport **Published by J. and A. Churchill Ltd. 1958.** Second edition. Price 24s.

This book is designed for the use of laboratory technicians working for the examination in Haema-

tology and Blood Transfusion of the I.M.L.T., and also for the practical aspect of the same subjects relating to the senior medical student. This second edition includes a number of additional techniques, e.g. the investigation of the haemorrhagic disorders, the electrophoresis of haemoglobins and the Rose-Waaler test. Sections on blood bank organisation and parasitology present in the first edition have been omitted, but there are four new chapters on blood groups, serological and cross-matching work and blood transfusion reactions.

The text is clear and precise, and the great asset of the book is the collection and presentation, in a single volume of reasonable size, of much haemtological data and techniques available otherwise only in more specialised manuals. At the close of many of the chapters are helpful brief lists of references, and there is also a glossary of terms at the end of the book. Constructive criticism is the absence of reference to the photo-electric cell for haemoglobin estimation, now the method of choice and certainly the most accurate. Other omissions are directions for preparing Coombs' reagent and also some general information and points on the significance of vitamin B_{12} serum estimations and absorption tests.

The book undoubtedly fulfils the function which the authors had in mind, and its practical value as a bench book in the subject is established.

H.F.B.

BOOKS RECEIVED

Textbook of Gaenecology, by J. H. Peel. Published by Heinemann. Price 30s.

Childbirth Without Fear, by Grantley Dick-Reed. Published by Heinemann. Price 12s. 6d.

Medical Terminology for Radiographers, by P. M. Davies. Published by Heinemann. Price 15s.

Principles of Pharmacology, by J. J. Lewis. Published by Livingstone. Price 55s.

Diagnosis in Locomotor Disorders, by K. Stone. Published by O.U.P. Price 25s.

Roy. Nat. Hosp. for Rheumatic Diseases, Bath. Reports. Volume 10, 1958-59.

Varicose Veins, by T. Cleave. Published by John Wright & Sons. Price 7s. 6d.

Clinical Physiology, by E. J. M. Campbell and C. J. Dickinson. Published by Blackwell. Price 50s.

Body Fluids in Surgery, by A. W. Wilkinson Published by Livingstone. Price 21s.

A Final Study in the Nature of Disease, by J. E. R. McDonagh. Published by Heinemann. Price 30s.

An Introduction to Congenital Heart Disease, by L. Schamroth and F. Segal. Published by Blackwell. Price 22s. 6d.

Acknowledgement in this column does not preclude a review.

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EDITORIAL

Medicine at the beginning of the present century was still a relatively simple and uncomplicated art. The previous one hundred and fifty years, it is true, had seen spectacular advances; vaccination had done much to remove the scourge of smallpox, and the advances in anaesthetics and bacteriology had broadened the scope of surgery. Through the concepts first of anti-sepsis, and then asepsis, the patients prospects of recovery had been much improved. X-rays, too, were being developed as a valuable aid to diagnosis. Nevertheless, it was still possible for an individual to be well versed in most of the branches of medicine. Specialisation in medicine, surgery or obstetrics was well established, but it was not uncommon for one or more of these specialities to be combined with general practice. Nor were the specialities as closely associated with hospitals as is the case today. It was by no means uncommon for major surgery to be undertaken in the patient's own home, with his own doctor as anaesthetist. Domiciliary visits by Consultants were far commoner than today, and it was only among the poorer classes that hospitalisation was really necessary.

Under this system the General Practitioner was the prop and stay of his patient in time of crisis. He alone knew the patient's full history and background, and though Consultant opinion might be sought, the G.P. still remained visibly in charge of his patient's health and well-being. Professor T. F. Rodger* has called attention to the fact that the General Practitioner has traditionally been something more than a diagnostician—he is a unique type of psychotherapist. In primitive societies the medicine man, invested with strong magic powers, is enabled to exert powerful therapeutic effects through suggestion. In the rôle of the priest-physician he was likewise able to help his patients through the power of prayer and the exorcism of evil. "The doctor still retains much of his traditional status, but in his newer more competent technical rôle he sometimes finds it irksome to be regarded irrationally as a purveyor of magic or to be burdened with confidences and intimacies which often seem irrelevant to his task and which he would gladly see his patients take elsewhere."

In recent years the glamour of medicine has, as far as the public is concerned, shifted to the hospital. It is here that the modern dramas are played out, and it is here that the full battery of investigations can be trained on the patient. The Consultant has at his command vast technical resources, and the G.P., once his patient has been warded, has to await the progress reports which will be sent to him in due course. Inevitably it would seem, the General Practitioner's prestige has taken a knock.

* Textbook of Medical Treatment ed. Dunlop, Davidson and Alstead Livingstone