



Saint Bartholomew's Hospital

JOURNAL

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Fringe Knowledge

In some instances, it is of great potential value to the public to have a fringe knowledge of a disease, its causes and its treatment.

One good example of this is carcinoma of the bronchus and its relationship with cigarette smoking. There is no need for the public to understand the basic lesion and its pathology: simply that as a prophylactic measure not smoking heavily reduces the likelihood of an individual contracting the disease. Extensive publicity has been given to this subject both in the press and on the television, and no one can complain that he has not been adequately informed of the dangers of cigarette smoking. Whether he cares to restrict his cigarette consumption in the light of such knowledge is his affair entirely: but he has been warned.

Another subject which has been in the news recently was brought to the attention of the public by B.B.C. 1 on November 9th in the series *Matters of Life and Death*. The subject was chronic renal disease.

Whereas selection of material for such a programme is difficult it is always easily criticised. The programme dealt with the two methods of treatment of chronic renal disease: dialysis and transplantation. The meaning of the word dialysis was not explained, which must have led to some mystification, and the relationship between transplantation and dialysis was never made clear.

In spite of this, however, the programme was of indisputable value. The medically trained who watched the programme will have understood the principles, and the public will have been made aware of two important points. These could not have been missed by anyone.

The first is that in order for chronic dialysis to be of widespread use, the Treasury will have to spend more money in the field. It is important that the public is aware of this, even if they are unable to do anything about it. The second is that if all the patients suitable to receive kidneys are to do so, more kidneys must be available. If a kidney remains in a cadaver for more than two hours it is useless for transplantation. This gives rise to legal and emotional problems. It is against the law for kidneys to be removed from a cadaver for transplantation without the permission of the next of kin.

If the letter of the law is to be observed, even if a man carries a written testament stating that his kidneys may be used for transplantation, the kidneys may not be removed without the relatives' permission. The emotional problem is obvious. Anyone, just bereaved, does not want his distress increased by a necessarily hurried visit from a doctor, asking if the kidneys may be used.

Here the public can help, by pressing for changes in the law. Two alternatives present themselves. One is that a testimony carried by a man to the effect that he is happy to have his kidneys used for transplantation becomes valid; the other is that anyone may have his kidneys removed for transplantation on his death, unless he has made it clear that he does not wish this to be done. This he could effect by registering his wish, either at the local renal unit office, or by carrying a card. The former is probably more acceptable to most people, because it makes them feel they are volunteering their kidneys, although it falls down in practice because probably many would forget to carry the card.

If either of these changes are to be brought about, the public must be aware of the situation. Perhaps the response to publicity about smoking and cancer of the lung has not been as great as might have been expected because of the extraordinary feeling man has that "this will not happen to me". If the man in the street can be made to understand that he is helping someone else by donating his kidneys, albeit posthumously, perhaps he will do something about it. In any event it is of great importance that this topic be discussed as much as possible, not only by the medical practitioners among themselves, but in the press and on the television also.

LETTERS TO THE EDITOR

To the Editor,
The St. Bartholomew's Hospital Journal.
Sir,—We are delighted that Dr. B. M. Wright found the article in the October issue on "Blood, Alcohol and Performance" interesting. We would like to point out that when the experiments were being organised there was no thought of preparing a report for publication in any journal. However when all the experiments were completed, a seminar was held to discuss the results, and it was at this time that a decision was made to write a report on the experiments for this *Journal*.

The *Journal* has a circulation among clinicians, scientists, nurses, students, and patients. It is rather a hospital journal than a scientific journal, although we believe it is reputable. The

article was prepared so that it would be readable by any person interested in the topical subject of the effects of alcohol on man. This was not considered compatible with the accepted form of a scientific paper, and furthermore space was strictly limited. Thus some of the discussion was included with the results whenever relevant, and a review of past work and references were omitted contrary to the practice in scientific journals. The authors were only too well aware of the vast amount of previous work in this field.

Yours faithfully,

N. H. Brooks & K. G. Taylor

The Abernethian Room,
St. Bartholomew's Hospital,
London, E.C.1.

Engagements

LLOYD McCAYL. The engagement is announced between Mr. Davil Allden Lloyd and Miss Jeanne McCayl.

STROUD—NASH.—The engagement is announced between Mr. Andrew Stroud and Dr. Valerie Nash.

BRITTON—COWANS.—The engagement is announced between Dr. Julian Britton and Miss Mona Cowans.

LISTER—MARTIN.—The engagement is announced between Mr. Andrew Lister and Miss Sarah Martin.

Births

AUSTIN.—On Nov. 15, to Christina (née Baird) and Dr. Antony Austin, a son.

BATTERHAM.—On Nov. 7, to Diana (née Fisher) and Dr. John Batterham, a daughter (Lucy).

BROWN.—On Nov. 4, to Barbara (née Green) and Dr. Michael Brown, a daughter (Emma Jane).

WHYATT.—On Nov. 12, to Anne (née Lauson) and Dr. Nicholas Whyatt, a daughter (Fenella Anne).

CARTER.—On Nov. 22, to Betty (née Williams) and Dr. Timothy Carter, a son (Rupert Nicholas Garth).

STRANACK.—On July 14, to Caroline (née Foot) and Stuart Stranack, a daughter (Ruth Mary).

ELLIS.—On Oct. 7, to Ann (née Gimalett) and Dr. Paul Ellis, a son (Jonathan Mark).

Deaths

THOMAS.—On Sept. 18, David Page Thomas, M.R.C.S., L.R.C.P. Aged 77. Qualified 1915.

ABERNETHIAN SOCIETY

Thursday, 16th November:

Dr. John Fry, M.D., F.R.C.S., "Behind the Iron and Golden Curtains—medical care in the U.S.S.R. and U.S.A."

The Society's calendar for this academic year opened with an acute and searching analysis of not two but three countries' systems of medical care. Not content with an ambling travelogue

illustrated with pretty pictures of Russia and the United States, Dr. Fry chose the much harder but more rewarding task of examining the two foreign systems and simultaneously relating them to the Health Service in this country.

To ensure a common language and philosophy, Dr. Fry opened with some basic propositions. First he showed that the real problem of any health service was to cope with the "non-equation." Wants—Needs—Resources as

fairly as possible. He elaborated the concept of health by comparing the population to an iceberg, where the submerged mass represented the majority without symptoms of ill-health and a substantial minority with a degree of suffering, which for various reasons was insufficient for medical advice to be sought. The visible tip are those who see doctors, with hospital medicine forming only a tiny fraction.

Dr. Fry then paralleled the routes by which patients reach a hospital. Only in Britain is there a single doctor of first call whatever the complaint or age of the patient. The American or Russian sees what Dr. Fry expressively dubbed a specialoid, e.g. Paediatrician, Internist/Therapist, or Psychiatrist. The next port of call in Russia is the Polyclinic which is equivalent to Outpatients detached from the hospital. Finally all countries have their hospital specialists.

In many respects we could learn from the Russians in particular, Dr. Fry suggested. The Polyclinic makes the best Group Practice seem inefficiently small and under-equipped. The fraction of the Gross National Product spent on medicine puts the Americans and ourselves to shame and provides the Russians with an amazingly accessible service, epitomised by a superb ambulance network. The Americans could benefit from well-endowed research facilities but run the risk of being treated by an ill-qualified practitioner unwilling to lose not so much the care of a patient as his dollars. Significantly, Dr. Fry paid this country the compliment of preferring to fall ill here than elsewhere.

After time cut short the questions of an evidently fascinated audience, Mr. McNab Jones proposed a vote of thanks.

P.E.B.

Obituary:

Charles D'Oyly Grange, O.B.E., M.B., B.S., F.R.C.S.,

Charles D'Oyly Grange died suddenly in his home in Sussex on October 19th, 1967, aged eighty.

He was born at Moffat, the son of a physician who practised for many years at Harrogate in the summer and at Bournemouth in the winter. His earlier professional studies were at the Leeds Medical School, whence he came to Bart's for his clinical work. He did well as a student at Bart's, being awarded the Willett Medal for Operative Surgery.

After qualifying M.R.C.S., L.R.C.P. in 1910 he returned to Leeds for a short time as Demonstrator of Anatomy, he came back to Bart's in 1911-12, to be House Surgeon to C. B. Lockwood. Then followed another spell of work in the North Country, as Assistant to that well known surgeon James Rutherford Morrison of Newcastle-upon-Tyne, who had been Grange's father's friend and contemporary at Edinburgh in the Seventies of the last century.

Grange became M.B., B.S. (London) in 1912 and F.R.C.S. (England) in 1913, and in October 1913 he was appointed Demonstrator in Anatomy at Bart's. His time in the dissecting

room was relatively short, owing to the outbreak of the 1914-18 War, during which he served as a Temporary Major in the R.A.M.C., working as Supervisor in charge of the Surgical division of the Northumberland War Hospital at Newcastle for which work he was awarded the O.B.E.

When hostilities ceased he went to Harrogate where he spent the rest of his active professional life as Surgeon to the Harrogate and District Hospital, and on his retirement in 1947 moved south to Angmering-on-Sea, Sussex.

Grange was an accomplished general surgeon, inspired by Lockwood and Rutherford Morrison. His work was well known, and appreciated, in the West Riding of Yorkshire. He took an active part in the affairs of the Association of Surgeons of Great Britain, and the Provincial Surgeons Club. He was a man of consummate integrity, of very sound commonsense, and he had a keen sense of humour.

He married, in 1918, Dorothea, daughter of Charles James Forster, of Newcastle. There were no children.

A.L.M.

Retirement:—

Miss K. D. Bartlett S.R.N., S.C.M.

It is understandable that a girl christened Katherine Diana Bartlett should have been known at home and in close circles as Kit or Kitty. Why she has been known as Belinda to generations of Bart's men and women remains a mystery. Even the origin of the legendary Belinda Blue-Eyes is in doubt. Some would have her a principal in a strip cartoon of the pre-war *Mail*, others a creation of Mabel Lucie Attwell. But one thing is certain: those expecting to be greeted by an elfin creature, hands clasped in ecstasy and gazing into the empyrean would receive a rude shock; they would instead be confronted by a small straight figure whose eyes would rake them from stem to stern. And not blue eyes at that.

A strong military tradition entered into the make-up of this uncompromising perfectionist, directly from her father and from close friendship with her brother, both Regular officers. It is not surprising therefore that she spent some time nursing in the V.A.D. before coming here in 1933. After easy ascent of the nursing ladder she gained the Hospital Certificate with First Class Honours in 1937. Then, like all Good and Ambitious Young Women, she departed to become proficient in midwifery. The choice of place, the Radcliffe Infirmary, is important and characteristic; a lifelong love of the County of Oxford has been as deep a part of her as has her affection for Bart's.

In 1938 she returned as a Theatre Pink and two years later was appointed Superintendent of Theatres at Hill End. There she served until 1945, when family tradition erupted again and she went to Wheatley, Oxford to join the Queen Alexandra's Imperial Military Nursing Service Reserve. It was not for long. In the following year the late Cecilia Hayes, Superintendent of Theatres at Bart's and a remarkable combination of efficiency, generosity and eccentricity retired from the scene. Belinda took over the arduous command, and there remained until her retirement this year, thus completing nearly thirty years of service to theatres.

Her standards have always been of the highest. The beatnik style has never been to her taste, and the incorrectly dressed would be sharply reminded of their deficiencies by a tug at undone tapes or a glare at hair escaping from a cap. But perhaps her greatest animosity was reserved for the cad who operated on cold cases on duty days.

Theatre layout at Bart's is notably rambling, but this did not deter her from covering the field with daily regularity. A good deal of ill-health has dogged her footsteps, especially in latter years. This has in no way daunted her; ever mindful of the needs of her staff she has fought for their proper welfare. It is no small tribute to her efficiency that despite a nursing shortage she has kept a larger number in training than have most other hospitals.

When the late Sir James Learmonth, assisted by Sir James Paterson Ross, operated on the late King George VI, she joined the team which went to the Palace. In her own words, "Sir James was the houseman, I was the third".

In 1961 she visited the United States and Canada, studying theatre management on a Red Cross Travelling Fellowship. She returned unscathed, proving that you can always tell a Bart's woman, but you cannot tell her much.

Despite continuous administrative responsibility she never forgot her first love, that of taking a case. Here one saw the maestro touch. Happy, unruffled, never at a loss for the right instrument she was supreme. One has a lingering suspicion that a staff shortage which forced her into the breach was not unwelcome.

Off duty, her chief delight has been to entertain her friends. Here a gracious talent for hospitality is allied to an impeccable taste in dress. A great love of horse-shows and horse-riding is in keeping with her character. It is difficult, however, to fathom why, after convalescence from one of her illnesses she returned with a black eye, having been knocked down by a donkey. Association with so ignoble a beast seems strangely out of context.

Like John Hunter, she ruptured her tendo Achillis, though not while dancing at the age of forty. It was a skiing injury which put paid to one of her several sporting interests.

Soon she will return to her beloved Oxfordshire, to a place where by domiciliary association she is known as Mrs. Squirrel. There she will occupy a delightful cottage, once the home of a relative known in family terms as Jungly Aunt or Lorna Bird. It is said that interior decorating will now become a major interest.

She is an individual of integrity and unswerving loyalty to friends, who has proved by example that quality of service is shaped by the person and not by circumstance. We wish her every happiness in her retirement.

R.A.B.

FORUM

of the Student's Union

There has been a feeling within the college recently that the Students' Union has become dissociated from the student membership. Few of us seem to realise what the Union concerns itself with and even fewer care. At the most recent Students' Union Council Meeting (officers and year reps) an agreement was reached with the *Journal* to institute a Students' Union forum; a medium through which the Union can publicise its aims and activities. But you are a member of the Students' Union and we are interested in your views too. Why not express your mutterings and grumbings about college affairs in a coherent form? Many people probably agree with you and would be interested to see your views discussed.

Apart from the task of implementing suggestions made in the recently circulated questionnaire on Hospital Refectory arrangements, the main activities of the Students' Union this month have been social. The Wine Committee (Did you realise that it's a sub-committee of the Union?) organised a wine-tasting on December 15th. Students producing the entry fee of 2/6 were welcome to taste and savour about eight different wines. It is intended that the wines receiving greatest popular acclaim will be available for Christmas and New Year off-licence sale.

In late January or early February the Wine Committee is also scheduled to organise another Smoker. The material will be written and performed by the group who revived the Smoker last year.

The Barts Drama Society has been growing steadily in membership and talent. Following the recent production of the "Knack" by Ann Jellicoe, the main production is an even more ambitious venture. Ben Jonson's "Bartholomew Fair", first performed in 1614, is to be staged at the Cripplegate Theatre. It is some years since the Drama Society has been able to launch a production on such a scale—the cast alone involves 35 people. In keeping with the position of the Major Production as one of the outstanding events of the 'Season' it is intended that



A Bart's bedstead in an unusual setting during rehearsals for "The Knack".

dress will be formal on the first night, February 21st. The play will run for four days.

The ward shows will be performed this year on Christmas Day and Boxing Day, followed by the Pot-Pourri, to be produced by Chris Edwards and directed by Alan Bailey, on December 27th, 28th, and 29th. Enthusiasm tends to swell, to the distress of already distraught producers, rather late in December. Please give your assistance in *entertaining* the patients for whom Christmas Day can otherwise seem very empty.

List of producers to be contacted:
 First time Clerks—Grant Radcliffe
 First Time Dressers—Jim Drynan
 Children—Nick Wagner
 Specials—Pete Jordan
 Finals—Jon Lilleyman
 House—Andrew Crowther

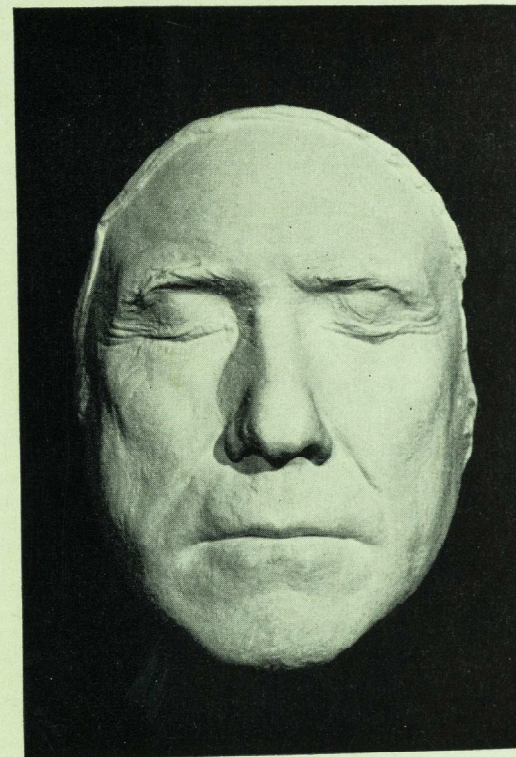
The first of the Hospital Rugby Cup matches is scheduled for January 30th. The opponents in the first round are St. George's. The team puts a lot of time and effort into training and would greatly appreciate support in the form of spectators.

Elisabeth Macdonald

The Life Mask

of John Hunter (1728-1794)

by John L. Thornton, Librarian.



On his retirement at the end of last session Professor A. J. E. Cave kindly presented to the Medical College a life mask of John Hunter, a gift which was greatly appreciated, and which is displayed in the Library. The mask is a beautiful object, representing Hunter's features when he was about sixty years old, and it was thought that an investigation into the origin of the object might add to its interest.

The original life mask is preserved at the Royal College of Surgeons, and was received by the College with the Hunterian Museum. It was made in 1785 or 1788 (see below) for Sir

Joshua Reynolds, who had been commissioned by Hunter to paint his portrait. This was executed in 1786 and exhibited at the Royal Academy in that year. Hunter gave Reynolds further sittings in 1788 and 1789, and it has been suggested by Sir Arthur Keith (1928; 1919) that Mrs. Hunter was dissatisfied with the first portrait, which showed John Hunter with a beard. In order to make him dispense with the latter, Reynolds persuaded Hunter to have a life-mask made, and this featured in the later portrait. Sir Arthur Keith further suggested that Mrs. Hunter eventually disposed

of the 1786 portrait, and that this is the one now in the Society of Apothecaries.

The original life-mask (LeFanu, 1960, No. 127) was "cleaned and oiled by Sir Francis Chantrey" in December, 1820. Chantrey was requested by the Council of the Royal College of Surgeons in 1819 to execute a marble bust of Hunter, (LeFanu, 1960, No. 124) which was bought in 1820 for £126. The head is said to be based on the painting by Reynolds, but see below. The Board of Curators had in 1800 commissioned John Flaxman to make a marble bust of Hunter, after the "Mask cast in Plaster of Paris taken from Mr. Hunter in his life time" (LeFanu, 1960, No. 128). The beautiful marble statue by Henry Weekes made in 1864 (LeFanu, 1960, No. 125) is also based on the pose of the Reynolds' portrait.

These examples suggest that the life-mask of John Hunter had considerable influence on his portraits and busts, and it is possible that several copies of the life-mask exist. The Royal College of Surgeons has a cast in plaster of the original, and also a bronze cast made in recent years. Comparison of our model which was originally given to Professor Cave by Sir Arthur Keith, with the three in the R.C.S. indicated that ours is superior in detail. Both the original and the plaster cast at the R.C.S. have been heavily coated with a glossy substance which conceals the fine wrinkles so keenly delineated on our copy, suggesting that it was made before the original was treated.

It has been suggested that the life-mask shows Hunter at the age of 60, which would date the original at 1788, five years before his death. The alternative date of 1785 (LeFanu, 1960 No. 127) may have been arrived at by supposing that it was made in preparation for Reynolds' portrait painted in 1786, but if Sir Arthur Keith's theory is correct, and another portrait was painted in 1788-89, the mask having been made for this one, Hunter's age as given might well be correct. However, this is difficult to reconcile with the fact that the well-known engraving by William Sharp was published on January 1, 1788. Keith (1928) provides interesting details of Hunter's portraits, and this source should be consulted for fuller information. William Norris (1825) has recorded the following details regarding the life-mask: "Whilst, however, Sir Joshua was engaged in this portrait, he requested Mr. Hunter to let a cast be taken from his face, that he might the more deliberately study it during the intervals of his sittings. That mask, the existence of which had been entirely

forgotten, was found amongst the lumber after Mr. Hunter's death, and from it a bust, equally happy in execution, has been made. As if destined for immortality, that marble, as durable as the world, will present to future generations, a correct likeness of John Hunter, by Chantrey, of our day the Praxiteles."

This implies that the Chantrey bust was based directly upon the life-mask rather than upon the Reynolds' portrait of Hunter.

John Hunter (1794) has also left a record of the making of the life-mask, but without giving a date, and in a work published posthumously:

"When I had plaster of Paris applied to my face to make a mould, in the taking it off, it produced a kind of suction on the fore part of the nose, which I felt; and when the plaster was removed, on observing the part, it was red, as if the cells of the skin were loaded with extravasated blood; this was then of a florid red, but it soon became of a dark purple, which shewed that it was arterial blood, and that by stagnating in the cells of the body it became of the colour of the venal blood."

We cannot be positive about the date of the original life-mask, and we cannot be sure that it was actually used by Reynolds for his portrait of Hunter. It may be that Reynolds merely used the making of the mask as an excuse for persuading Hunter to dispose of his straggling beard. The result is a better likeness of the features of a living man than can be reproduced in oils or marble.

ACKNOWLEDGMENTS

I am indebted to Professor G. Causey and Miss Jessie Dobson of the Royal College of Surgeons for showing me the Hunter masks and busts, and for useful discussions. Also to Mr. W. R. LeFanu for the information contained in the below-mentioned *Catalogue*, and the Department of Medical Illustration for the photograph.

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Experience in Group Practice

by C. J. F. W. Williamson, M.A., M.B.,

For the first time in many years national and medical attention has recently been focused on General Practice. Militant action matched in its fury only by its disorganisation has forced a reluctant and penurious government to make some real concessions. Clearly the Ministry of Health recognised that this Cinderella of the National Health Service was moribund.

One of the special awards of the new pay structure is of £200 to each partner in a group practice. The inducement should influence the increasing tendency for doctors to operate from a central surgery or health centre in partnership. The advantages appear obvious, yet for many, notably those in rural areas it is impossible to form group practices of a kind that will attract the Ministry grant. To be eligible they must be based at a central surgery. The single-handed doctor is becoming rarer. He tends to work in professional isolation. He must make special arrangements for holidays and off-duty at his own expense. Sudden illness causes great difficulty. He faces the constant and inescapable summons of telephone and door bell. His patients have the satisfaction that they will only be seen by their own doctor and that they can always get him, but this ready availability increases their demands. I can appreciate the advantages and satisfaction of single practice, but only the most dedicated doctor should attempt it.

Especially in country area doctors with single practices may work a rota for night, weekend and holiday cover. They are not eligible for the group practice award although only geography may prevent them from using a single surgery. When covering for their colleagues they may have to travel long and costly distances and leave their own practices without immediate cover.

The true group practice will become the pattern of the future, and more doctors are operating these from health centres. These are owned by local authorities who sublet to the doctors and also run their own health services from them. This may be only a short step to the salaried service. The professional dangers and implications of this are beyond the scope of this

article.

I belong to a six-doctor group practice in a small town on the Surrey/Sussex border. Technically it is the largest village in England, and despite the post-war increase in commuter population it retains a surprising number of village characteristics. This provides a good family doctor environment. Our practice extends five miles in each direction to cover several smaller villages and enough farms and country to give one the pretence of being in part a country doctor. To be thus spared city life and travel and yet to be within easy reach of London and the coast is a great blessing. The five senior partners have well over three thousand patients each and the junior partner helps to cover holiday and off-duty while building up his own list. The total number of patients is nearly 17,000, an alarming and ever rising figure which is consistently swelled by the provision of new housing in the town and the drift of population to this area. We work a rota system of off-duty, but to be on duty can be very heavy work with so many patients "at risk". We work from a central surgery but have one branch surgery three miles away. When these are closed telephone calls are transferred to the doctor on duty, but our private numbers are not published and remain ex-directory. It is most essential to be truly off-duty when not on call, and the majority of patients accept this. The single-handed doctor does have the advantage of not being as busy as we are when on call, although being on duty all the time. Since maternity cases are often prolonged we prefer to attend these personally whether on duty or not, if this is possible.

The main surgery is in the middle of the town within easy reach of our homes. It was built in 1953 and is a reasonable model of what it should be, but we plan improvements. A recent Ministry grant scheme pays for one third of the cost of approved plans. It has, for instance, just paid this towards a central heating system that we are installing. The initiative and remaining cost rests with the doctor, who also supplies his own equipment. However, a most welcome innovation has been the provision of sterile syringes

and needles free on demand. There are five consulting and three examination rooms. The three telephones are manned during office hours by a team of secretaries, 70% of whose wages are now paid by the state. These secretaries have a most responsible and difficult task coping with the numerous demands and varied manners of the public. In addition to National Health Service duties we perform factory examinations here and do medicals for several government departments and private insurance companies, and act as police surgeons.

We have a trainee practitioner whose salary is paid by the State. This scheme appears mutually beneficial and provides a good introduction for anyone interested in the subject. If a trainee studies the regulations with great care he may qualify for a vocational grant worth *in toto* £1,500.

For the last five years patients have been seen by appointment only except in emergency and most prefer and accept this. Nevertheless at the introduction of the scheme there was some opposition from those who preferred the ritual wait. If you had seen the packed and germ-infested waiting-room of the pre-appointment era you would find this hard to understand. At least it had a spirit of competition and enterprise in the struggle to reach the doctor first. Surgery hours have been rationalised a little so that the doctor can vary them to suit his plans. To the dismay of some the Saturday evening session has disappeared. It is probable that with time all weekend surgeries will vanish, but most people still believe that, unlike the hospital doctor, dentist, solicitor, or even shop-keeper, the G.P. should be available at the hours that suit the patient best. Employers expect their personnel to attend hospital clinics in working hours, but to see their G.P. in their leisure time. Even in an organised group practice this can lead to a very long day, and the surgery hours are the most consistently intense part of our work.

Hospital out-patient clerks usually give the same appointment time to several people, which the patients resent. We resolved to give separate times and find our patients appreciate this and are seldom unpunctual. In theory there are ten minutes for each consultation, and this must remain the minimum desirable, yet such have become the demands on our time that three patients and as many telephone calls may be squeezed into these minutes. This is a most dangerous consequence of the shortage of medical manpower. I begin my surgery at 8.30 a.m. (and occasionally earlier, which is

surprisingly popular!), and am lucky to finish by mid-day. On two or three evenings a week I begin again at 4.30 p.m. and continue until 8 p.m. or later, yet the majority of serious illness is seen out of surgery. To have consistently over-booked and over-extended clinics is depressing, and this is becoming the rule nowadays, as I know it is in hospital. Under this pressure one must resist making a diagnosis by instinct and treatment by umbrella therapy. It is seldom possible for patients to be seen just when they prefer. Remember that the general practitioner sees 93 per cent of illness in this country and much of it at its onset, which can cause chaos to the best laid plans and timetables. We prefer, and usually manage, to see only our own patients except in emergency. This provides the personal continuity of attention that the patient likes and trusts, and which the hospitals with their rapidly changing staff and delegation of duties do not give. Opponents of group practice suspect that the patient may see any doctor when he arrives at a large surgery, but we ensure that whenever possible he sees only his own. Thus we ought to build up the knowledge and trust of a patient and his family which is the strength of the family doctor system, and which the consultants may reasonably envy. This brings extra work because the patient may seek advice that is not essentially medical and about which he would be too shy to see a stranger. However it makes diagnosis and treatment quicker and easier when you understand the background of an illness. The hospital "specialist" often appears more brilliant and exciting to the patient, but he may well be treated with a certain awe and distrust also. Some ill people cling faithfully to their G.P. while their condition worsens and refuse more expert advice. This can be very humbling when one's own diagnosis is wrong!

Each partner has subjects in which he has special interest. Some of us have held, or hold, hospital appointments, although our high work load makes this increasingly difficult. We naturally refer interesting and complex cases amongst ourselves. The second opinion can be obtained quickly, while hospital out-patient (and admission) lists are frighteningly long, although better here than in many areas. Working with medical colleagues in the same building reduces the referral rate substantially, and probably raises one's own standards at the same time. We try to have a daily period for the discussion of interesting cases, and I am sure that it is essential for a doctor to avoid pro-

fessional isolation and meet his colleagues frequently. We are fortunate that the local consultants seem to share this view, and our relationships with the surrounding hospitals are good.

I have a separate uncrowded afternoon clinic for maternity patients and infant inoculations. This is the one clinic that is not overfilled and gives more time for the complex problems of motherhood! The patients enjoy talking among themselves, and a monthly inoculation means a monthly check on the baby's progress. Almost all ante-natal care even for confinements in consultants units is at the surgery and not at the hospital. There are two excellent post-war G.P. maternity units where we admit and deliver many of our own cases. We have first-class liaison with the hospital medical and nursing staff. One unit is newly opened and of a very high standard. To be welcome here and able to use its facilities is a great stimulus to good medicine. Recently a scheme has been introduced whereby patients suitable for home confinement are admitted for 48 hours in the care of their G.P. and mid-wife. We have the rare privilege of being able to offer our mothers the opportunity of hospital confinement for every pregnancy including the potentially normal ones. Long may this continue!

It is horrifying for the student to know that in many areas the G.P. is denied X-ray and laboratory facilities, and it is difficult to imagine how the practice of medicine in 1967 is possible without these services. We are fortunate that the local pathology laboratory is most obliging and helpful, and I have never had a request refused. Two hospitals run a full G.P. X-ray service and show genuine interest in our cases. E.C.G.'s and audiograms can also be arranged.

In the last few months three health visitors have been attached to the practice by the county council. They are of particular value in the care of our older patients, and have a much

more detailed knowledge of the available welfare services. This is a new scheme but it promises to improve our domiciliary cover considerably and to leave us with less social geriatric visiting. The district nurses have long been invaluable in this respect.

There is a small seventeen-bed cottage hospital where the majority of patients come from our practice. This provides perhaps the greatest single incentive to good practice. We admit and treat our own patients here, request consultant opinion and refer to larger hospitals (including Barts) if necessary. Many illnesses are suitable for cottage hospital treatment, many of them acute and challenging. The hospital is very well loved in the town. It attracts a high standard of nursing care and great loyalty and affection from the patients. Its value to us is immeasurable, and its threatened closure would be a catastrophe. Five thousand casualties are seen there annually and one or more operating lists are held weekly with visiting local consultants and dentists operating while we provide the anaesthetics. We use it extensively for our own minor surgery and treatment.

I have written this article partly in the hope that it may encourage more young hospital doctors to join group practices. I feel optimistic about the future if the present trend of improvement continues. Against this trend is the current closure of cottage hospitals, and the steady rise in the numbers and demands of patients. These increased demands are due partly to the need for preventive medicine and modern improvements in treatment. It leaves us with almost no time for attendance at refresher courses. I think only more new doctors and not a formal restriction on demand will cure these ills.

So many Jeremiahs have foretold the imminent end of the service that you may doubt that it has a future. But I believe that group practice provides an environment for good and satisfying medicine.

THE LYKE WAKE WAKE DIRGE

by Tom B. Boulton,

Consultant Anaesthetist,
St. Bartholomew's Hospital.

*This yah neet, this yah neet
Ivvery neet an' all
Fire an fleet* an canule leet
An Christ tak up thy saul.
When thoo frae hence away art passed
Ivvery neet an' all
Ti Whinny Moor thoo cums at last
An Christ tak up thy saul.*

*fleet = flame
Cleveland Dirge (traditional)....

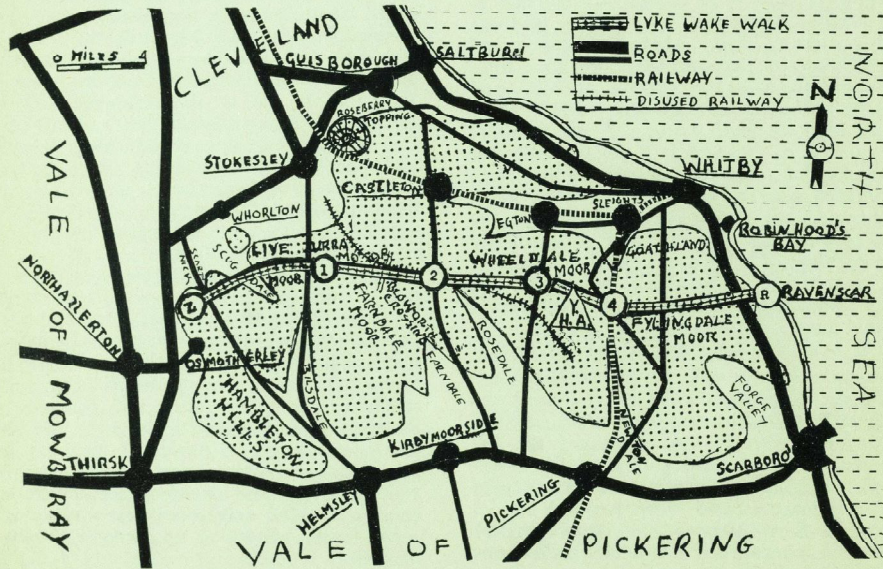


Fig. 1 Z = Start point at Osmotherley R = Finish at Raven Hall Hotel
1. = Hasty Bank. 2. = Blakey House. 3. = Hamer House. 4. = Moorgates.
Z-R = 36 miles as Crow flies; 41 miles as Walker walks.

Every true Yorkshireman knows that the souls of the departed pass over "Whinny Moor" to their eternal resting place. There is much historical support for this tradition. There are probably some 10,000 funeral barrows containing the cremated remains of the Bronze age "Urn people" who lived around 1000 B.C. in the rounded Tumuli and earthworks which cover the North York Moors.

It is perhaps fortunate that few "foreigners" have yet discovered this vast unspoiled National

Park. It stretches from the Vale of Mowbray around Northallerton in the West to the North-east coast between Whitby and Scarborough in the East, and from the beautiful Vale of Pickering in the South to the Cleveland plain in the North (figure 1). Still fewer would believe that, in our crowded island, it was possible to walk the forty miles from Osmotherly over the Cleveland Hills to the sea and never meet a soul nor scarcely see a human habitation. But it is so and this is the story of such an expedition.

PROLOGUE

It was the first evening of the summer training "camp" of the T.A. Signals Regiment. The Mess Bar was crowded and the only two Yorkshiremen present—the Commanding Officer and the M.O.—were extolling the virtues of their native heath to the point of boring their comrades whose teeth chattered as they gazed dolefully out of the window at the grey sea, the dark sky and the driving rain. They only felt black resentment that they had been "posted" to the god-forsaken North. In these conditions it was not surprising that the conversation turned to the wild moors to the north of the town, and the stories of the "Hobs" and "Boggets" which inhabit the area and the ghosts of the departed which harry the traveller and occasionally claim an unwary victim in their sinister peat bogs.

"Are you going to do the Lyke Wake Walk while you're here?" said the Medical Officer.

"What's that?" said the C.O.

"Oh! it's a competitive walk about fourteen miles across the moors," said the M.O. vaguely. "Most of the local T.A. units do it as an endurance test. I believe there's a club that gives an award to those who cover the distance within a certain time." The C.O. was interested.

"Find out about it will you Doc? We must have a crack at it. I'm sure we can beat the record."

No sooner had he mentioned the fateful words "endurance test" than the wretched M.O. realised that he had committed a grievous tactical error. The Commanding Officer was a Regular soldier, disgustingly fit, who lived on long runs and cold baths at an age when most wise men have settled down to grow their corporations. The M.O. could see that the Regiment would be in for a tough time if the challenge were accepted, and decided that, although he had better do as he was bid and make enquiries he would drop the matter unless it were mentioned again. He had been at a school in the area and remembered reading that certain of the pupils of his old institution had "done the walk" as part of the Duke of Edinburgh's award. He therefore decided that he would visit his old Headmaster and seek the advice of that pedagogue.

The Head eyed his erstwhile pupil quizzically, doubtless recalling that he had not exactly been keen on exercise in his school days and noting that now that he was in his early forties, his waist was non-existent.

"You're surely not proposing to do the Walk yourself," he said.

"Certainly not," said the doctor hastily, "as I shall have to be in a position to supervise the physical condition of those who do so I am afraid that I shall certainly not be able to."

The Head looked relieved, "I'm glad to hear it for your sake," he continued. "In the first place the Walk is over forty miles not fourteen, as you mentioned just now, and secondly it is over some of the roughest country in the kingdom from Osmotherly to Ravenscar. Further, though the start is 400 feet above the finish in the Bar of the Ravens Hall Hotel, the highest point is Botton Head which is 1,489 feet above sea level and the total amount of climbing involved during the Walk is about 5,000 feet.

"I am sure that you must already know the legends associated with the moor and the facts about the burial of the Bronze age chieftains and that 'Lyke' means 'corpse' and 'Wake' is a 'watch or vigil'.

"Bill Cowley," a well respected dalesman, who is known as 'the Most Mournful, the Chief Dirger', thought up the modern walk in 1955. The whole idea has snowballed as more and more people have set out to achieve the standard of crossing the Moors within 24 hours. Cowley runs a Club to which all those who are registered as having achieved the distance in the time belong; they are called 'Dirgers in order of tribulation'. They have a special badge (figure 2) and there are other odd titles for those who have done it several times and under certain difficult conditions, I believe that the youngest person to have covered the distance was 12 years old and the oldest a clergyman of 81. Our boys take about 17 hours; a chap called Arthur Puckrin has done it once in 6 hours forty minutes and twice within the 24 hours. It's best to organise proper support

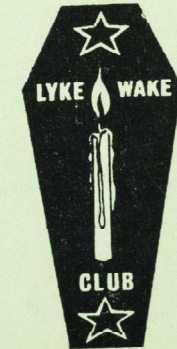


Fig. 2

parties and rest bases on the four roads which the Walk crosses. Our Sports Master is particularly interested, I'll get him to give you the route and the map and some advice. . . ."

That night the bar was again crowded when the M.O., driven thither of necessity by thirst, crept in. At first he thought that the matter of the Walk had been forgotten but it was not so; the "Old Man" suddenly turned to him, "What about that Walk of yours, Doc?"

Reluctantly the maps were produced and the facts explained amidst growing hostility from all except the C.O. The Medical Officer did his best to remedy the situation and ended his remarks with all the professional pomposity which he could muster.

"It is my duty to warn you, Sir, that in my view it would be very dangerous to subject men direct from civilian life to the rigours of physical exertion of this magnitude. . . ."

The C.O. brushed this aside and pronounced sentence:

"The Unit will do the Walk over next Wednesday night after the Regimental Sports", he said.

There was consternation in the Bar. The adjutant, a younger Regular, looked pained but resigned; Arthur, the second-in-command (an Ordnance Survey official and a wise old soldier) took one look at the whorling contours,

"As you will doubtless be going yourself, Sir, I will volunteer to organise the Support groups," he said. Two younger majors, Donald and Julian, the sparring partners of the C.O. in all sports, welcomed the idea; the Padre, at first, for once, at a loss for words, brightened up when he remembered that he had a hallux rigidus and was consequently unfit, pronounced a mumbled blessing, and departed rapidly smiling smugly to "talk to the boys" in the NAAFI. The "Queen Bee" of the W.R.A.C. said firmly that "her girls" would do the last section of the Walk starting at dawn on Thursday, "and", she added, "there will be none of this 'night-in-the-heather' nonsense". Two bachelor subalterns promptly agreed to act as escort to the young ladies.

The remainder of the officers had already left the bar but the adjutant, who had been brooding darkly the while, turned maliciously to the M.O.

"What about you", he said.

"Well I, er, well I might be called out; well. . . ; oh! all right, I'll go", said the wretched doctor.

In the event, nine tenths of the regiment with unusual initiative found that they had essential

duties to perform either in camp or as members of the "support parties". The "assault party" finally consisted of three contrasting groups. The C.O., Donald and Julian, older men but in good training, the normally chair-bound adjutant and Medical Officer, and a group of young fit men, a lieutenant, two corporals, four keen young signalmen and a Medical Orderly.

THE LONG WALK

The rain fell heavily as the party drove from Scarborough west along the Vale of Pickering to be ready when the host of the Queen Catherine Hotel opened his Bar at 18.00 hours. By the time the "start point" at the 982 foot triangulation survey pillar above the village was reached the rain had stopped and the sun was breaking through the dark clouds. In the few minutes left to zero hour (17.00 hours) the party admired the view. To the west the Vale of Mowbray sweeping across to the Pennines and Wensleydale, to the north the Cleveland plain with Teesdale in the distance, south the dark bulk of Black Hambleton and east, in the line of march across the Cleveland Hills, Botton Head (1,489 feet) 10 miles away (figure 2).

Act 1: Osmotherley to Hasty Bank; 9½ miles

With high spirits and the prevailing south-west wind behind them the walkers struck out across the heather but, within the first two miles, the terrain was already sorting out the "mountain goats" from the "lowland sheep"; two steep sided valleys had to be negotiated. The route took them through rough pasture, over the beck, and up the steep ascent to arrive, more dead than alive on the much-cursed and certainly inappropriately named "Live Moor" (1,025 feet).

The feeling of exhaustion was, however, short lived. The next 5 miles took the party along the high escarpment at the edge of the moors past the tumuli of Holey, Cringle and Cold Moors, and Hasty Bank. It was sheer joy; the landscape was breathtaking in its beauty.

The sun was setting against dark clouds in one of those glorious scarlet black and gold skies which are characteristic of this area of Northern England. The air was fresh after the rain and laden with the pleasant burnt smell of volcanic rock. The whole wide Cleveland plain stretching to the sombre pointed sugar-loaf of Roseberry Topping and the low contour of Easby Moor with the monument to Captain Cooke on its back, was bathed in the fiery evening light. It was a sight which will remain in the mind's eye of the beholder for a life-time.

This area was well known to jet and allum

miners in the eighteenth and nineteenth centuries; their workings and shale tips can still be seen but now that they are partially over-grown they do not seem to disfigure the landscape. On the plain below is the rounded knoll of Whorl Hill and the village of Whorlton with its ancient church. This was the stronghold of the 14th century chieftain Nicholas de Meyrell who roamed the moors and poached the King's deer upon them.

At the end of this stretch, after passing the "Three Lords stone" the junction of the estates of Lords Duncombe, Marwood and Aislesbury, the B1257 road was reached at 21.55 hours and there at Hasty Bank a hot meal was provided by the Support Party.

Already age and lack of training were beginning to show. The C.O. in the peak of condition and the young men, who covered the ground with consummate ease even though untrained, arrived at the first base a good half hour before the untrained rearguard, the M.O. and the adjutant staggered in. This pattern was to be repeated throughout the march and meant that the most exhausted got the least rest at the end of each section and vice versa—a vicious circle indeed! At Hasty Bank one young soldier with sore feet retired on medical advice.

Act 2: Hasty Bank to Blakey House; 9 miles

From Hasty Bank there is a very steep climb out of the valley to the highest point of the Moors at Botton Head (1,489 feet) on Urra Moor and then across the wild Greenhow and Farndale to Bloworth crossing from whence the track of the old light railway which served the Rosedale ironstone workings from 1861 to 1928. It is not surprising to find that the navvies who built this railway on this bleak "no-mans-land" called their stone huttid encampment, the ruins of which can still be seen, "Siberia".

The railway leads the walker to the Lion Inn or Blakey House the second Base point. The key to this section is thus to locate the cinder track of the old railway; unfortunately, though the "fit" men headed by the C.O. crossed Urra Moor in the gathering dusk, it was quite dark and fine rain was falling when the M.O. and Adjutant, the rear party, reached Botton Head.

The whole area is extremely erie; it is barren, windswept and bare since it was burned by a heath fire before the second World War; it abounds with stones set upright as markers. Many of these indicate boundaries, others act as landmarks or to point directions; they have peculiar names, the "Hand" stone, the "Face" stone, "Red" or "Rud" stone. Part of the route is formed by flagstones which originally formed

a complete causeway said to be used by smugglers bringing their contraband inland from Whitby and other ports on the North-east coast. Like the Roman Xith Legion before them the adjutant and the M.O. became completely lost on Urra Moor. The boundary stones doubtless giving useful guidance in daylight only added to the confusion; they mistook a fire-break for the rail track, doubled back, tried to walk by their compasses, disbelieved them because the adjutant thought that the iron deposits were affecting them, and argued as to whether the moon, which was dimly visible, rose in the east or the west. Finally, undoubtedly after walking a number of extra circuitous miles they stumbled more by luck than judgement on the track. There was some argument as to whether to move right or left along the railway bed; this was finally settled by reference to the Northern lights which were gloriously visible now that the rain had stopped. After many weary miles they saw strange looking twin lights apparently perched way up in the sky but actually the headlamps of a Land-Rover on Blakey Ridge indicating the second Base. Finally, after hot coffee, they lay down on camp beds at 03.00 hours.

At 04.15 hours, 1¼ hours later, the C.O. was rearing to go. The Adjutant was feeling sick and exhausted and was left to rest and return to camp with the support party. The remainder carried on into the night.

Act 3: Lion Inn to the ruins of Hamer House; 5½ miles

This, the shortest section of the route, was made unnecessarily exhausting by a plunge down into and a steep climb out of the head of Rosedale in an attempt to take a short cut. More time was lost by wading through knee-high heather and bog on a compass bearing across Rosedale Moor but Julian and Donald, coursing to and fro like John Peel's hounds in the grey light of dawn finally found a well trodden path. After passing more interestingly shaped boundary stones the party arrived at 06.50 hours at the ruins of Hamer House; here another tent with camp-beds awaited.

There was sharp altercation with the subaltern in charge of this base who provided cold tea instead of the expected breakfast. One signalmen fell out with a torn medial ligament of the knee.

Act 4: Hamer House to Moorgates; 7 miles

When the party was awakened at 07.30 hours the sun was shining brightly and spirits were high as the walkers started out across Wheel-dale Moor—an uncharted desert of heather and

stones stretching into the distance. This is the traditional Whinny Moor across which the souls pass to their rest.

The elation was short lived; the navigation was appalling—they went too far south and, in the end, were forced to follow Rutmoor Beck in a wide detour to the remarkable excavated stretch of Roman Road near Wheeldale Lodge, which is surely one of the most picturesquely situated Youth Hostels in the country.

The next two miles across Howl Moor to the Newtondale railway at Moorgates, the next Base, was not difficult with Simon Howe as a welcome landmark. Moorgates was reached by the C.O. at 10.50 and the M.O. at 11.50!

Act 5: Moorgates to Ravenscar; 10 miles

After a good hot meal—a mixture of breakfast and lunch—the party set off at 12.10 hours under a scorching July sun to cover the last and longest stage of the Walk. It took 4 hours 40 minutes and led through deep heather across Goathland Moor, passed the 7th century Lilla cross, over Fylingdale Moor with those grotesque gigantic “golf-balls” which form the Early Warning Station, across the main Whitby-Scarborough Road to the Radio Mast on Beacon Hill where the C.O. stopped to allow the stragglers to catch up so that they could march down the road and enter Ravenscar as an orderly group to the plaudits of the stay-at-homes; they were twenty minutes within the allotted time of 24 hours. The Club book was duly signed and the new Diggers celebrated their elevation in beer before being transported back to barracks.

Conclusion

Not many of us are able to scale the Himalayas or sail around the world like Sir Francis Chichester but walks of this kind give the humble participant something of the same thrill of achievement. There are several well known trials to choose from in the United Kingdom, amongst them the “Four Inns” in Derbyshire (45 miles) and a similar trial in Cornwall.

In good conditions in summer weather any fit person in his teens or twenties can cover the Lyke Wake Walk with ease but, from bitter experience, one must accept that sedentary “over thirty-fives” would do well to undertake some form of training in advance.

Well fitting boots which have been well broken in, frequent changes of socks and the liberal use of foot powder are essential if blisters are to be avoided, and orthopaedic felt should be carried to treat any which do occur. A crêpe bandage is another useful accessory

which gives a surprising degree of comfort to a strained knee. The M.O. and the Medical Orderly were the only members of the walking party who had no blisters—“charity begins at home”.

Good mobile support parties are a godsend; the idea of crossing with a heavy rucksack of provisions fills one with horror. The points of intersection of the four motor roads which cut across the Lyke Wake Walk are ideal as locations for support bases. Food and fluids, especially the latter, are essential.

Many crossings, including some undertaken on skis, have been made in bad conditions in winter. Careful preparation is then even more essential. No deaths have occurred on the Lyke Wake Walk but in 1964 on the Five Inns three young men died of exposure in an organised event in which 80 three-men teams were participating. Pugh³ reviewed these cases and gives much good advice to fell walkers. The danger is “wet-cold” hypothermia leading to insidious slowing falling and fatal collapse. The main needs are for travel in groups or pairs and to have adequate equipment and water-proof clothing. It should be noted that anoraks are not water-proof.

Epilogue

On reaching the Mess the M.O. drank 2 quarts of orange juice from the side-board which was intended for breakfast the next day, passed a little concentrated urine, collapsed into bed and slept.

The Mess telephone rang; it was the M.O.'s wife who was staying in the vicinity with friends.

“I don't think he would want to speak to you now, Madam”, said the Mess Sergeant in hushed tones, “he's just done the Lyke Wake Walk.”

Mystified she hung up and enquired what the Lyke Wake Walk was. Her host, who is also in the T.A. and knows well his friend's aversion to exercise, explained. They began to laugh.

They were still laughing three days later, blast them, when I joined them in York at the end of camp, a stiffer, sadder and wiser man.

Acknowledgement

The author is indebted to the Department of Medical Illustration for figure 2.

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C.A.R.E.

by

Michael Dunwell

When mentally handicapped children leave school they should, according to the prevailing Ministry of Health view, be “integrated with the community”. The practical outcome of this policy is usually a “sheltered workshop” providing contract work with obliging firms and in a few cases new and attractive residential hostels have been provided. The far larger burden, however, still falls on parents or hospitals and institutions.

I was asked eighteen months ago to help with an experimental scheme for mentally handicapped school-leavers whose parents had decided they must be put in care. The idea was that a village should be created so that these people could put down roots and become slowly integrated with neighbouring communities. A site was being investigated in an under-employed area in North Devon.

The originators of the scheme, Cottage & Rural Enterprises Ltd., or C.A.R.E., were Peter Forbes who had previous experience of running a similar venture, John Codner, an artist and a close friend of Forbes, and James Home, a psychoanalyst (and father of a mongol boy) whom I had met previously. A charitable company was formed, costs worked out and applications sought. Parents and local authorities bear the maintenance costs, which are partly met by Ministry of Social Security benefits.

Enough money was raised from charitable trusts to buy Blackerton, a farm with fifty-five acres on the southern fringe of Exmoor. Three prospective villagers with a nucleus of staff moved in on the elderly owner (the house was rented at first and C.A.R.E. kept house for him) in December 1966. The owner had lived in this large house alone for several years and the first battle was against cold, damp and fierce draughts. Devon County Council had approved the scheme and gave outline planning permission to build five more houses, staff cottages and a village hall. When these have been built, the County Council will consider

another phase.

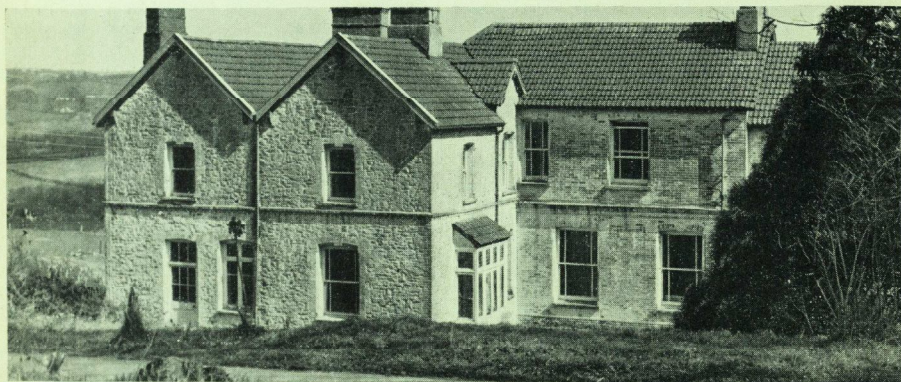
In August I took my two older children down to Blackerton and the population had grown to eight plus four staff. The barn was full of hay and three more fields of hay had been auctioned at a good price. An acre of potatoes had flowered. A concrete block making machine was converting heaps of aggregate into blocks under the guidance of David R. (one of the villagers) who has a yen for machinery. And three boys with a special love of wheelbarrows and shovels were discovering a hard road under the sludge between some farm buildings. The girls were trying to hoe weeds and not lettuces, with partial success, next to a plantation of four thousand cabbages. My children shovelled and made concrete blocks for two days and came home exhausted—chanting the absurd but catching slogans which the villagers bandy between themselves all day. The children, aged 10 and 9, followed these superficially nonsensical exchanges with complete absorption. Under the nonsense there is a kind of camaraderie which, if one could define it, amounts to a meaningful communication.

In October, two professionals were taken on the regular payroll; one was a local stockman, who had helped to make the hay and had got on well with the villagers, and a horticulturalist who had had previous experience of working with mentally handicapped people. These two will be the professional backbone of two work units which will provide food for the village and a surplus for sale at the market in South Molton. The policy for work units is to undertake work that can be understood by the villagers and which can earn at least enough to pay the person in charge. The unit must be viable economically in so far as a marketable product results, but the number of villagers involved in it is not costed as labour would be in a commercial enterprise. The villagers will have a reasonable choice of work, within the rural setting chosen for the first village. Possibilities include woven fence and hurdle

making, forestry, carpentry maintenance, a laundry and weaving.

At the London end a professional fund-raiser offered virtually honorary services until enough money is raised to pay a proper salary. Parents of some of the villagers are being brought together to help with appeals. Good features on Blackerton have appeared in *The Sunday Times*, *Nova* and *The Illustrated London News*. C.A.R.E. is now overdrawn at the bank, but poised for a national appeal with printed leaflets. The architect has prepared the plans and we are waiting for the funds to arrive.

A flying start? So far. The National Association for Mental Health has given encouragement, and has also been reported as calling the idea "wildly idealistic, but there's nothing wrong with that." Perhaps it would be right to put down here what ideals are involved. I can do this for myself, at least, without committing the rest of the board of directors.



Blackerton Farm

Apart from the obvious need for residential care of mentally handicapped people whose parents cannot look after them and the general desirability of making this kind of effort, what attracted me to the idea was the field of enquiry. Mentally handicapped people fall into many categories, but apart from a few weaknesses have ordinary physiques. Their emotional range may often be impaired by their lack of intellect, and by the strain put on their parents, but one might assume that they are not only potentially "normal" in this respect but even in some way unhampered, like a child. From a psychological point of view, the whole question of finding outlets for these people is fascinating. Are there emotional parameters

which we intellectually equipped people find it hard to discern? Might they not be more clearly marked in mentally handicapped people? In what psychological state would one expect to be able to tune in to these people? In psycho-analytical work many themes which ultimately reach conceptual levels are first encountered in pre-verbal forms, whether as dream images or functional disorders, or simply states of infantile dependence: do the same broad symbolic systems apply in mentally handicapped people—and if so, how much of the difficult behaviour can be relieved by psychotherapy?

Bearing in mind the special child-like quality of these people, the question of suitable staff is just as interesting. It does not seem to me to be out of the question that many people are attracted to this kind of work because they need contact with this quality. One would have to try to distinguish between those who desire

power in this milieu and those who could use the contact to grow. Apart from this, one needs to find people who are capable of improvisation—within a secure framework of routine—and who can interpret odd but significant movements and noises made by the mentally handicapped. Body language is something that unexpected people understand. During one of my visits to Blackerton a woman reporter came from a West of England newspaper. A near-autistic villager pushed in between us as we showed her in and thrust her face close to the reporter's. The reporter, without pausing in her polite exchanges, took the girl's hand and held it, whereupon she stood contentedly while the conversation continued round her. This

behaviour is of course typical on the villagers' side, but not typical on the other.

A further aspect of this village idea attracted me. There are some parents of mentally handicapped children who firmly decide to devote their energies to the sufficient problems of everyday life and put the handicapped child entirely in the care of people trained to look after them. Not everyone wants to do this, however, and some want to support efforts like C.A.R.E. What sort of parent participation is desirable? Parent help in the many Spastic Day-centres is a valuable asset. But in a residential village, where houseparents must become emotionally involved with their charges and evolve routines and understandings with them which can easily be upset by visiting parents, there is a need for clear demarcations of responsibility. I feel that if life hands out a mentally handicapped child to two parents they have a right to work out what this means, even if they use the facilities of C.A.R.E. That is, just as staff may need to work there for reasons of their own make-up, so may parents need regular contact with the village. The interesting question is how to make these contacts fruitful. Once again, one must learn somehow to differentiate between visits which are fundamentally motivated by unconscious feelings of guilt, and visits which are motivated by the

urge to understand. Ultimately, there seems to be an opening in this field for educative work which could be based, perhaps, on tours of duty at the village to relieve staff for holidays, or other specific tasks which need responsible handling. The long term continuity of the village could be well served by the informed interest of those parents who wish to establish regular connections in one way or another, and who can pass on traditions to their successors.

These are tentative ideas, not statements of policy, which are mentioned because they illustrate some of the background of the scheme. They will be subjected to tests. From the beginning the board agreed that a research programme would be necessary, and a research worker has been appointed. The brief is to observe, at Blackerton and at committee meetings, and to put up a research scheme at the end of six months.

A last question: why do we, the people concerned with this village idea, do it? There will be many answers, but I feel sure that looking after mentally handicapped people is not just a one-way process, with the mentally handicapped as recipients of charity. They give something back; they carry a role in our lives which it would be a good thing to recognise and acknowledge.

Diagnosis in 3 parts

by J. R. Griffiths

This case concerns a five-year-old boy who presented as a referred case from another hospital, to which he had been admitted after a fall on his sacral region seven weeks previously. At the time he had seemed well, but fell again on the day after the injury, and was kept awake the next night by pain in the legs, back and abdomen. He then developed urinary retention and resented movement because of the pain. On his first admission to hospital he was found to have urinary retention and paralytic ileus; over the next five days he developed signs of paraplegia and, three weeks after admission, bronchopneumonia. The latter condition resolved after one week's chemotherapy and he was transferred seven weeks after his original fall.

At this stage his general condition was good,

with no abnormality in the cranial nerves or upper limbs. There was a hypotonic paraplegia in flexion with sensation abolished below the T4 dermatomes but tendon and cutaneous reflexes were intact. His bladder was distended and he had priapism, but liver and spleen were not clinically enlarged. There was no spinal tenderness.

Questioning the parents disclosed that the boy had had two prolonged episodes of bleeding from scalp lacerations, one of which, at the age of 3, had necessitated transfusion, and he had always tended towards excessive bruising and formation of haematomata (although trivial cuts did not bleed excessively). Two of his mother's brothers had a history of bleeding or bruising, and one of his own brothers had a history of bleeding, transfusions and a haemarthrosis of the knee.

INVESTIGATIONS

Hb. — 76%
Prothrombin level — 100%
Blood Urea — 37 mg%
W.B.C. — 11,000/mm³
Urine — Sterile

Diagnosis 2:

This is a case of paraplegia following a fall in a child with a history of excessive bleeding. Traumatic spinal cord lesions may be caused by injury to the bony skeleton, by sudden disc protrusions, or, very rarely, by haematomata comprising the cord. The pre-existence of a pathological condition of the spinal contents, for instance tuberculosis, abscess or tumour, may be brought to light by trauma, and these possibilities must be investigated. The history of excessive bleeding in this boy is, however, suggestive of congenital coagulation defect causing a pathological haemorrhage into the spinal cord or its membranes. This suggestion is corroborated by the incidence of these symptoms in male members of the mother's family (indicating a sex-linked mode of inheritance) and by the normal prothrombin index and platelet count (which rule out many of the acquired defects of coagulation). The haemorrhage may be within the cord itself, subdural or extradural, but these forms cannot easily be distinguished from the clinical picture alone. The special investigations required to investigate the possible clotting defect are as follows:

Diagnosis 3:

The special investigations show a somewhat abnormal coagulation time but normal bleeding time, clot retraction and platelet counts, a picture suggestive of one of the haemophilias. The diagnosis may be made from the recalcification time and thromboplastin generation tests in conjunction with the prothrombin time.

On recalcification the patient's plasma clots in 11½ minutes, but this time is shortened to 3¼ minutes on addition of normal plasma. This implies that the clotting defect is an absence of a normal factor present in plasma rather than the presence of a circulating anticoagulant. In the thromboplastin generation test adsorbed plasma and serum are mixed and incubated. Recalcification times are determined at different times during the incubation. It is clear that a defect in clotting occurs when the patient's serum is incorporated into the system, implying that a factor normally present in serum but not

Bleeding time (Duke) — 2½ minutes
Coagulation time (Dale Laidlaw) — 6 minutes (normal up to 3 minutes)
Platelets — 266,000/mm³
 What caused this child's paraplegia?
 What special investigations would you order?

SPECIAL INVESTIGATIONS

Bleeding time (Duke) — 2½ minutes (normal).
Coagulation time (Lee White) — 12 minutes (normal 4-10 mins.).
Clot retracts normally.
Fibrinogen — 170 mgm%.
Quick's prothrombin test — 73% (14 seconds).
Recalcification times
Patient (Pt) — 11½ minutes.
Pt + 50% normal plasma — 3¼ minutes.
Normal plasma — 3½ minutes.
Thromboplastin Generation Test:

Incubation Time (Mins.)	2	4	6	7
NP/NS	60	15	14	13
TP/NS	60 43	15 12	13 15	14 13
NP/TS	60 60+	40 47	35 36	42 32
TP/TS	60+ 60+	60 75	49 50	49 40

NP and TP are normal and patient's plasmas.
 NS and TS are normal and patient's sera.

Which clotting factor is deficient and what is the name of the disease?

in adsorbed plasma is absent. The two possible factors are Factor IX (Christmas Factor) or Factor X (Stuart Factor). Deficiency of Factor VIII (Haemophilia) would prevent clotting when the patient's plasma rather than serum was used.

Factor X deficiency causes prolongation of Quick's one stage prothrombin test but Factor IX deficiency does not. This boy's prothrombin time was normal showing him to be deficient in Factor IX. The diagnosis in this case is thus Christmas Disease. This can be confirmed by studying the effect of addition of plasma from known cases of Factor IX or VIII deficiency to the patient's plasma.

Paraplegia is a most unusual presenting symptom in Christmas disease, which is itself much more uncommon than haemophilia.

I am indebted to Dr. Storey for advice on this case and to Mr. Campbell Connolly for advice and permission to publish.

More than Meets the Eye
 Some Less Frequently Encountered Aspects of Medicine

No. 4. Radiation Protection In Nuclear Power Stations

by J. A. Bonnell

Deputy Chief Nuclear Health and Safety Officer
 Central Electricity Generating Board

In order to understand the problems presented in protecting workers from radiation exposure at nuclear power stations it is necessary to have some understanding of how electrical power is produced at these establishments. In thermal power stations, electricity is generated by steam driven turbo-alternators. The steam is produced in oil or coal fired boilers but in nuclear plants the steam is produced in heat exchangers by transfer of heat from hot CO₂ gas which has passed through a nuclear reactor. The reactor, or pile, consists of a central core made of a cube of graphite containing a large number of natural uranium fuel elements placed in thousands of vertical channels which traverse the graphite. This central core is enclosed within a sealed steel pressure vessel to which is connected a number of heat exchangers. Carbon dioxide gas under pressure is circulated through the graphite and out into the heat exchangers and then recirculated through the core. The uranium metal is sealed in a magnox metal alloy can or sheath thus preventing release of the fission products into the gas circuit. These reactors are described as gas cooled, natural uranium, graphite moderated reactors, and are typical of the first generation of British nuclear power

stations. The pressure vessel and parts of the circuit are surrounded by a thick concrete biological shield which absorbs the intense radioactivity emanating from the reactor.

The fuel elements have to be changed from time to time and specially designed fuelling machines installed on the pile cap allow this to be done without shutting the reactor down. When removed from the reactor these elements are intensely radioactive and are stored on site under about 20-30 ft. of water in cooling ponds. They remain in these ponds for about 3 months to allow the more intensely radioactive elements to decay. They are then removed and placed in heavily shielded flasks and taken by rail to the United Kingdom Atomic Energy Authority processing plant for treatment.

In any discussions on the problem of controlling the hazard from ionising radiations, it is essential at the outset to distinguish between internal and external radiation. Irradiation of the whole body or parts of the body can occur from an external source of radiation; this occurs in radiotherapeutic procedures and in radiodiagnosis. If, on the other hand, radioactive materials are absorbed and deposited in tissues, an intense local or "internal" radiation dose ensues, as for example in radiotherapy

where thyroid disease is treated with radioactive iodine. For this reason a maximum permissible dose of radiation is defined by an internationally sponsored organization (International Commission on Radiological Protection), which refers essentially to external radiation and a maximum permissible body burden for radioactive materials in tissues.

In order to understand the detailed way in which these principles are applied, the following terms are used:

Ionisation is any process by which an atom or molecule loses or gains electrons, resulting in the production of electrically charged particles. Such particles are known as ions. Ionisation is accompanied by a transfer of energy to the material in which the ions are formed.

Ionising radiations are radiations capable of producing ions.

(a) **Particulate or corpuscular radiations**

(i) **α particles**

These are intensely ionising particles which have an atomic weight of 4, consisting of 2 protons and 2 neutrons (a Helium nucleus). They are not penetrating, having a path of approximately 4 cms in air and 50 microns in tissue.

(ii) **β particles**

These are negatively charged electrons; they are more penetrating than α particles. Depending on their energy they have a path in air of up to several metres.

(iii) **Protons**

These are positively charged particles having a much greater mass than electrons. They are in fact the hydrogen nucleus and have an atomic weight of 1.

(iv) **Neutrons**

These are uncharged particles having the same mass as protons; they are deeply penetrating radiations.

(b) **Electromagnetic radiations**

X and γ rays are electromagnetic radiations and are similar to and propagated like light waves and radiowaves. They are deeply penetrating.

Shielding. Weight by weight all matter is equally effective in absorbing radiation. The dense materials such as lead are most effective in absorbing X and γ rays, whilst the lighter elements are more effective in providing shielding from neutrons. For this reason concrete

which contains a large proportion of hydrogen atoms is an effective and cheap biological shield.

Radioactive materials are either naturally occurring, e.g. K^{40} , Radium²²⁶, U²³⁵, Thorium²³², or man-made either by fission of uranium or thorium, or activated in nuclear reactors by bombardment with neutrons. All radioactive atoms are unstable and lose their radioactivity by decay ultimately producing stable isotopes. The rate at which this decay occurs varies enormously from fractions of a second to thousands of years. The life of a radioactive element is measured by taking the time during which it loses half its activity. This is defined as the physical half life. **The units of measurement** of radiation are:

Curie (Ci) is the unit of radioactivity, named after Madame Curie, the discoverer of radium. 1 Ci is defined as the activity of 1 gram of radium and is equal to 3.7×10^{10} disintegration per second. 1 millicurie (1mci) and 1 microcurie (1 μ ci) are one thousandth and one millionth of a curie respectively.

The Roentgen is the unit measuring exposure to radiation and is defined as the sum of the electrical charges on all ions of one sign, produced by X or γ irradiation of a small volume of air divided by the mass of that volume. 1 roentgen r. = 2.58×10^{-4} Coulombs/Kg.

This corresponds to an energy absorption of 86.9 ergs/g. in air or 93 ergs/g. in soft tissue.

The rad is the unit of absorbed dose. 1 rad = 100 ergs/g.

The quality factor (Q.F.) takes into account the type of radiation; it modifies the absorbed dose to give **the dose equivalent** which is expressed in rems.

The rem is the dose equivalent in mammalian tissue (the roentgen equivalent man). It is the product of the absorbed dose and the quality factor, i.e. dose equivalent (rem) = absorbed dose (rad) \times Quality Factor (Q.F.) X-rays, γ -rays and β radiation of energies up to 30 KeV have a Q.F. of 1, neutrons, protons and α particles have a Q.F. of 10. Thus for X and γ rays a dose of 1 rad results in a dose equivalent of 1 rem to human tissues and a dose of 1 rad of neutrons, protons or α particles delivers a dose equivalent of 10 rems to human tissues. There is a special case where the lens of the eye is concerned, then the Q.F. for fast neutrons

is taken as 30 and not 10 because of the extreme susceptibility of the lens.

The Maximum Permissible Dose (MPD) is recommended by the International Commission on Radiological Protection. The current figure is 5 rems per annum with an over-riding requirement to take into account the cumulative life-time dose: an estimate of the upper limit of the latter is obtained by multiplying the age of the individual less 18 by 5 and is expressed by the formula D (Dose in rems) = 5 [N (age in years) - 18]. This is aimed at limiting the dose to the gonads in the reproductive period of life. The dose to the abdomen of women of reproductive age is limited to 1.3 rems in 13 weeks, thus ensuring an even distribution of the MPD of 5 rems per annum.

The Maximum Permissible Body Burden (MPBB) for a radioactive element is a quantity which varies with each isotope. It depends on the physical half life of the isotope, and its metabolism within the body. This will decide the time it is retained in the body.

The Biological Half Life is the rate at which a particular isotope is excreted and is expressed as the time taken for the removal of half the amount present in the body at any given time. Some isotopes are selectively absorbed and retained in a particular organ. This is defined as **the critical organ** for that element. For example, the thyroid gland is the critical organ for iodine and bone is the critical organ for radium.

The biological effect of radiation will depend on whether the radiation is to the whole body or to parts of the body; thus the median lethal dose is in the region of 400 rems of whole body radiation, whilst many times this dose is given routinely in radiotherapeutic procedures to localised areas of the body.

A nuclear reactor is a large source of radiation, the radioactive materials are contained within the pressure vessel and the concrete biological shield reduces the external radiation dose to acceptable levels. The protection of individual persons is based on controlling the dose of radiation to within the maximum permissible. This is done by reducing the dose by shielding as mentioned above or by distance. If the dose rate of radiation is constant in a given radiation field then the dose to the individual can be controlled on the basis of the time he is permitted to spend in such an area. The radiation level at any given point is inversely proportional to the square of the

distance from a source. The latter procedure is used extensively when handling sources of small bulk when they more closely resemble a point source, hence the use of long handled tools for carrying and handling the sealed sources used in industrial radiography.

There are many penetrations of the biological shield and of the pressure vessel to allow normal operations to take place. For this reason there may be small areas in the environs of the reactors where the dose of radiation fluctuates. Routine daily radiation surveys are carried out to delineate these areas, which are drawn to the attention of workers by warning notices and barriers.

In order to ensure that the maximum permissible dose is not exceeded these workmen carry dosimeters which measure the dose of radiation received. Dosimeters in general terms are of three types: film badges, quartz fibre electrometers and the most recently introduced—thermoluminescent devices.

The **film badge** is a strip of photographic film carried in a specially designed holder. This holder has an open window below which there are two thicknesses of plastic material and below that three metal strips—duralumin, cadmium and tin. These materials are arranged so that they fit on either side of the film. On exposure to radiation these materials absorb photons of different energies so that when the film is developed a pattern of fogging is produced. The degree of blackening is measured on a densitometer and the readings measured off on a calibrated scale which in turn gives a measure of the various radiations to which the film has been exposed. By modern techniques the film badge measures accurately as little as 5 mrad. of radiation dose. It provides a permanent record and all radiation workers are obliged by law to wear such a film badge at all times when at work.

The **quartz fibre electrometer (QFE)** is sometimes referred to as a pocket dosimeter, a poor name, since it is in fact a small ionisation chamber containing a quartz fibre which reads on a scale. It has to be charged by electricity before use. On exposure to ionising radiations it is discharged and the quartz fibre returns to zero. It is inaccurate, and it does not fail safe, but despite this it is a useful indication that a predetermined dose has been received.

Thermoluminescent devices—the newest device and one which has not yet been fully

utilised, is based on a physical property of lithium fluoride (Li F). After exposure to ionising radiations Li F, when heated under carefully controlled conditions, will fluoresce. The fluorescence is directly proportional to the dose of ionising radiation. Having been heated in this way the Li F can be used again. This has many obvious advantages, but so far its main use in industrial establishments is to measure extremity doses, in particular finger tip dose. Small sachets containing a few milligrams of the material are placed on thumb or finger and the dose measured at the end of each shift or after each manipulation involving exposure to radiation.

Having defined a number of the terms in common use in the field of radiological protection, the form of the hazards at nuclear power stations can now be discussed.

Dealing first with external radiation. The reactor itself, including its appendages, (i.e. the heat exchangers, ducts and gas circulators) is a large source of external radiation. A nuclear reactor of the type described here is normally operated to provide a constant power output. Its radiation field is, therefore, fairly constant. The dose rates at different positions in its immediate neighbourhood do not fluctuate greatly and it is, therefore, possible to define radiation zones in which men may be employed according to procedures specified in safety rules. In this way the three principles of protection against external radiation are utilised, namely by shielding, by distance and by controlling the time spent by an individual in a field of radiation of a known dose rate.

The radiation zones are defined in such a way as to limit the dose which an individual could receive, bearing in mind the maximum likely time of exposure. By strictly adhering to these principles, no individual has received a whole body dose of external radiation greater than the maximum permissible after 5 years of operating 5 nuclear power stations involving the annual exposure of over 4,000 persons at nuclear power stations operated by the Central Electricity Generating Board.

The fuel elements are removed from the reactor at a steady rate during normal operations in order to establish a set pattern of fuel replacement. In this way it is not necessary to shut down the reactors to replace the whole charge of fuel at one time. The fuel elements when removed from the reactors are intensely radioactive and have a dose rate in the region of 100,000 roentgens per hour. They are kept in the cooling ponds for about 120 days and this

allows the shorter lived isotopes to decay away. After the cooling period the dose rate is in the region of about 5,000 roentgens per hour.

Materials other than fuel elements removed from the reactor may require some maintenance work to be carried out on them. This applies particularly to the complicated grabs used remotely in the fuelling machines to pick individual fuel elements from the reactor. These grabs become radioactive due to bombardment by neutrons during their stay in the operating reactor, with resulting difficulties for the maintenance staff. It is necessary to carry out close work on these grabs and the extremity dose, particularly to the finger tips, has to be carefully controlled. The contact dose is always many times the dose even a few inches away. This is due to β radiation which is invariably present if a mixture of materials has been irradiated. In order to control the dose received in this work the recently developed Li F thermoluminescent dosimeters have proved invaluable.

Turning now to the problems arising from the contamination of surfaces or of objects with radioactive materials. If a sufficient concentration of radioactive materials has adhered to a surface then an external radiation hazard may exist, particularly on direct contact. Alternatively, handling contaminated equipment may result in the transference of radioactive materials to the mouth or nose and ingestion or inhalation of the materials may result. Deposition of these materials in the body will result in an intense local irradiation of tissues. Air contamination will result in rapid absorption of radioactive materials and at the same time cause direct irradiation of the lungs.

The water in the cooling ponds is kept at a pH of 11. Small amounts of the various metals of which the magnox can is made are leached away during the period of storage in the cooling ponds. These elements, notably Zinc 65, are radioactive and have a moderately long half life; the cooling pond water is treated before discharge and the radioactive materials concentrated and stored. The whole area of the cooling ponds and of the effluent treatment plant is potentially contaminated due to the procedures taking place there. It is, therefore, easier to control these areas by defining contamination zones in parallel with radiation zones, referred to above, and specifying appropriate procedures to deal with the contamination. In practice, two levels of surface contamination are defined, the second ten times the magnitude of the first. Protective clothing

in the form of overshoes, overalls, gloves and caps are specified depending on the level of contamination. The whole area is enclosed and access and egress is controlled so that all persons entering and leaving do so under supervision and are required to wash and monitor before leaving.

Additionally two higher contamination zones depending on the extent of air contamination are defined. These zones do not exist unless sealed circuits have been breached either for inspection and maintenance or as the result of an accident. Various types of respirators and breathing apparatus are required, depending on the level of air contamination and the whole area must be sealed off and the spread of contamination prevented.

Monitoring of individuals exposed in this way is carried out by the examination of excreta—urine and faeces, or by the use of a total body γ spectrometer, a complicated and expensive piece of equipment not suitable for routine use. The principle employed is to examine urine samples from all persons who may be at risk of absorbing radioactive materials and if any doubts arise, further investigation of excreta may become necessary, and in addition the total body measurements using the γ spectrometer. The latter is a complicated electronic device to which is attached a number of probes which measure the γ radiation in tissues. The individual is placed in a heavily shielded room or cell and the geiger counter probes measure the γ radiation emanating from the tissues. Since all γ emitting radioactive materials decay by releasing rays with specific energies it is possible to identify and measure accurately the radioactive elements present in the body. It is, therefore, possible by this device to assess the proportions of the maximum permissible body burden of any element present in the body. Unfortunately since Strontium 90 and Plutonium, two of the more important radiotoxic elements, do not emit γ rays, it is not possible to use this device to measure body burdens of these elements. Attempts can only be made to assess the body burdens of these elements by calculations from figures obtained from the analysis of excreta.

A simple and effective method of monitoring exposure to fresh fission products is to measure directly over the thyroid gland for radioactive iodine. This can be done by using special probes with specific sensitivities for the radioactive iodine isotopes.

During normal operating periods, the work of the radiation protection or health physics

teams at power stations is essentially one of checking measurements of area monitoring devices and supervising the issue of various dosimeters and the recording of results. The radiation records of all persons employed must be kept up-to-date and furthermore have to be kept for a period of at least 30 years after cessation of exposure. This is to comply with legislation which places a liability for hurt or damage to individuals on employers for periods of up to 30 years after the last exposure to ionising radiations. In addition the health physics teams carry out routine surveys in the district outside the power station: measurements are carried out to distances of up to 20 miles from the site to ensure that the minor releases of radioactivity which are authorised by appropriate government departments do not give rise to any demonstrable effect on the natural radiation background in the vicinity of the reactors.

It is during non-routine or maintenance periods when the reactors are shut down that continuous supervision of working conditions is required. At this time vessels and ducts which are normally sealed off, are opened and man-entry may be required for inspection and repair. The atmosphere inside the heat exchangers is heavily laden with radioactive dust. This is essentially due to activation products such as cobalt⁶⁰ from the steel and various impurities which occur in graphite. Special suits made of impervious material and carrying their own air supply are worn by the workmen. Comprehensive health physics surveys are carried out before entry takes place in order to ensure that the external radiation dose rate is at acceptable levels. Biological monitoring of the excreta of these men is carried out on a routine basis during these operations.

The whole exercise of radiation protection is one involving a team effort by a group of experts. In the first place the men who are occupationally exposed are required to have a comprehensive medical examination including a full blood examination before commencement of employment. This is to ensure that no individual is suffering from any disease or has an incipient condition which would render him unduly susceptible to exposure to ionising radiation. Clearly in this context an abnormal blood picture would be a bar to employment. On the clinical examination particular attention is paid to the condition of the skin. This precaution is necessary because of the possibility of contamination of the skin, since decontamination procedures invariably require pro-

longed and vigorous scrubbing. It is, therefore, necessary for workers to have a normal healthy skin otherwise serious problems could ensue during attempts at skin decontamination. In addition, instructions are issued forbidding the employment of persons with recently acquired skin disease or cuts or abrasions in contaminated working zones.

Having been accepted for work of this nature, the monitoring of both the zones and of the individual person is the responsibility of health physicists. These are specialists who can best be described as industrial hygienists in the field of radiation protection. It is their responsibility to know the environmental conditions and advise on the working procedure so far as the protection of the individual is concerned.

Any individual who receives a dose of radiation in excess of the maximum permissible dose

is promptly removed from further exposure and employment may not recommence until investigations have been completed by the medical officer.

Because of these careful and comprehensive precautions, a whole new industry has come into being during the past 20 years with virtually no harm to the many thousands of individuals employed in this country and abroad. In addition, there has been no harm to the general environment. The possible effects on public health have been recognized and steps taken to prevent any unacceptable increases in the natural radiation background. It is of interest that experience suggests that all accidents (i.e. conventional as well as radiation) are less in nuclear establishments than in comparable conventional factories, possibly due to the heightened awareness to health and safety of all persons employed.



Ars Longa:-

Theatre

"Dingo" at the Royal Court.

Although emotionally illogical and intellectually somewhat topsy-turvey, Charles Wood's, dare I label it, anti-war film and play animated comic strip is a major theatrical success; major in the sense that it marks the supercession of the older generation's beliefs, *goûts* and attitudes towards the last war by those of the younger generation.

The play revolves around a series of cartoons depicting Mr. Wood's total rejection of a war drummed up by conniving idiotic politicians, foolish and savage Generals, and propagandists obsessed by their own avaricious vanity. The cartoons are of incidents that, so we are reminded by our elders and betters, are justified in such a crusade as the Second World War. The screaming death of an Alamein tank driver roasted in his own machine followed by the paradoxical ventriloquist—dummy act between his hysterical co-driver and his own charred corpse, the wailing of the animals released from Auschwitz and Belsen, the jingoism and romance of jolly war films, these are the subjects Wood uses to voice the disgust of his, and our, generation.

Dingo is brilliantly staged and is obviously a theatrical milestone. So I forgive its shortcomings. It is presented by the English Stage Society and membership, at 2/-, is necessary before tickets can be bought.

Recently Opened:

"Tartuffe" at the Old Vic.

Tyrone Guthrie directs John Gielgud in Moliere's satire on religious hypocrisy, with Robert Stephens and Joan Plowright.

"Halfway up the Tree" at the Queen's.

Peter Ustinov's new comedy, a bizarre battle between two generations with Robert Morley. John Gielgud directs.

Pantoos:

"Peter Pan" at the Scala.

It's Millicent Martin this year.

"Aladdin" at the Birmingham Theatre.

Harry Worth and Yana co-star in this one. Oh boy!

Films

"Far from the Madding Crowd," Odeon, Marble Arch.

The sense and order of the book is well reproduced in the film, though at times it could be a little difficult to follow for anyone unfamiliar with the story. All the rustic isolation of Hardy's country was amply portrayed by filming and recruiting in Dorset, and at least one person who has seen the film, felt that in Finch, Bates and Stamp, he was seeing the same characters he had read about in the book; Julie Christie, however, reminded one rather of Julie Christie than of Bathsheeba, whose personality Hardy clearly took much trouble to make plain to us. By and large, this makes a film few people will fail to enjoy from one aspect or another.

Jazz Record Review

Oscar Peterson is one of the few jazzmen to have gained a mass audience on his merits, and he has managed to sustain his popularity since the early fifties, when the first of his trios was formed. OSCAR PETERSON PLAYS COLE PORTER (MFP 1025) contains a dozen tracks of the original trio; Peterson (piano), Ray Brown (bass) and Barney Kessel (guitar) and displays Peterson's Art Tatum and Bud Powell inspired style to the full. The music swings like mad and each of the Cole Porter standards provides an excellent vehicle for Peterson's essentially melodic improvisation. This LP is the quintessence of his popularity and is highly recommended to anyone remotely attracted by jazz piano.

STAN KENTON AT THE TROPICANA (MFP 1088), is another of these "live" recordings, and due to tedious announcements is more irritating from this point of view than many others. But do not be put off—the music is an acquired taste and there are some very attractive tracks on this record. As big bands go, this one is pretty competent, the section work is very precise particularly on some of the faster and Latin American tracks, but for this reviewer the most satisfying moments are in the slower numbers, where lush reed sections breathe away behind the front line soloists. Lennie Neihaus' solo on *The End of a Love Affair* is the highlight of this album.

Marlene Deitrich is an enigma, her appeal is difficult to define and a new album of some of her recordings made around 1930—THE LEGENDARY MARLENE DEITRICH (MFP 1172)

does no more than hint at her secret. The arrangements seem very dated by today's standards but the plaintive quality of her voice which is most apparent on some of the tracks, enables her to be compared to Edith Piaf and Lotte Lenya; but she does not display such pathos as Lenya. This record is for the Dietrich enthusiast (there must be many!), and for those still captivated by *The Blue Angel* this record will surely be a nostalgic acquisition, featuring, as it does, songs from that film.

Jack Jones is an American singer in the "clean high school boy" mould of Pat Boone. His album *THE ROMANTIC VOICE OF JACK JONES* (MFP 1056) has a dozen songs in this conventionally romantic style that was rampant in the late fifties. The singing and arrangements are competent and the record would probably be very suitable for the small hours at most parties.

J.A.S.



Penguin Reviews



The Medium is the Massage, by Marshall McLuhan and Quentin Fiore. Published by Penguin. Price 6s.

There isn't much left to say (write) about McLuhan any longer. This textuo-diagrammatico-photographic presentation represents an effort to consolidate his thesis that the content of communications media is secondary to their mode. Vogueish posterlike rogueish aphorisms are interspersed with knight's move argument and occasional perceptiveness. It is difficult to

Billion Dollar Brain, by Len Deighton. Published by Penguin. Price 5s.

Unlike the film this is the best Palmer yet, with the ingredients much as before yet the pungency (garlic?) spread thicker. The detail again magnetic (who cares whether it's authentic) and marred only by the temptation to justify and evaluate every observation in a simile. Why should people want to make their fantasy worlds authentic? pedantic dreams are

Strike the Father Dead, by John Wain. Published by Penguin. Price 5s.

The sight of a critic turning to fiction is rather like discovering a doctor in a hospital bed as a patient. There's no reason why he shouldn't be there, but the possibility of his insight into his

maintain an orthodox McLuhan position with any pretence of consistency while assessing an 'inventory of effects' such as this; the medium offers little but gentle massage, fantasy of concept like Sci-Fi which may or may not be prophecy. The genre is essentially cinematic—photograph, illustration and text provide a mutual commentary which is perhaps more fortuitous than purposeful. A giant doodle of idea gossip, it'll be great to show to your grandchildren.

Peter Hill

a tunnel to nowhere for the would-be escapist. However, whether self-confessed reality fugitive or other variety of normal human, it's compulsive and satisfying reading. Whether you appreciate the vagueness of the plot, is a measure of your ability to operate in relative standards, there's precious little black and white any longer. Fantasies are now coloured as voyeurism extends to media. Will new diffuse values appear as the spies meet colour television?

Caspar James

condition is somehow disturbing. In both cases it's perhaps a little disappointing to find that the result is rather ordinary. Were not John Wain a first-class critic there would be no expectations unfulfilled and no difficulty in describing the book as a thoroughly readable novel about a son who plods the wartime jazz

musician circuit to his father's horror and aunt's despair. It is not a book to excite strong feelings of like or dislike, it has no special merits or failings except its mild predictability. Pleasant to know that jazz musicians are worth reading about, but inevitable to discover that their arti-

culacy is mostly musical and in consequence the train of events leading to the unavoidable ending are linked together in a factual catalogue more reminiscent of a schoolboy's letter home than the confessions of an artist. Or critic.

P. V. Seed

REVIEWS OF BOOK'S FOR NURSES

The Intensive Therapy Unit and the Nurse, by Eric K. Gardner and Brenda Shelton. Published by Faber. Price 22s. 6d.

The topics discussed in this book are not ones on which it is easy for the nurse to find written information, and therefore its appearance is welcome. The chapters on respiratory failure, the use of intermittent positive pressure ventilators, cardiac arrest, oxygen administration and humidification techniques are full and clear. The illustrations by Mrs. Besterman and Mr. Lane are excellent, and contribute a great deal to the total value.

The type is eminently readable, though the

style is not distinguished and the meaning is not invariably clear. This statement on the complications of peritoneal dialysis illustrates both points.

"Pain—generally at end of overflow—relieved by next instillation, pethidine, 5 cc of 2 per cent procaine through catheter."

The oxygen mask illustrated in Fig. 30 is of a type now thought to have too large a dead space to be satisfactory. Since however so much of the material here is so new that beliefs are not standardized, perhaps this is a small point to raise. This book will doubtless be very widely read.

W. E. Hector

Ear, Nose and Throat Nursing, by Susan Marshall, S.R.N., S.C.M., D.N. Published by Nurses' Aids Series. 4th edition. Price 12s. 6d.

It is a pleasure to welcome a 4th edition of this well-known textbook. Every effort has been made to bring it up-to-date. The text is clear, concise and despite the relatively small size of the book includes a remarkable amount of information. There are a number of new illustrations which have added clarity to the text and a glossary of Instruments at the end

of the book which would be useful for reference.

Some treatments and operation which are no longer in general use have been omitted—for example Fenest—while the operation for hypophysectomy by the trans-sphenoidal route has been included. Sufficient basic Anatomy and Physiology has been integrated to cover the requirements of the General Nursing Council Syllabus.

It is perhaps unfortunate that a stronger binding is not available for library use as this is a deservedly popular book.

E. G. Rowland

Aids to Pharmacology for Nurses, by Rosemary E. Bailey. 2nd edition 1967. Published by Bailliere, Tindall and Cox. Price 12s. 6d.

The second edition of Miss Bailey's book is attractively presented in an eye catching cover. She has included a new chapter on drugs used in midwifery. This chapter will be of benefit to nurses in general training during their obstetric experience.

The book gives much information about drugs and their administration. Most of the drugs in current use are mentioned. The

appendix listing the Proprietary Names and Approved and Other Names is extremely useful. The text is clear and concise. This book is very popular with student nurses, and it deserves a place in each student's personal library.

It is an inexpensive book (12s. 6d.), but it is a pity that the Nurses Aids Series are so poorly bound that the pages often fall out. Many people would be willing to pay more for a book that would last longer.

J. R. Vogel

SPORTS NEWS

RUGBY CLUB

3rd November. The Cornish Tour.

Plymouth being our first stop, a much shorter and less wearisome journey than those of the past saw us to a very pleasant hotel, situated in an isolated bay not too far from the city. The journey was virtually trouble free, however, the bus's dynamo did cease to function and remained out of order for the whole of the tour.

As we had feared, the Plymouth Albion ground was flooded due to the extraordinary amount of rain which had fallen during the week, and most of our opposition had departed with their first team, London-bound to watch the International. Nevertheless by the following Monday the Falmouth pitch was very suitable for play.

Monday, 6th November. Falmouth 3 points: St. Bart's Hospital 28 points.

Quoting the "Western News": "Power play by the Hospital forwards, who also joined in lively passing moves, plus many cleverly constructed open manoeuvres by the backs, gave St. Bartholomew's a clear-cut victory over Falmouth under floodlights."

Falmouth were fighting hard for the first quarter of an hour, then they unfortunately lost their centre through facial injury. Almost immediately afterwards Andy Mason, who played very well throughout, picked the ball up from behind a set scrum to charge over the line with the help of the other seven forwards. This was followed with a try by Keith McIntyre; both tries were converted by Barry Cassidy.

In the second half Bart's made sure of a win with two tries by Simon Smith, and single tries by Tim Fenton and David Jefferson, with Cassidy converting three. Falmouth did not give up the fight despite the fact that we continued to gain most of the possession. Elwin Lloyd hooked extremely well throughout. Towards the end the Falmouth wing forward pounced on a loose ball from a line out to score their only points.

M. Britton

HOCKEY CLUB REPORT

Since the Cambridge tour at the end of October the fortunes of the club have not been consistently bright. Two matches have had to

be cancelled because of bad weather and the remainder have, with few exceptions, been interfered with by illness and injury. In the

Saturday, 11th November. O. Haberdasher's 0 points; St. Bart's Hospital 8 points.

In typical after tour fashion the Bart's team played apathetic rugby, and it was not until they had the help of the wind, slope and setting sun in the second half that any points seemed likely to be scored. Even then the final passes seemed to go astray. However let us not blame the players too much, as the pitch was hardly suitable for playing open rugby. Both tries were scored by forwards who were up with the play and gathering a loose ball carried it over the line, Barry Cassidy converted the first try.

Saturday, 18th November. St. Bart's Hospital 11 points; O. Alleynians 11 points.

A team with several changes fought well in an attempt to maintain our winning run. The result was rather disappointing considering that at one stage we were 11-5 up.

In the first half the Alleynians back divisions looked dangerous on several occasions, and Bart's gave them their first try due to an interception in mid-field. The Bart's forwards fought back well, and Chris Smart was quickly upon a miss field by their full-back to dribble the ball over the line to score. In the second half the two Bart's centres, Robin Lambert and David Jefferson, laid on tries for each other by grubber kicks through the opposition's line. Barry Cassidy converted the last try.

Alleynians returned with renewed fire and eventually realized their potential weight advantage in the scrum. In consequence Bart's were forced back to their line, not without a fight; from a set scrum the No. 8 was able to pick-up the ball to dive over the line. Not long after the Bart's threequarters were off-side right under their own posts due to yet another good push by the Alleynians scrum. In the dying minutes Bart's were fortunate in that a drop kick by the opposition rebounded off the posts.



match against Bexley Heath five first team regulars were missing and we suffered a disastrous 8-0 defeat. Credit must be given to those who have held the fort in the absence of so many of our colleagues. This is perhaps best done by referring to the results of our matches during this period:

1st XI played 5 won 3 lost 2.
2nd XI played 3 won 1 drawn 1 lost 1.

Details of Results

1st XI:
v. St. Mary's College Lost 3-0
v. Fitzwilliam College Won 2-0

v. Bexley Heath Lost 8-0
v. University College Hospital Won 4-0
v. Royal Veterinary College Won 6-0

2nd XI:

v. College of Estate Management Drawn 3-3
v. Bexley Heath Lost 9-1
v. B.I.C.C. Won 3-1

Special mention should be made of our win over The Royal Veterinary College in the first round of the U.L.U. Cup. Our goal scorers were D. Edmonson 4 and N. Houghton 2.

G. J. Benke.

SOCCER CLUB

v. St. Thomas's Hospital. 4th November (Home) Won 1-0.

This match was played on a rain soaked pitch and although the conditions were difficult both teams played some good soccer. Both halves were fairly even, with the Bart's goal surviving some near misses many times. Almost on time, as St. Thomas's goal was under pressure, Harrison scored the winning goal for

Bart's after a fine run down the wing by Turner.

v. Royal Vets (U.L.) 8th November (Away) Lost 2-4.

Bart's started with great promise and had most of the play in the first half though only managed to score once. (A great solo effort by Weir.) In the second half Bart's went to pieces and were lucky to concede only four goals! In



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the closing minutes Turner scored a second goal for Bart's from 30 yards, though by this time it was a little late for any sort of revival.
v. Westminster. Cup Match, 11th November (Home) Lost 3-4.

This was a disappointing result for Bart's as a draw would have been just reward for all the pressure put on Westminster in the last half hour. The defence was suspect at the beginning and the Westminster forwards gratefully snatched four easy goals. In the second half Bart's scored from a penalty and Westminster were pinned in their own half, but the final equaliser eluded us. The scorers were Werr, Knight and Woodrow.

v. U.H. President's XI. 12th November (Home) Won 4-2.

Playing at half the pace of the cup game and with a number of "guests," Bart's won the second game against Hugh Symon's team. The play was rather scrappy and Bart's were 3-0 up at half-time through goalkeeper errors and a thunderous own goal. The second half showed some great improvement in play,

though only one more goal to Bart's and two to the visitors. The scorers were Roberts (2), Knight and one own goal.
v. St. Mary's Hospital. 15th November (Home) Won 4-2.

Bart's played some of their best football of the season and might have doubled their score. The game was close in the first half and after Farrow had scored from a penalty St. Mary's soon equalised. Bart's made full use of the wings in the second half and found plenty of open spaces in which to move the ball. Two more goals by Farrow and one by Burke completed our total before Mary's scored their second goal in the closing stages of the game.

The following have represented the side this season:

R. Thew, C. Sutton, S. Dorrett, P. Turner, S. Farrow, C. Ellis, D. Hall, R. Knight, R. James, R. Woodrow, D. Leech, A. Weir, P. Bowen-Roberts, A. Burke, A. Dale, J. Quinn, R. Harrison, A. Skandenowitz, A. Johnson and I. Paterson.

S. C. Ellis

CROSS-COUNTRY CLUB

This season the club should maintain its traditionally high standard in middle distance running. We have gained an outstanding fresher in Robin Barret. Robert Hale makes a welcome return as club captain. Robert Thompson has been elected U.H. secretary for this season.

United Hospitals v. Metropolitan Police at Chingford: 30th September.

In the absence of pre-clinical runners Bart's were still well represented in this race by Thompson and Pagan. U.H. lost by 46 to 43 points in a close match. 1st Hesselden (34 min. 43 sec.); 9th Thompson (39 min. 29 sec.); 14th Pagan (50 min. 40 sec.).

First U.L.U. Cross-Country Trial—P.H.F.: 7th October.

Brooks and Hesselden were the only Bart's runners present at this preliminary trial. Fifty-six runners competed and the winning time was 27 min. 59 sec.

5th G. Hesselden (29 min. 30 sec.).

6th J. Brooks (29 min. 39 sec.).

U.C. Relay 6 x 1.8 miles at Hampstead: 15th October.

Bart's had the pleasure of being in the lead at one stage during this race but alas this did not last for long. We were not disgraced, however, easily beating the other hospitals present. Forty-one teams completed the course and Bart's finished 20th. Barret's opening lap deserves special mention as he led the field

and did the 9th fastest time in the whole race. R. Barret 8.0 min.; J. Brooks 8 min. 32 sec.; R. Thompson 9 min. 22 sec.; G. Hesselden 8 min. 24 sec.; R. Hale 10 min. 06 sec.; W. Field 9 min. 59 sec.

Second U.L.U. Trials plus Leagues I and II: 21st October.

After our first league match Bart's are top of league Division II. Hale deserves special praise performing creditably after a long absence from running. Thompson and Sutton both packed well. As a result of this race Hesselden and Brooks were selected to run for London University. 19th Hesselden (32 min. 26 sec.); 22nd Brooks (32 min. 44 sec.); 74th Sutton (36 min. 36 sec.); 75th Thompson (36 min. 36 sec.); 103rd Hale (37 min. 55 sec.); 179 runners completed the course.

With such promising performances to start the season Bart's should be amongst the medals this year. As training is the sine qua non for success we hope that as many members as possible will partake in the training sessions on Monday evenings and Wednesday afternoons.

Bart's have already provided runners for the University and the United Hospitals first and second teams this season. It is not surprising, therefore, that we are increasing our lead at the top of league division II in the London Colleges cross-country league.

League Division II, 6 miles over the London Hospital course: 1st November.

Bart's head the league of 24 teams. Ninety-one runners completed the course.

- 1. Barret 32.50 14. Thompson 35.50
- 3. Hesselden 33.05 35. Hale 38.15
- 9. Brooks 35.00 73. Pagan 41.55

U.II. v. Milocarions v. Orion H. at Colchester: 4th November.

For the uninitiated Milocarions are a team formed from officers of the armed forces while Orion H. are a famous club of which our president Mr. H. Lee is a longstanding member.

The army prepared the course and the race was due to commence at 15.00 hours. The start was preceded by a briefing at H.Q. during which we received vital information on how to negotiate the terrain.

U.H. produced a strong team for this match and were able to snatch first place. The course was pleasant apart from a 5 ft. deep stream, described in the briefing as several inches deep, and in which Hesselden nearly lost his shorts! 5th G. Hesselden; 8th R. Thompson; 9th J. Brooks.

J. B. S. Brooks

RIFLE CLUB

In spite of the captain's absence small-bore match shooting is now well under way. Six rifle teams have been entered in the London University Leagues—Engineers A, Postal A, B and C. (Ladies team), two Standing and Kneeling teams and a Novices team.

This year the monthly "Spoons" are being awarded to the winner of a once monthly handicapped competition. This provides a more competitive atmosphere for "Spoon shooting," and releases the secretary from the task of working out vast columns of figures each month. The

October spoon was won by John Lawn with a very good score of 96 ex 100.

The Engineers Cup team has not had a good start to the season. The first match against Queen Mary College was not shot, and the second match against Imperial College resulted in a rather decisive win for I.C., despite a good shoot by Chris Sedergreen. Fortunately, the Postal team results are more encouraging.

It is hoped that we will again have our liquid matches against Whitbreads and Leicester University this season.

Ian Franklin

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JOURNAL

Vol. LXXII No. 2

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Editorial

For those students who are not married and have no children the first step into the Department of Paediatrics is indeed one into the unknown. With a knowledge of babies which extends little further than newly-arrived nephews and nieces our ignorance becomes rapidly apparent.

Surely it should not be necessary for the teaching staff to have to waste their time teaching clinical students the diameter of a baby's head at birth, the size of the fontanelles, for how long a baby is fed on the breast or at what age a child becomes continent of urine and faeces. At present there is no doubt of this necessity: it is absolute. The facts mentioned above, and others of equal importance are not easily learned from textbooks, but very easily learned by observation. Could not this situation be rectified by the study of healthy babies? These are not in short supply in London, and are conveniently gathered together in Child Welfare Clinics every afternoon of the week.

Is it not possible for arrangements to be made for students to visit one of these clinics for a period of time during the pre-clinical course? Apart from the obvious benefit to both students and teaching staff in the Paediatric Department, would this not help the learning of Anatomy and Physiology? It would surely make them more interesting.

If it is not possible for this to be introduced into the pre-clinical course, could students not be strongly advised to do this during the vacation? Perhaps this is a subject for which it is worth while insisting that a student is signed up, even if he has to find time for it in the vacation.

Such a scheme would help students appreciate the difference between a sick and a healthy baby more easily and would leave the teaching staff more time for teaching on sick babies.

There has been much correspondence in the National Press about reimposition of prescription charges and the possibilities of patients making a contribution towards the expense of their stay in hospital. With a government in power whose left wing is so heavily committed to the Welfare State, it seems probable that the only argument likely to weigh with them is that they cannot afford not, at least, to reimpose the Prescription charge. It would be gratifying for those in favour of these changes if this were to occur.

It must, however, be stressed that the value of such changes, in terms of benefit to the N.H.S., and thus to the patient, will depend on whether or not the revenue from them is paid direct to the N.H.S., or to the Treasury, for distribution by the Chancellor as he thinks fit.

Dr. Chamberlain has gone to Boston to the Massachusetts General Hospital to spend a year doing research in the Cardiac Department. He will be greatly missed throughout the Hospital, but particularly on the Publications Committee.

He was Manager for two years while an undergraduate and since 1965 has been Deputy Chairman. His sage counsel will be sadly missed. We wish him and his family an enjoyable stay in the United States.

We welcome in his place Dr. Blandford, registrar to Dr. Hamilton Fairley. He came to Barts from Guys and trained at Kings; perhaps he will introduce some new ideas to the JOURNAL from these noble seats of learning.

LETTERS TO THE EDITOR

Sir,—Periferal?

Touché! and apologies to anyone who thought that the JOURNAL was pioneering a campaign to bring George Orwell's "Nu speak" into International Medical parlance.—Ed.

Engagements

ST. JOHN—WHITE—The engagement is announced between Mr. Andrew St. John and Miss Heather White.

BUBNA-KASTELIZ—DARCH.—The engagement is announced between Dr. Bruno Bubna-Kasteliz and Dr. Gillian Rosula Darch.

Births

TREHARNE.—On November 28, to Hermione and Dr. Philip Treharne, a daughter (Philippa Jane).

JOHNSON.—On March 24 to Jean (née Longrigg) and Dr. Paul Johnson, a son (Simon James), a brother for Julian.

Deaths

ABRAHAMS—On November 11, Sir Adolphe Abrahams, O.B.E., M.A., B.A., M.D., M.B.B.Chir., F.R.C.P., M.R.C.P., L.R.C.P., aged 84. Qualified 1909.

ARMSTRONG—On December 2, Dr. Percy Luke McNeill Armstrong, L.M.S.S.A. Qualified 1942.

BUSH—On November 24, the Rev. Sidney George Bush, one time vicar of St. Bartholomew the Less and Hospitaler of St. Bartholomew's Hospital.

PEGGE—On December 10, Dr. Arthur Vernon Pegge, M.C., M.B.B.Chir., M.R.C.S., L.R.C.P., aged 74. Qualified 1918.

WHELAN—On December 4, Dr. William Hugh Whelan, M.B.B.S., M.R.C.S., L.R.C.P. Qualified 1942.

Appointment

The Rt. Hon. Lord Adrian O. M., F.R.S., a former Vice Chancellor of Cambridge University has succeeded the late Lord Tedder as Chancellor.

Change of Address

Dr. and Mrs. B. T. Marsh from 63 Brookmead Drive, Wallingford, Berks., to 17 Lovett Road, Harefield, Middlesex. Telephone Harefield 3629.

ERRATUM:

In the Obituary section of the December issue of the JOURNAL we failed to credit Mr. Reginald Payne with the F.R.C.S., M.S. and M.D. This was an oversight on the part of the Social Sub Editor who would like to apologise.

Obituary:

Sir Adolphe Abrahams, O.B.E., M.A., M.D., F.R.C.P.

Sir Adolphe Abrahams, consulting physician to Westminster Hospital and Hampstead General Hospital, London, died on 11 December after a long illness. He was 84.

Adolphe Abrahams, son of Isaac Abrahams, of London, was born at Cape Town on 6 February, 1883. He received his education at Bedford Modern School, where he was Exhibitioner, and at Emmanuel College, Cambridge, where he was Foundation Scholar and Prize-man. He took first class honours in the Natural Sciences Tripos in 1906, and went to St. Bartholomew's Hospital for his clinical studies, qualifying with the Conjoint diploma in 1909 and graduating M.B., B.Chir. two years later. He undertook further postgraduate study in Vienna, and proceeded M.D. in 1914. His first appointment was as house-surgeon at St. Bartholomew's Hospital, where also he edited the *St. Bartholomew's Hospital Journal*. From 1915 to 1920 he saw war service and was in charge of the medical division of the Connaught Hospital, Aldershot, and district consulting physician, Aldershot Command. He held the rank of major, R.A.M.C. and was mentioned in despatches.

After demobilization Abrahams was appointed to the staff of Westminster Hospital in 1920, where he remained for the rest of his career. He retired in 1948, when he became honorary consulting physician to the hospital. At Westminster his influence was deeply felt in the medical school. He was in turn lecturer, tutor, and administrator in medicine, and dean from 1934 to 1940. He was also physician to the Royal Chest Hospital, and consulting physician to the Hampstead General Hospital, the Chislehurst, Orpington and Cray Valley Hospital, and the L.C.C. hospitals before these latter were taken over by the regional boards. He was examiner in medicine to the Universities of Cambridge and Liverpool, and examiner in medicine and applied pharmacology and therapeutics to the University of London. The Royal College of Physicians, of which he became a Fellow in 1930, appointed him censor. In 1951 he delivered the Lumleian Lecture to the College. He was a prominent member of the Association of Physicians of Great Britain and Ireland, and he had been president of the

British Association of Gastro-Enterologists. With Sir Arthur Porritt he took a leading part in founding the British Association of Sport and Medicine.

Both medicine and athletics have lost a long-familiar figure by the death of Sir Adolphe Abrahams. The three brothers Abrahams were renowned in the world of athletics. Adolphe Abrahams, the eldest of them, linked athletics with medicine in a lifelong study. He acted as medical officer in charge of the British Olympic team at the various Games from 1912 in Stockholm to 1936 in Berlin, and after that at the European championships in Paris in 1938, and was also honorary medical adviser to the International Athletic Board. His interest in physical fitness was unbounded, and he once described it as "the provision of antidotes to the consequences of modern existence." He had some unorthodox ideas on the subject which he voiced particularly in his Arris and Gale Lectures to the Royal College of Surgeons in 1928 on the physiology of violent exercises. Among other things, he deprecated women entrants in big athletic contests. Physical vigour, in his view, might be purchased at an exorbitant price, at the sacrifice of certain moral qualities and advantages. He declared that all forms of violent exercise, especially when accompanied by the nervous tension of competition, tended to aggressiveness and to the disappearance of that softness which was identified with the charm of women. But for men he insisted on the value of athletic performance, even down to old age. He was one among several septuagenarians who were capable of running 100 yards in 12 seconds.

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He scoffed at golf for young men; it was an exercise, he said, for the middle-aged and elderly, especially for those mentally over-worked and predisposed to introspection and melancholy. His own recreations included riding and motoring.

Alike in the stadium and in the hospital or classroom Adolphe Abrahams was a man to catch the eye. His spare figure, even when approaching old age, had something of the poise and grace of the Greek athlete. His physical endowments were matched by his intellectual qualities. His lectures and even his impromptu speeches in medical assemblies were models of what such things should be—examples of clear thinking, careful and often picturesque phrasing, and pleasant delivery. He was a master of the cogent simile and the faintly sardonic comment.

Abrahams wrote a good deal on general medical subjects, and was for some time editor of the *Postgraduate Medical Journal*. An early work of his, with the late Dr. G. Henschell, was on *Chronic Colitis*. He also produced, with Mr. A. Clifford Morson in 1921, a *Manual of Urinary Diseases*. Among other volumes were *Diseases and Disorders of Digestion* in 1931, *Training for Health and Athletics*, with H. M. Abrahams, in 1936, *The Human Machine* in 1955, *Disabilities and Injuries of Athletics and Sport* in 1960, and *Duodenal Ulcer and Other Alimentary Canal Disorders*, in 1961.

He was appointed O.B.E. in 1919, and was knighted in 1939. He married in 1922 Miss Adrienne Walsh, daughter of John Walsh of County Wicklow, and they had a son and daughter.

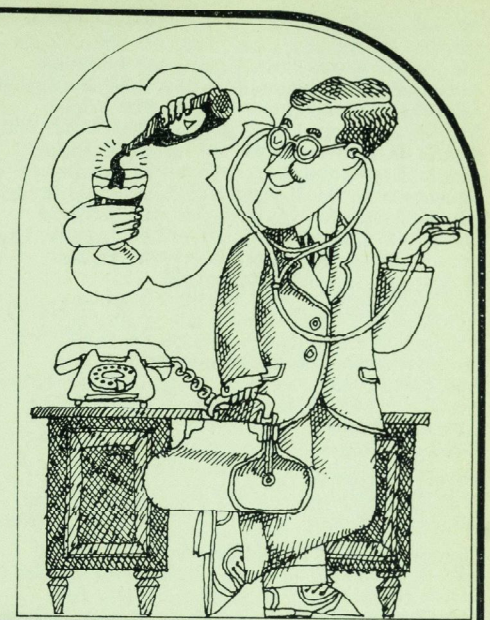
House Appointments from 1st January 1968

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		Male	Female
SIR RONALD BODLEY SCOTT	J. S. Blackburne	Harvey	Luke
Dr. W. E. Gibb	R. J. Barnett		
DR. G. W. HAYWARD	Miss A. Ferguson	Smithfield	May
Dr. H. Wykeham Balme	J. P. Dymond		
DR. K. O. BLACK	D. S. Browne	Rahere	Colston
Dr. A. M. Dawson	Miss M. E. Roberts		
DR. N. C. OSWALD	J. R. Graham-Pole	Dalziel	Annie Zunz
Dr. G. Hamilton Fairley	J. Pemberton		
PROFESSOR E. F. SCOWEN	D. J. Coltart	Stanmore	Garrod
Dr. A. G. Spencer	J. F. Hollingshead		

Q. What do medical men require?

A. Medical men require syringes, cheerfulness, couches, devotedness, telephones, watchfulness, sleep, firmness, knowledge, gentleness, stethoscopes, alertness, telephones, readiness, patience, kindness, sleep, promptness, diagnostics, rightness, telephones, awareness, telephones, long-sufferingness, sphygmomanometers, acuteness, secretaries, calmness, telephones, soothingness, sleep and goodness and

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	CASUALTY HOUSE SURGEON
	Lucas
	Kenton
	Henry Butlin
	Radcliffe
	(O) Martha
	(O) Elizabeth
	(G) Sandhurst
	(G) Pitcairn
	(G) Harley
Fleet Street	Harmsworth
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	W. G. Grace
Smithfield	Mary
Rahere	Colston
Stanmore	Garrod
Harvey	Luke
	Radcliffe
Dalziel	Annie Zunz

ABERNETHIAN SOCIETY

Thursday, November 30, 1967:

Symposium on Neoplasia

A. H. Hunt, Esq., D.M., M.Ch., F.R.C.S.

G. Hamilton Fairley, Esq., D.M., M.R.C.P.

I. G. Williams, Esq., M.B., F.R.C.S., F.F.R., D.M.R.S.

G. Canti, Esq., M.B., B.S., M. C. Path

In holding a symposium on so vast a subject as neoplasia, no attempt was made to provide complete coverage. Instead the speakers were invited to select special aspects that they found of personal interest or considered to be of particular importance. Thus a series of facets were exposed, with the hope of perhaps being able to reveal something of the shape of the whole problem.

Mr. Hunt opened the proceedings with a sombre survey of the meagre available therapeutic weapons, their limitations and particularly a stress on knowing when each was indicated. Cancer as a category of disease is responsible for one in six deaths; yet compared say with ischaemic heart disease, it has the singular capacity to inspire fear in the majority of people. Mr. Hunt then invited circumspection in considering the aetiology of cancer, there being myriads of causes there could be no one cure, and above all we still do not know the way the fundamental changes of neoplasia are induced. He continued by emphasising the importance of a change in the way of life rather than pain as an index of early cancer. This implied the need for clinics for early diagnosis, adequate training in the recognition of presenting signs, and choice of the correct method of treatment. Mr. Hunt presented surgery as the most effective treatment of a primary tumour, which might on occasions be curative. He traced the historical development of cancer surgery, with the stress today on therapy being a team effort. In the treatment of cancer it is as well to be pessimistic about cure, but always to go for the curative rather than palliative method where feasible. Finally the greatest success follows carefully planned campaigns of treatment, involving well judged successions of methods.

Mr. Williams was the next speaker, and although he stepped in at the very last minute in place of Dr. Jones, his contribution made it clear how necessary to the discussion was a radiotherapist. He introduced himself as the portrait of the cheerful radiotherapist, perhaps as an advertisement for the department, which,

as he pointed out, is visited by lamentably few students. The first law of radiotherapy was that cells have increased sensitivity to radiation if in mitosis. During the history of radiotherapy it had had an intensely stimulating effect on Pathology. Turning to the requirements of a radiotherapist, Mr. Williams said no knowledge of physics was needed, just the effects on the body of radiation. The penetration is related to the energy of the radiation. Thus low energy suffices for skin tumours, but radiotherapy directed to thoracic organs had to wait till the Metropolitan-Vickers instrument, capable of 1 MegaV. became available. There was still a place for radium, and now that almost any quantity of radiation was available, it had been found that 6 MegaV was an optimum figure, sufficient for any tumour whatever location.

Dr. Hamilton Fairley noting the general penchant for stating a philosophical position, let himself be known as the optimistic physician—a necessity in view of the limited effectiveness of available methods. The aims of medical treatment were to alter the environment in certain cases, for example by hormonal therapy. Chemotherapy involves an attack on dividing cells and thus stands no very great chance of specific or high efficacy. Though originally designed as palliative measures, the occasional surprisingly favourable results have led to such regimes as VAMP in which a battery of cytotoxic drugs are used simultaneously. Naturally special facilities are required for the maintenance of life under such an assault of toxic drugs. The assessment of the value of such treatment is still uncertain, e.g. the continuous versus pulse therapy controversy. The Burkitt lymphoma has provided many provoking surprises: the question of viral aetiology, discovery of antibodies against the tumour in the body, and the fact that one dose of a cytotoxic drug can produce effects when quantities are used which could not conceivably kill all of the tumour. The inference one might draw from the last point is that possibly sufficient control of the tumour was wrought by chemical means for the host to effect an immunological control. In animals it has been clearly shown that tumours can regress or be prevented. Lymphocyte transfer from an inoculated animal can cause regression of the tumour in the original animal from which the inoculum was derived. Nardler and Moore have performed similar experiments in patients with cancer, cross-inoculating pairs of patients and collecting lymphocytes after rejection at 14 days, cross transfer of which have produced

some tumour regression. Finally Dr. Hamilton Fairley stunned the house with the exciting report that asparagine, normally a non-essential amino-acid, in the case of some tumours is essential. Asparaginase, found in guinea pig serum has cured some mouse lymphosarcomata, favourable results have been reported in dogs, and in America some improvement has been shown in man.

The regrettable shortage of time, which curtailed Dr. Fairley's fascinating talk affected Dr. Canti even more drastically. This was all the sadder as he too had agreed to speak at very short notice before we knew that Mr. Williams could come. Furthermore it meant the excision of a large part of Dr. Canti's prepared material, particularly his ideas on carcinogenesis. However, he too disclosed fascinating work that has recently been done at Oxford.

DRAMA SOCIETY

Past production: THE KNACK

To a packed Charterhouse Recreation Room the Drama Society Nursery Productions played *The Knack* by Ann Jellicoe. By now of course the stage is empty, the Leichner put in a safe and the cast and others deep in textbooks and/or practicals. The reviewer hopes thus to refresh many memories and enable the few to relive their moments of glory. Any criticism is meant to be constructive and will I hope, be taken in the spirit given.

The play shows three very different men who share a Bayswater flat into which wanders an innocent ex-mill girl en route for the Y.W.(C.A.). Their various individual and combined overtures to the Lancashire lamb show how words may be mere stepping-stones for actions. A frenzied climax is reached wherein the girl faints, recovers and accuses each of the men in turn of her rape. Their disproportionate reactions to this accusation (don't they know about Police Surgeons?) carry the play to a logical conclusion—right boy (nearly) always gets girl.

JULIET GOULD played Nancy with skill and great truth. At last Juliet had her chance to show just what a good actress she is. Up to now her parts have been mainly supporting in which she was able to give only glimpses of her acting ability, now as the awakening Nancy she could get the bit between her teeth and what a delightful performance. Sustaining the North Country accent was no mean feat while

Considerable varieties of chromosome abnormalities were demonstrated in different foci in any one of a number of patients with in situ carcinoma of the cervix. This could be taken to suggest repeated neoplastic mutations in an area under strong carcinogenic influence, most of which were nipped in the bud but occasionally the body's defences are overwhelmed by a particularly malignant, invasive clone. He then showed a most impressive series of photomicrographs which left no doubt as to the reality of lymphocyte reaction to in-situ carcinoma.

The compression of the meeting meant that questions and contributions from the floor were unfortunately almost ruled out. Professor Linford Rees then proposed an eloquent and witty vote of thanks.

P.E.B.

her mounting hysteria and the faint-substituted culmination in the Mr. Tight-Trousers scene was near perfect. Altogether a commendable performance.

MIKE WHITE seemed at first to be in a bit of a rush to give us his interpretation of the more practical flatmate and we had quickly to get into top gear for him. Perhaps this was a concentration-catcher—it worked with me. His performance soon settled down and was quite convincing in his less wild moments and as the play progressed we saw behind these tactics as Mike showed Tom to give both encouragement and steady influence to his flat-mates' flirty flights of fancy.

NICK WAGNER gave his usual eminently competent performance now as the lupine Tolen. His Sharp Your Sexcellency gear was grreat and greeted as such by a roar of approval as we kiddies were able at once to recognise the evening's baddio Daddio. Nick's timing as ever was spot on and his window exits and entrances were a delight to watch. Unfortunately for the Drama Society Nick is about to buy a three-piece suit, get his hair cut and ask his Godmother for a Littman. For Tolen, for his staunch support in committee and on stage we say Thank You Nick Well Done.

NIEL MONRO played Colin at a weeks notice. This in itself was amazing, to have played so well was more so. I did wonder whether we should have seen the pathetic side of this character more clearly at times. However Colin came over very sincerely with all the eagerness and wavering self-confidence of

this sexual aspirant who had such implicit faith in Tolen's prowess.

Niel Monro's production was superb. I would think this is a favourite play of his since he showed his complete understanding of what and how the playwright wished to communicate, and this is not always easy to do. We welcome him for the valuable member of the Drama Society he is and will be—Medicine Permitting.

The evening was entirely successful and more than justified the tumultuous reception. What a pity it was a one-night stand. Judging from later numerous complaints about inadequate publicity they could have run for a week. B.W.

Other Drama News. . . . Main production at Cripplegate theatre Tuesday to Friday, 20th to 23rd February inclusive *Bartholomew Fair* by Ben Jonson. Come and see this Grand Kaleidoscopic View of All The Fun Of The Fair. "It is an excellent play, the more I see it the more I love the wit of it" wrote Samuel Pepys.

If your taste is more serious fill in the time till 20th February by coming to our Workshop-type theatre sessions Contact Frank Martin 1st clinical year.

Benita Wylie, Secretary.

Next production: BARTHOLOMEW FAIR

We hope that most of the people who read the Journal will see our production of *Bartholomew Fair* at the Cripplegate theatre on 20th, 21st, 22nd, 23rd February, and it is only fair that you should have some introduction to a play of such complexity. And our task will be easier, and our interpretation that much more acute, if we know that our audience will arrive prepared for a play written just over 350 years ago. Preparation is not difficult however; the play is both comedy and satire, combining the best of Brian Rix situation comedies, with the most accurate and plausible satire which we can find today. But Ben Jonson's satire is far greater, far less temporal, still pungent and witty today, bearing no comparison with the built in obsolescence of "Mrs. Wilson's Diary" or the flat humour of the modern show. Be prepared therefore for a play of great quality and dramatic depth. Though the play is intended as a defence of authentic art itself, it is important to realise the good humour with which Jonson achieves this project.

Jonson chose the *Bartholomew Fair* as a setting for his play. The Fair had a long history

dating back to when our own Rahere founded it in 1120. It remained a religious occasion until the reign of Henry VIII, when the curious collection of religious, mystical, and sensuous themes—most uniquely coinciding in the miracle plays of the fifteenth century—gradually gave way to the form in which Jonson must have known it. In August the fair began, covering a large area of the old city of London, and it must have been a noisy spectacle, with the hawkers, magicians, puppet shows, drunkards, whores, and the gathering of all classes so that the Puritans and Anabaptists rubbed shoulders with the pimps and pick-pockets. And by 1614 the fair was sufficiently bawdy, noisome, and unscrupulous for Jonson to use it as his set. Thither he sends the young fool Cokes, with his fiancée Grace, who, being a sensible and sensitive girl, wishes to avoid at all costs marrying the nineteen year old idiot. It takes her but two hours in the fair to exchange husbands—and legally at the expense of her guardian, Justice Overdo, the horribly overzealous justice of the court of Pie-Powders. Another interesting zealot is the Puritan, the ranting, obstinate, hypocritical Puritan, "Zeal-of-the-land Busy". In order to scoff pig and ale in the fair his "inspiration" tells him that this will demonstrate his disapproval of Jews. Both the Justice and the Puritan are put in the stocks. They represent between them the strains on English culture in the seventeenth century.

In James I reign the constitution was beginning to weaken after the glorious reign of Elizabeth I. The freedom of the artist waned in the face of Puritanism, and the deterioration of government. (One might remember the Duke of Buckingham, who dominated both James I and Charles I, until his eventual assassination at Portsmouth.) The *Dramatis Personae* of *Bartholomew Fair* is a long list of fools, and frequently "the serious ass: he takes great pains to be one". The greatest of these "serious" asses are Overdo and Busy. Overdo is revealed for making several ridiculous errors of judgement, upon which the more alert visitors to the fair make much illicit ground. The overheated ranting of Zeal-of-the-land Busy, "one that stands upon his face more than his faith, at all times . . . by his profession, he will ever be i'the state of innocence, though, and childhood; derides all antiquity; defies any other learning than inspiration . . . he is a fellow of a most arrogant and invincible dullness," one that is obviously drawn by Jonson with the most malicious accuracy, is finally silenced and defeated by a puppet in a motion. And there is every other type of fool: from the madman,

to the young wife of the witless legal agent, who is only just saved in time from embarking unwittingly on the life of a whore.

Upon this scene, Jonson's ingenuity and imagination have created a plot of great complexity, and tremendous fun; and the ingenuity is extended far deeper by the creation of some of the most splendid and rewarding parts to have appeared in comedy. The play therefore presents a challenge to any Drama Society, and

MUSIC SOCIETY CONCERT

on Thursday 7 December

Handel Zadok the Priest
Beethoven Mass in C major
The Music Society Choir with:
Marie Hayward (soprano) Gillian Hull (alto)
Adrian de Peyer (tenor) Michael Rippon (bass)
Orchestra led by Godfrey Salmon
Directed by Robert Anderson

Bart's Choir would now seem to be as firmly established within the hospital as the Rugger Club. Like the Rugger Club, its activities are reported in the national press, for the *Daily Telegraph*, no less, wrote about its performance of the "Creation" earlier this year.

The high standard of its performances is the result of much effort throughout the year; but without the work of Robert Anderson it is doubtful whether we would have as much to be proud of as we do. His persistence, good humour and intuitive skill in dealing with what originally appeared to be very unpromising material make him as near an ideal director as could be wished.

As a choral event, this evening must be considered a notable success. With numbers that by today's luxurious standards could be reckoned no more than adequate for Beethoven's Mass in C, the choir yet produced a volume and quality of tone that was astonishing, even to those who had heard their previous concerts. The dynamic range and control was remarkable, and the words of the text came through with great clarity, a feature not always evident in their earlier concerts. Taken all in all, this was the best thing they have done so far, for it was the most ambitious.

In the quieter, lyrical passages, very few faults could be found with the singing, and in fortissimo, both the attack and precision were generally all one could ask for. There were times however in passages of sustained high volume, when the Choir had trouble in main-

we feel that Bart's Drama is equipped to meet it. It is for this reason that we have hired the Cripplegate, to seat over 1,600 people in four nights "In which time we promise to present them, by us, with a new sufficient play called BARTHOLOMEW FAIR, merry, and as full of noise as sport: made to delight all, and to offend none; provided they have either the wit or the honesty to think well of themselves."

JAMES GRIFFITHS.

taining itself at full stretch, and towards the end of the Credo, some rather po-faced contributions were apparent. And though the difficult entries of the Gloria were mostly negotiated with commendable ease, the section "Quoniam Tu solus sanctus..." had patches of doubtful accuracy.

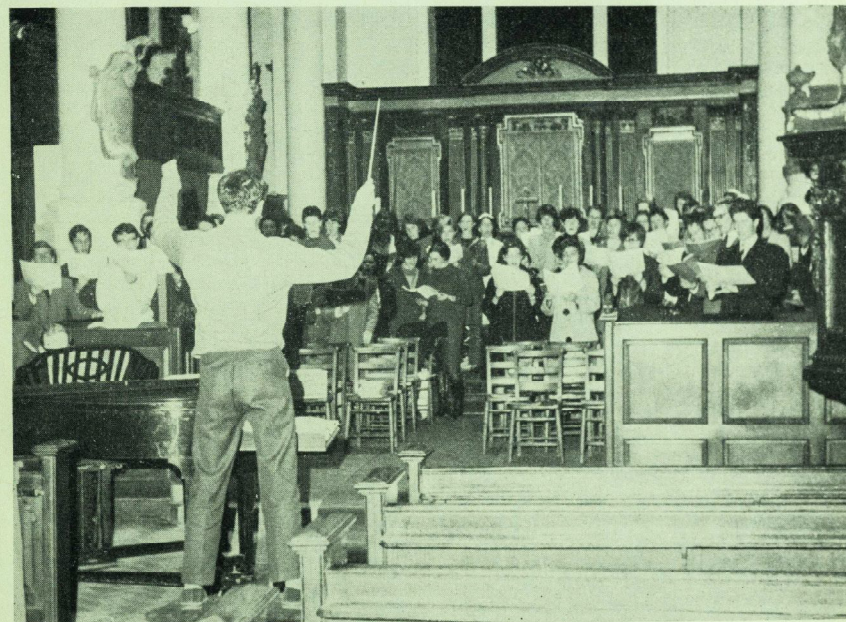
On the choir itself two points emerge, not as serious defects, but as comparatively minor and probably inevitable factors. The tenor section is undoubtedly the weakest, and the only certain remedy for this is more tenors. The Philharmonia has the same problems. Secondly, the sopranos and altos are rather too similar in tone to distinguish between them with ease. Now I feel that in the Church, both these things could be overcome to some extent by placing the ladies' voices along the sides in the choir stalls and the tenors and basses across the aisle behind the orchestra. Such placing would allow the tenors a wider spectrum of sound, so to speak, and would at the same time accentuate counterpoint between the higher voices. Visually, of course, the existing arrangement is vastly preferable, and the alternative may be impossible for reasons of space.

The soloists were admirably matched, and generally of high quality—Mr. de Peyer produced some rather Alpine sounds at times but acted with impressive restraint in duet. The orchestra quickly overcame in the earliest bars some ragged string playing to provide a first class accompaniment.

To assess Mr. Anderson's reading of the music is not so simple. There are too many factors involved in the composition for a "definitive" interpretation to emerge. Beethoven was profoundly influenced, and indeed felt himself overshadowed by Haydn in this context, which is hardly surprising to anyone who has heard the "Lord Nelson" Mass. In

some ways this influence was restrictive. By allowing himself, or by permitting circumstances to dictate to him, a structure insufficient to fully realise all his ideas, the composer also occasionally fails to prevent the music from becoming not merely stark and uncompromising, but even constricted and episodic.

What he could achieve on his own terms with his transcendental idealism can be perceived in the Mass in D major—"Missa Solemnis", written thirteen years later. Where, there, the dramatic setting of the text comes over with a shattering intensity, in the earlier work the result comes sometimes dangerously close to banality.



Rehearsal for Beethoven Mass in C

Yet the vision surpassed Haydn's, and it can best be realised in a romantic context, as a work of profound originality and a logical extension of Haydn's achievement. For example, whereas it was customary to conclude with an ebullient and trumpet-filled "Dona nobis pacem", implying a somewhat unwarrantable assumption that things would happen that way, Beethoven's setting is a quiet prayer, thematically, and thus textually related to the opening Kyrie Eleison;—"Lord have mercy:

And the Sanctus, usually declaimed with shouts of exaltation, becomes the realisation in man of his inferiority before God.

As it was, the Kyrie was heard to very poor advantage in Mr. Anderson's rigid and unimaginative handling, and though the Dona Nobis Pacem came over with a good deal more sensitivity, this marred an otherwise distinguished interpretation. His tendency to rush the end of the Gloria contributed to the momentary discomfort already mentioned, but throughout he kept a notable balance between choir, orchestra and soloists. It is easy to underestimate this, but all too often a singer can be seen to resemble the commonplace

Grant us peace." spectacle of the Prime Minister broadcasting on television with the volume turned down.

The concert opened with Handel's well known Coronation Anthem. Well-known, that is to everybody except me, for whom it was at most the second hearing. It came over well enough, but it sounded under-rehearsed: the orchestra contributed to this impression.

R. S. THOMPSON.

FORUM

of the Student's Union

At the end of December the Students' Union played host to a group of some twenty Swedish students from the Stockholm School of Medicine. Speaking faultless English, which put we parochial locals much to shame, this enterprising group had spent a week in England, during which time they had enjoyed conducted tours round Addenbrooke's Hospital, Cambridge, and round one other London teaching hospital. The Great Hall, Q.E. block, the Radiotherapy Department and St Bartholomew the Great were duly admired, but perhaps the most intriguing stop for all of us, en route, was in the Department of Medical Illustration, where Mr. Cull described and demonstrated some of the new teaching aids to be installed in the Museum.

Plans, having been afoot for over a year, are now well advanced for the reorganisation of the lower floor of the museum, with the aim of simplifying both primary teaching and revision of Bacteriology and Pathology. Work has recently started on the exhibits themselves. We were shown several beautifully clear and concise summaries and demonstrations drawing together the salient points on each subject. It is intended to mount these large display boards round the walls of the museum in association with other forms of tuition. The standard pots, for example, will remain in place. In addition four teaching booths are planned in which students will be able to study recordings, slides and films. The teaching machine being considered is a neat device combining slides with recorded lectures. A foot-switch enables the student to flash up a slide which is accompanied by a commentary. The commentary ends; the student may then pass on to the next slide or continue to study the previous one, or examine a pot or a relevant film loop, before pressing the foot-switch and passing on to the

next slide and commentary. The audio-visual machine is fed by a single cassette of tape and slides combined. Similarly, the 8 m.m. film loops will be on cassette reels for ease of handling by the less technically minded among us. The chief advantage of this style of teaching machine is that it enables a student to work at his own speed and to back-space if he wishes to repeat any part of the instruction. This additional teaching process is primarily intended for second and third year students as a continuation of the first year course.

From the student's point of view, if properly used, this new approach to the teaching of Pathology could revitalise the whole subject. Less time need be spent on tedious if necessary lists of information and time saved from teaching the more basic material can be devoted to tutorials and more interesting topics. Our Swedish visitors were equally as impressed as the Students' Union, whose sincere hope it is that these plans will be implemented "in our time".

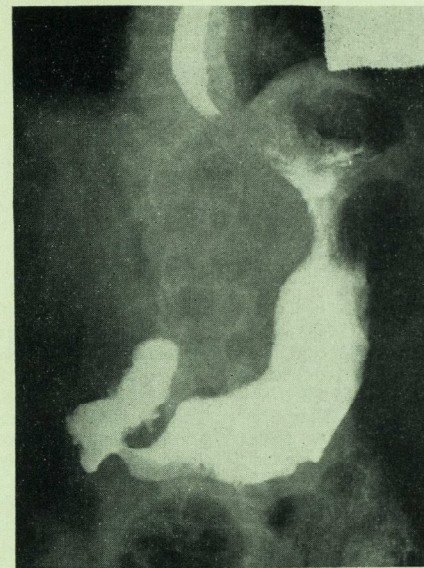
* * * *

So many strange objects, containers and general lost property have accumulated in the Trunk room in the basement of College Hall over the past several years that current residents have difficulty in finding room for their less spectacular luggage. Owners of possessions in the Trunk Room are therefore being requested either to remove them or to label them clearly. They may otherwise find themselves in the unenviable position of bidding for their own possessions at the auction to follow in about three months.

Elisabeth Macdonald.

Diagnosis

by J. R. Griffiths



(Answer
on
page 73)

A 63 year old shop porter presented complaining of itching and of "gripping pains" in the abdomen. He had a history of illness extending over most of his life, with recent admissions for hernia (twice), anaemia, prolapsed intervertebral disc and leg ulcers. For 26 years he had suffered intermittently from a peptic ulcer which he said was moderately bad at the time he presented. Although married he was separated from his wife and without children; he lived alone. The pruritus had commenced three months before and varied in intensity from day to day. There were no dogs, cats or birds in the home.

He admitted to sleeping badly and to chest pain (worse on exercise) and mild dyspnoea, but his principal symptoms were gastrointestinal. His appetite was easily satisfied and he experienced abdominal pain about thirty minutes after each meal, lasting up to three hours. For the last two or three months he had "belched" excessively. There was no history of melaena or of haematemesis, and he was

constipated. His frequency of micturition was 6 by day and 2 by night. There was no haematuria but occasionally the urine smelt and was cloudy.

The case notes describe him as a "... dirty unshaven old man; sitting, spitting, belching almost as often as he breaths. Won't answer questions directly. Scratching continually—probably has fleas. Bites visible, along with ulcer scars on legs. Rather pale but not clinically anaemic".

The skin was deeply pigmented and there were many small, hard lymph nodes palpable in the neck. Blood pressure was 180/90, with no other abnormality evident in the cardiovascular system or, apart from a few added breath sounds, in the respiratory system. The abdomen was tense and wasted; no organs or masses could be felt but many inguinal lymph nodes were palpable. Reflexes were all normal. Rectal examination disclosed an enlarged prostate. The barium meal is shown alongside.

What is the likely diagnosis?

Investigations and Ideas

by Edward de Bono, M.D., D.Phil.

University of Cambridge, Department of Investigative Medicine

It was late at night. Underneath the street lamp the policeman could see a man on his hands and knees grubbing about in the gutter. The policeman asked what the matter might be.

"I've lost my car key," said the man.

"Where did you lose it?"

"Back there, by the car."

"Then why are you looking for it over here?"

"Because the light is better here."

It is much nicer to work where the light is better. It is much nicer to work with a technique that works. It is much nicer to work in a direction that is clearly defined. There is nothing more frustrating than eager effort looking for a direction. Without a direction there is no progress, nothing to show for the effort, nothing to earn a reward. Technique, scientific soundness and action must clearly be more important than the direction in which they are exerted. Technique, scientific soundness and action are tangible but direction is only a matter of judgement should anyone be presumptuous enough to judge. Unfortunately it is not possible to dig a hole in a different place by digging the same hole deeper. Organisation and technique dig the same hole deeper but what suggests the site of a new hole?

As medical research becomes more and more complex individual inspiration becomes less and less useful. Successful research is not the result of inspiration but of excellent mechanical technique and good organisation. To try out an idea may require the use of a technique that takes years to develop; it may require the use of costly apparatus; it may require the cooperation of a team and a senior enough position to ensure that cooperation. A good research worker is not an artist with ideas but a businessman in the way he handles them. This is not a fault of the system. It is not something that has gone wrong and must be corrected. It is simply inevitable. There will always be ideas that never get tried out because their originators do not have the time, energy, ability or paraphernalia to exploit them.

Games Theory is a very useful and valid mathematical technique. With this technique it may be shown that Desdemona ought to have deceived Othello and he ought to have murdered her. That way both sides maximise their play. There is nothing wrong with the technique but the odd answer suggests that the application of the technique may be at fault. Unfortunately the correct application of mathematical techniques is not itself a mathematical technique. The way the situation is looked at before the technique is used may be far more important than the technique itself.

Techniques, because they are the valuable tools, because they can be assessed and purified, tend to become an end in themselves. Scientific papers are assayed on the adequacy of the technique rather than on the purpose for which the technique was used. The principle is that if the method is sound whatever is studied must be useful.

Epidemiology is a good example of dominance by technique. Because epidemiological techniques can be accurately assessed and forcefully used the actual worth of what is being studied does not matter so much. In America where research projects have to obtain specific grants, epidemiology is a fashionable field. With epidemiology it can be clearly stated what is to be done and, whatever happens, there will always be pages of results proving that some things are related or that they are not. Another example is the application of some technique for measuring the blood level of some substance in every imaginable circumstance.

There is always something to measure and someone wanting to measure it if there is an available technique. But 90% of all the scientists who ever published are still alive today and the total available scientific literature doubles every ten years. In some fields the literature is so vast that if one were to read it all at the end there would be sufficient new stuff already accumulated to make reading a full time investigation. There may come a

time when it may be necessary to be more interested in sifting the hole than in digging the same hole deeper no matter how exquisite the technique.

As a field of investigation medicine has certain unique advantages and certain unique disadvantages.

The field is more wide open than any other. It is difficult to do something in medicine that is not new for even if the idea is not the technique will be. Medicine begins where chemistry and physics leave off. Medicine is the study of organisation at so many levels beyond the mere behaviour of matter.

Most people believe that information is a self-maximising system: one only has to go on investigating and sooner or later things will sort themselves out into useful discoveries. This is an immensely wasteful and ineffective system but it seems to be the only one we dare use. Unlike other scientists who have to be provocative and design experiments, medical scientists can afford to sit, wait and observe since there is so much medicine going on and nature herself does so many experiments.

A distinct disadvantage of medical research is that it must be done by doctors. Doctors need to be rigorously trained not to make mistakes. Yet the fear of being wrong is the biggest bar there is to new ideas. Doctors must be men of action and decision. There must be some fixed hypothesis to guide such decision even if science has not yet provided it. Doctors increase in value over time as their experience accumulates but their freshness declines (in marked contrast to mathematicians and physicists who are free to have their ideas at absurdly early ages).

Using a model experimental situation I recently carried out a study on widely differing groups (schoolchildren, creative advertising executives, medical research workers, other scientific research workers, consultant engineers, lab. technicians, a group from the village pub and others). The experimental situation required a combination of creative approach and analytical development. It seemed that this was too much to expect of the medical and other scientific investigators although the engineers managed it. The difference may have been that the engineers depended for their livelihood on the ability to solve problems and investigate the unknown while the scientists had reached their positions through some other ability.

The handling of investigation might be mainly a matter of technique but the rest of it could be a matter of ideas, a matter of thinking. Techniques can be taught but perhaps thinking is too fearsome a subject to be anything but neglected. Nowhere in the long years of education is a single hour spent on the strategies, habits and uses of the mind as an information system and processor. Does a person have a fixed ability to think or only as much skill as he has had interest and opportunity to develop? If thinking is a skill could it be taught directly or only as the by-product of other subjects—like burning down the pagoda to produce roast pork?

Logical, sequential thinking is extremely effective. But it is effective at digging the same hole deeper. To dig a hole in a different place one needs another sort of thinking. To distinguish this from the "vertical" thinking involved in digging the same hole deeper I like to use the term "lateral" thinking. In a sense lateral thinking is creative thinking but I do not want to argue with those who believe that creativity is a dark matter of subconscious mystery. Lateral thinking is a deliberate and practical form of thinking (or attitude of mind)*. The need for lateral thinking arises from the rigid self-maximising nature of logical thinking and the necessity to disrupt this in order to generate new ideas.

No matter how far back you take logical thinking there must be a pre-logical perceptual stage. No matter how excellent the technique there is a way of looking at the situation which must come first. Lateral thinking is concerned with generating different ways of looking at the situation rather than choosing the most obvious one and proceeding from that. Lateral thinking is supposed to be concerned with the ideas rather than the techniques of investigation.

The importance of the pre-logical perceptual choice is shown in the following problem: Draw the outline of a figure which if cut out of cardboard could be divided into four exactly similar pieces (size, shape and area), by a single stroke of scissors.

(The answer is given on page 71)

Some readers may have noticed that the real point of the opening story is that it was only by asking a silly question that the policeman uncovered the true situation.

* The Use of Lateral Thinking, published by Jonathan Cape, 1967, at 18/-.

BRASIL REVISITED

by Ben Moore

After completing 2nd M.B. I visited Brasil for a three month working holiday prior to entering Bart's. I had lived in the country previously and was lucky still to have several old friends and contacts enabling me to visit various laboratories and clinics and to work in a couple of hospitals. Considering the size of the country it is hardly surprising that Brasil presents contrast climatically and geographically; less expected though are the contrasts between the Brasilians themselves in their ways of life, their racial and economic levels, and indeed their ethnic origins. Paradoxically there is lack of contrast between Black and White. Very marked contrasts exist in the Brazilian medical world: principally in the facilities available to the rich compared to those for the poor, and also as a result of the vast expanse to be covered. In Sao Paulo one can visit some of the finest research centres in the world yet in the north and west there are communities living 800 km. or more from the nearest small hospital.

I first worked in Fortaleza, a sea port of approximately half a million population, on the north-east coast. In this city the contrast existing in the medical world was most apparent.

At one end of the scale were the facilities available for the mass of the population, sponsored by the state; they were good but inadequate. One hospital in this category was the Assistencia Publica, a building in the middle of the city roughly half the size of one of the main blocks at Bart's, which dealt strictly with emergency cases. Even within the Assistencia there was contrast: the first floor was clean and well ordered with modern equipment and an up to date operating theatre, whilst on the ground floor, the reception clinics, were noisy, overcrowded, dirty and fly-ridden. The hospital was staffed by medical and surgical teams, half the members of which were qualified and half students from the state medical school. I was invited to work with one of these teams and attended twice a week. Invariably there were crowds, queues and "movimento"—particularly on Saturdays when

a motley succession of road accidents, knife fights, hysterical prostitutes and sick children would appear. The police were always in evidence on Saturdays, either pacifying a minor riot, controlling the line-ups or leading in the accused still in handcuffs for a stitch-up. Often the priest was there as well passing berobed between the beds dispensing the last rites to all who looked in need of them. Consultation at the Assistencia was free, so was the treatment if you were stitched-up or indeed admitted. Prescribed drugs, however, were not free, and whether or not the patient bought them depended on his inclination or his pocket.

In principle and practice the Assistencia Publica was a good thing—the trouble was that it was the only place not only in the city but in the whole surrounding neighbourhood. The people who really gained by this institution were the medical students as the opportunities for minor surgery, assisting at operations, clerking and dressing were limitless. For his two 12 hour sessions per week the student received 50,000 cruzeiros per month, approximately £10 (at that time).

In Fortaleza I lived with a community of Irish priests I had met several years previously when working through one of their outlying parishes in the interior. They were extremely kind and helped me to get organised, as the University of Ceará Medical School and hospital and the main maternity hospital were in their parish. Most days I attended the hospital with the 5th or 6th year students. Ward rounds were slightly less formal than they appear to be at Bart's. It was the time of the World Cup and frequently the discussion of the patient's condition would evolve into a passionate argument about the selection of the Brazilian team and more often than not the patient himself joined in. Football is never far below the surface for the average Brazilian. It is a national institution, with no colour or class barriers.

The university hospital included many patients suffering from tropical diseases: kala-azar was a common sight particularly among the children, cutaneous leishmaniasis, Chagas'

disease, schistosomiasis and pemphigus were often seen, as was malaria especially in patients from the wetter neighbouring states of Maranhao or Para. Cases of pellagra and beriberi were rarer, but one saw a lot of patients suffering from other deficiency diseases, particularly nutritional anaemia and goitre. The hospital could deal with only a small fraction of the poor needing treatment. Admission was hard to arrange and depended a great deal on contacts—knowing one of the staff or an influential priest always helped.

The medical students themselves came from a variety of different racial and ethnic backgrounds. They varied too in their ages, the majority of the 5th year students being around 25, but a fairly large minority were over 30 and a few over 40. It was impossible not to be impressed by the sacrifices made by some of the students, particularly the older ones, in order to study, because although tuition at Brazilian State Universities is free almost no money is available for grants. To stay alive a student must rely on parental support or what he can scrape together in his free time. The Medical School in Fortaleza is part of the Ceará State University and has only been in operation for 10 to 15 years, about the same time as the other northern state medical schools, Para and Maranhão. There is a slightly older school in Recife, Pernambuco, to say nothing of the schools in the more highly developed southern states, Rio, São Paulo, Minas Gerais, etc. The oldest and most famous Brazilian medical school is in Salvador, the bizarre capital of Bahia State and the national capital prior to independence in 1822. A striking feature of a Brazilian medical school is the relatively large number of women. There is no tradition of girls from the "social classes" going into nursing, for them it is either "doctora" or nothing, but the resulting lack of well trained, intelligent nursing staff is a great drawback. Brazilian students are very jealous of their "rights": one of these in Fortaleza is that no student has to take an exam after his 5th year. One Saturday morning during a tutorial session with the 6th year the professor announced there would be a test and promptly handed out question sheets of the "multiple choice" type. However, the exam was not to be, there was a flurry of arm waving and frenzied shouting and the students walked out en masse into the corridor to carry on the protest. This was a storm in a tea cup, nothing like the nation-wide student strike in 1962 when not one Brazilian student attended class for over four months.

Like any other student the Brazilian is keen to study abroad and the preference of the majority I met in Fortaleza would be to go to Europe. Unfortunately the availability of grants is such that most of those that go, go to the U.S. One doctor recently returned from a medical centre in the U.S. gave Great Britain a back-handed compliment. He explained how in the States he spent a very instructive year, but all the time dealing with expensive equipment, which he could never hope to work with again in Brasil. In an English institution he felt the financial situation would have been more like home and he would have gained more knowledge that he could really apply on his return.

The quality of service in the free hospitals depended to a large extent on the money available and this depended on the politicians. Under an honest administration the hospitals would get their full allowance, but in other circumstances it could be cut to a half or less. The question of finance was always uppermost in the Maternity hospital which was a modern, scrupulously clean, well-equipped building run with the very competent assistance of six or seven Canadian nursing nuns. It admitted patients of three types: (a) those who paid in full; (b) those who were members of an "institute" (a sort of "Blue Cross" plan); (c) those who paid nothing. As far as class c was concerned the hospital took in anybody who appeared on the doorstep about to give birth as long as money was available. If money was short the problem of admittance was more difficult, as the hospital could not afford to feed an unknown patient for a whole day before her delivery. Despite the bureaucrats ordering economies everything was done to admit everybody, especially those who lived miles off and had probably walked all the way.

The Maternity staff worked in 12 hour shifts, each "turma" consisting of a qualified doctor and three students supported by surgeons and anaesthetists on call. The students were only allowed to assist the class c patients. I attached myself to one of these "turmas" and gradually picked up the routine of admission, clerking and delivery. Admission was straightforward unless there was a financial squeeze, clerking was more difficult because in true Brazilian style one had to get every family detail down, mother, father and grandparents, too, names, addresses, ages and marital status. The delivery room was all noise. Except in emergency no anaesthetics are available to class c and the exhortations to the favourite saints were endless. Many of the women of course had had

large numbers of children already.

The hospital also had a well attended pre-natal clinic and working in it gave one an insight into the social customs and problems of the city. Venereal disease was common as were unmarried mothers. Some of the unmarried mothers were inveterate cases, they had a steady man but had not quite got around to see the padre yet. Others were more tragic, involving young girls possibly from good social backgrounds. For them there is no hope of their eventual marriage or re-acceptance into the society in which they were reared, and the great majority lapse into prostitution. The moral climate in Brasil is still very much the classical Latin pattern. There is absolute insistence on virginity in the female prior to marriage whereas considerable license is allowed the male before and after. Chaperons are still the rule for courting couples in Fortaleza, although the north is undoubtedly more strict than the south in these customs. Bikinis have gradually spread northward, and "mini-skirts", long hair and "jê jê iê" music are getting well established in Rio.

Prostitution is widespread throughout Brasil, the larger cities have "zones" in which every house in the district is a "casa de alegria", whilst even the smallest settlements in the bush support one or two. The house is usually organised as a benign matriarchy. Some senior member owns and runs the place and takes the profits from the bar. The girls pay a fixed rent and keep anything else they earn. The average Brazilian prostitute is by tradition one of the kindest and least business-like of people in all South America.

Post-natal care in the hospital consisted of keeping in the mother for 36 or 48 hours after a normal delivery. Premature babies requiring prolonged post natal care often presented the nuns with a problem at the time for their discharge. In many cases the mother would have departed soon after the delivery to tend the rest of her family and particularly if she lived in the interior of the state, she could be extremely difficult to contact. Some infants stayed on for weeks until their mothers were eventually found.

For patients who could afford to pay Fortaleza had several modern, well-run, private hospitals. These of course were out of bounds to the average medical student but some were allowed in to assist at operations, and I managed to spend a couple of days observing in one of them and talking with the doctors who ran it. One told me that he had arrived from Rio 14 years ago with ten dollars in his

pocket, had worked very hard, built up his practice and did all sorts of surgery. Now he not only had houses and cars and the rest but a 60% interest in the 150 bed hospital he worked in, and a cattle-ranch of 50,000 acres outside the city. A question constantly asked was the salary of the average British doctor. I did not know but for the sake of argument said £3-4,000. This was considered quite mediocre by the Brasilians especially when they remembered how ruthlessly efficient and probably quite incorruptible was the British tax-collector. Financially medicine is a very profitable business in South America provided one practices in the right area. Unfortunately, this means the doctors congregate in the towns leaving the vast interior undermanned.

Revisiting Belém was very much a sentimental journey. I had been based in the place for four years and had grown attached to its decayed Edwardian charm. Belém has its old quarter on the end of a peninsula including a 300 year old cathedral, the old Portuguese fort, the Governor's palace and a number of churches and schools. It juts out into the swirling brown tepid water of the Amazon delta. Belém has a fantastic climate. All year round, day and night, there is a variation of only 3° or 4° around the 86° F. mark and humidity is invariably about 100%. With hot sun and a high rainfall the vegetation growth rate is most impressive, whether one visits the old Jesuit settlement swallowed up by jungle just outside the city or simply observes ones' suede shoes after a couple of weeks in a dark cupboard. Belém was the centre of the Pará rubber boom during the first decade of the present century, and foreign money flowed into the place enabling it to have the first telephone system, the first tramways and some of the finest docks in all South America. The city fathers planned Belém's growth on grand lines, it had broad avenues, ornamental parks, zoological gardens, a large ornate railway station (from which trickled one minute line running off to a dead-end in the jungle), and as the *pièce de résistance*, a magnificent opera house. During the 50 years that had passed since the golden era the grandeur has worn pretty thin but thanks to the honesty of the present quasar-military régime the place is making a comeback. Three years ago the opera house had been a silent dusty, ghost haunted ruin, now it is once again the city's show-piece, with blazing candelabra, vast gilt framed mirrors, and fine spotless tiers rising in a horse-shoe from the stage and pit. The British played a key-role in the development of Belém in its

hey-day as they did in the exploration of the Amazon. Indeed it was an Englishman called Wickham who smuggled out the first rubber plant; an event that led to the establishment of the Malayan plantations and the demise of the Amazon boom. Some of these pioneers are commemorated by plaques on the walls of the old Anglican church in Belém, others lie in the churchyard amongst the jungle plants, their head-stones almost invariably bearing the words "yellow fever". Nowadays yellow fever is uncommon in Pará; more obvious to the casual observer are the numbers suffering from the later stages of filariasis.

Whilst in Belém I spent a few days looking around a Rockefeller sponsored Arbo-virus research centre, and worked for a couple of weeks in a public health laboratory. Time was spent cultivating bacteria from the city's drinking water, some sources of which gave rise to luxurious lawns of E. Coli. Such samples were officially unfit for consumption but thousands continued drinking it every day none the less. Blood urine and fecal samples were also analysed. Actually the internal parasite room was the social centre of the whole building, everyone from the "motoristas" upwards dropped in to chat, look down the microscopes and see how the good work was progressing. The leader was a fat ex-footballer and he had the best microscope. His underlings were a varied group, including two nuns and myself, amongst whom finding eggs in the faecus slides took on the air of a poker game. The student finding most types in one sample won: hook-worm, whip-worm and tape-worm were the minimum ante so to speak.

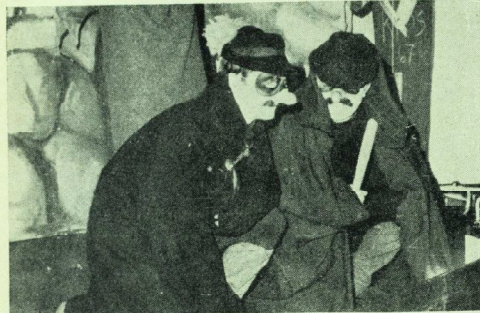
The temptation to stay longer in the Amazon was strong. The Salesian fathers had offered me a place to work at one of their Amazon mission hospitals up river near the Colombian border, but by now it was mid-September and

I was due to appear at Bart's in a matter of days. The following week I packed my bags and flew back to Lisbon.

Looking at Brasil from a distance once again the place probably takes on a rather rosier appearance than it does up close. One remembers the climate, the colour and the gaiety and forgets the less attractive aspects. But under any circumstances there is no mistaking the friendliness of the average Brasilian, his tact, interest and willingness to go more than half-way to let a tongue-tied "estrangeiro" make himself understood. One admires the Brasilian attitude to the vexed question of colour although it is wrong to assume the place is completely free from prejudice. In general it is agreed that it is better to be a bit whiter than a bit blacker, but the system is not made vicious by official groupings. If a man is a bit darker than he would like to be there is nothing he can do about it; but there is nothing to stop him marrying a light-skinned girl and siring lighter sons. The Brasilian colour barriers are readily crashable; an appropriate comment is the old national expression that there is nothing more whitening than money.

Brasil has its troubles: politically it seems unable to evolve a workable form of democracy, the economy is precarious, the currency is inflated, the underprivileged are poorly cared for, particularly in medical services; in addition it has lost the World Cup. Nevertheless it is a huge nation with a hard working population and vast natural wealth which requires above all a lengthy period of honest administration, a thorough-going education programme and aid. Aid not only as massive dollar-handouts with economy tying strings from the U.S but cooperation and trade from Europe; where Brasil like all other South American countries, has its closest links.

POT POURRI



Kids: The Baddies



Midder



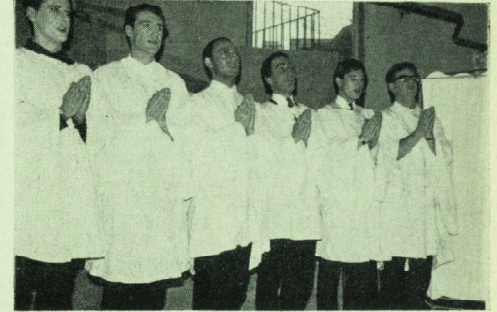
Mist. Pot. Cit and Pot. Cit.

To review the Pot-Pourri is a difficult task, because of the very nature of the show, which is derived almost entirely from material produced for and performed on the wards. This is sometimes put forward as an excuse for poor material as "what is good on the wards is not necessarily good in the Pot-Pourri and vice versa", and while this is not really valid, it does emphasise the difficulty facing any reviewer; for is he to judge the show in its entirety, as an evening's entertainment with no thought to the preceding ward shows? Or should he bend with the charitably inclined audience and make allowances for the lack of any total unifying theme, and the short time available for rehearsal at the Cripplegate? On reflection one tends to judge the show from two aspects; the individual shows and the

impact of the whole show, and this is chosen from this review.

This year's show started off more with a whimper than a bang, but happily Graham Chapman's whispered introduction was soon forgotten as we were taken into the very topical world of professional football. Pete Jordan, no doubt drawing on much personal experience was excellent in this sketch. The first show was the Kids "Campalot"; this show is always one of the most difficult shows to produce, but this year's was fun. It had a middle, a beginning and a happy ending, and what more can one ask for? The characterisations were suitably exaggerated and it was a pleasant change to see the whole of the stage being used in this show.

Next we had the Dressers' "Untoward



Specials



Afterwards at Matrons party

show"; this was a rather undistinguished show, which could have been improved by reducing the length of the songs. The policemen/breathalyser bags song was a topical idea but rather lacked impact. The Clerks' show "*Holimakitilookachi chi chi*", was very encouraging for a first effort. The Bart's reflex dancers was one of the few original ideas in the Pot-Pourri, and the "Girl from Ipanema", was very competent. Mike Barnham's guitar solo being one of the high spots of the first half of the show. Chris Jarvis' impression of *Sssshhhhh you know who*, was well done, but Paul Bangay's advice about the Christmas Bird was too unsubtle to be more than mildly amusing. We had to have some drag in the show, and this group did it very well in their ditty about sending daughter up to the Royal and Ancient.

The Specials' "*Royal and Ancient Palace of Varieties*" consisted mainly of old ideas, but so well done that this was excused. Pete Jordan was very good as the strong man and as Mad Carew, and he was admirably stooged by Paul Curry. The guitar quartet entertained with their two songs, but one felt that with that evident superfluity of talent, it was a pity that nothing original was produced. Lack of originality is hardly the charge to level at their last sketch: "Flower Power". It had everything; it was a simple idea, was well carried out and had an excellent punch line. The Finalists' show "*Atomic Piles—or—how to bring a full stop to a colon*" was another show that was well written and produced (by Jan Lilleyman). The sketches were funny, especially those about the army in which they were particularly lucky to have the services of Duncan Bell's fantastic rubber face. And Dave Wright's "If I were a houseman" was the most admirable quickie of the whole show.

The final show as always was from the House, entitled this year "*On the House*". One always expects certain things from the House; a huge cast, take offs of consultants and trousers, and pointed comment upon working conditions and the mighty machine of administration. We had it all this year in a polished show, that had much vitality and pace. The songs were good; "She had to go and lose it at the Grosvenor" which deservedly earned encores and "Bleep a Bleep" in particular, while the opening song had one memorable line about the quality of the House-men at

Bart's. The sketches, as so often occurs in House shows, were "stolen" by personalities; this year it was Jerry Gilmore and Robin Higgs, who managed to convulse the audience during their performances as simple everyday country folk. The sketch about the Miss World competition was quite grotesquely well done, with two biting moments from Gervase Kerrigan and Jon Kersley and a superb (much practised?) characterisation from Jerry Gilmore, but unfortunately the suitably parochial punch line was not thrust home as forcibly as it might have been.

Thus, as ever, the Pot-Pourri was patchy this year, but it is salutary to reflect that if by some catastrophe some half dozen or so "personalities" in the cast were prevented from appearing, the evening would have been less than comfortable. That talent is there is evident, but the inevitable snags associated with producing the Pot-Pourri mean that direction and timing is sometimes poor, black-outs are not slick enough, and may even be incomplete and thus the available talent is not always presented to its best advantage. The material too must accept some criticism, originality was sparse this year, as was subtlety, and we had the inevitable humour based on the Police Force, the alimentary tract and other things medical. Graham Chapman's brand of humour may not be to everyone's taste, but his diversions between items did help to restore some balance to the proceedings; we were lucky to have him.

This lack of subtlety is unfortunately inevitable in a show that has until the appearance of the ward shows no real concept or coherence, and therefore one wonders if some really funny and clever parochial sketches for Pot-Pourri audiences only, could be written before the Pot-Pourri by a quorum of expert talents and offered to some of the shows in an attempt to improve the quality of the humour.

The 1967 Pot-Pourri then, was well up to standard, but like its predecessors suffered under its own self-imposed handicaps, so that while the show was entertaining, one felt that it could have been that much more polished and professional.

In conclusion, thanks must go to the two Berts; Broe (the wig) and Cambridge (the Williamson) without whom the Pot-Pourri could not have reached the stage.

JOHN SILLS

MUSIC and MEDICINE

An Extemporisation on a Theme by William Congreve

by Leo Temple

Rhythm is the essential principle of all music in its subjective and objective aspects alike. A single musical sound has a given basic frequency and is at the same time a complex of other and component frequencies in terms of the harmonics of its *fundamental*. Any organisation of single sounds, whether in succession or combination or both, must inescapably be an organisation of regular and periodic vibrations of air, in other words, of rhythmic values. Form in music; melody, in free rhythm, or defined by pulses or beats and their groupings into bars (periods having a regularly recurring accent) and phrases; harmony; the blending of tone-qualities as in orchestration; all these devices are but extensions and permutations of that basic periodicity which *is* musical sound. Music as an art emerges from the mathematics of physics as a science.

My dictionary defines music as "the art of combining sounds or tones for reproduction by the voice or by various kinds of musical instruments in rhythmical, melodic and harmonic form *so as to affect the emotions*" (my italics). Granted that music indeed "hath charms" how, one must ask, do its spells work? How is the objective translated into the subjective, and what is the physiological end-result of that emotional state which is induced by the translation? To the first part of the question we have a straightforward answer: what begins as a wave-motion of the air becomes a mechanical oscillation (a) of the tympanum which is passed on to the fenestra ovalis by means of the ossicles; and (b) in some degree, of the temporal bone by conduction. Both of these mechanical movements reach the perilymph where they are continued as pressure-waves in a liquid. The miraculous, as is always the case as nature's workings are revealed, now happens. When the electro-chemical tonus or norm of the microscopic nerve-endings of the organ of Corti (immersed in the perilymph) is disturbed, then an entirely new kind of vibration—a nerve impulse—passes to the brain via the auditory nerve.

We are now in the world of electronics, confronted by billions of neurones, each with a

delicately balanced electro-chemical potential, each a part of a system of interdependence and interchange which makes the most sophisticated computer look like a toy abacus. It is only in this sphere of reference that we can seek the answer to the second part of our question.

The electroencephalograph has shown that there are such realities as "brain-waves". The superimposition of frequencies (whether by the auditory nerve or the other sensory nerves singly or in combination) upon the vibratory *status quo*, as it were, of the living brain produces, inter alia, a pattern of cerebral activity which we call consciousness. Such consciousness or subjective awareness must always have some kind and degree of emotive quality, and I have long inclined to the view that the known physiological sensory processes which I have roughly sketched above, profoundly wonderful as they are, in themselves seem insufficient and unsatisfying as an explanation of the human *psyche*. For example there are refinements, subtleties, and unexplained auditory auxiliaries which arise from a comparison, say, of an instrumental performance by a master-musician and a similarly perfect rendition of the same work by an equally brilliant executant who, however, lacks in aesthetic sensitivity. The different emotional effects of the two interpretations upon the audience cannot be explained in acoustic or vibratory terms alone, much less by anything yet known about the auditory apparatus or even the physical brain. The problem is similar to that posed by, I think, the late Professor Low, who contended that there was no physical or mechanical explanation in a pianoforte itself as to why one pianist could produce a more pleasing effect from the same instrument than another with a different "touch." The argument was that the piano-action simply had not the capacity, its mechanism was too inelastic, to convey the exquisitely delicate differences of muscular exertion involved. The fact remains that these subtleties "get over" to the listener. How?

My belief has always been that there is some rarefied extra-sensory perceptivity linking the mind of the performer to the mind (Note 1) of

the listener, who is thus preconditioned to respond to the *physical* vibrations (those superimposed upon what I have referred to as his normal cerebral tonus) *physically*, in accord with the artiste's intent.

This theory seems to have received some weighty support from a paper read this very year at the meeting of the British Association. Dr. A. Carpenter and his associate Dr. J. Morton of the Cambridge Applied Psychology Research Unit made a convincing claim to have confirmed the existence of a radar-like hearing mechanism, working below the level of consciousness, which makes a pre-auditory analysis of sounds before we hear them in the ordinary way. If this is accepted (and those of my readers who may have been present to hear, or have studied, the paper in question verbatim, can, I feel, hardly doubt its acceptability), it follows that cerebral response to the auditory stimuli when received must be pre-conditioned. From such individualised response, other contributory factors being equal, stems the emotional reaction.

That the emotions, by inhibition or stimulation, act upon the neuro-glandular system to produce marked physiological changes is a matter of everyday knowledge. The specific effects of certain types of music and particularly of their rhythmic forms are accepted as a matter of course. The lullaby soothes; "beat" music and jungle rhythms enfrency; the waltz has a sensuous appeal; and the "stirring" march is aptly named. What is not so generally known is the fact, demonstrated by the eminent medical and industrial psychologist the late Dr. C. S. Myers, that the martial rhythm actually raises the blood-pressure. Tests with the sphygmomanometer on a number of subjects while they were listening to a march record showed a definite rise in every case; differences in degree only being manifested in the individual responses. We all know how the primitive tribes use a continued basic rhythm to work up their dances to a pitch of mad hysteria for warlike and orgiastic purposes. On the other hand, that music can ennoble has been recognised by the great religions of all regions throughout the ages. Music is the language of metaphysics, enabling the ordinary man to glimpse something of that 'Reality' as Aldous Huxley (Note 2) puts it "which is substantial to the world of things and lives and minds". All the sciences and arts unite in one pursuit: the revelation of Truth. It is no wonder that music and medicine, the compassionate art of healing, have found common parenthood in the

great philosophers, and greater religious visionaries, since history began. Where indeed would be the great St. Bartholomew's without its Rahere?

After all, we humans, saints or sinners, doctors or patients, musicians or listeners, are basically of the one universal material of *being*. We, together with all our means and media—chemically, physically, mentally, pathologically, or however considered—are in every way, inseparably, at any time and under all circumstances, a pulsating part of a boundless unified vibratory system. Even the seemingly opposed explanations of quantum-physics and wave-mechanics become part of the unity, since they merge as complementary aspects of one and the same phenomenon.

In this universe of frequencies the Pythagorean 'music of the spheres' is continued (or was it begun?) in the rhythms of those sub-nuclear particles which the modern physicists are only now exploring. Matter and energy being synonymous terms (and if both musical sound and human thought are not forms of energy what are they?) it can no longer be far-fetched (Note 3) to suggest that the possible therapeutic value of organised sound should become a subject for serious scientific research. Dr. W. Gray Walter, (Note 4) and in his context the word *association* is used in the objective sense of the interaction of the cerebral neurones, writes: "*There is no physiological limit to the power of association*".

Who dare say that the scientifically clinical use of the *essential energy* of a lullaby may not, one day, prove effective in stilling even the storms that rage in an epileptic brain? After all the greatest healer and exponent of truth that the world has ever known did not boggle at malformations; but He did leave behind this promise: "... The things that I do shall ye do also ... and greater than these ..."

Note 1. Emerson's Essay on History: 'There is one mind common to all individual men: each man is an inlet and outlet to the whole of that mind.'

Note 2. *The Perennial Philosophy*, Aldous Huxley. Heinemann.

Note 3. *The Nature of Matter*, Ginestra Amaldi (Translated: Peter Astbury) George Allen & Unwin. 'A scientist has said 'the universe is not only stranger than we suppose; it is perhaps stranger than we can suppose'."

Note 4. *The Living Brain*. Dr. W. Gray Walter. (Duckworth).

Rugby Club Ball

The Rugby Club Ball, was held, as usual, in College Hall on Thursday, 7th December. Possibly Thursday is not the ideal night for a Bacchanalia, nemesis, the beginning of a new working day following in six short hours, however there does seem to be an unwritten commandment to the effect that "Thou shalt keep holy the Friday after the Rugby Club Ball, thou shalt not toil neither shalt thou labour (unless of course thou happenest to be other than a Bart's student), rather shalt thou sleep and eat aspirin that thy head may be clear and thy limbs eager in the service of the club on Saturday afternoon".

The date and place were traditional, and the rest of the Ball did not depart far from the accepted pattern of post club balls. The Refectory was given over to music in the 1960's electronic manner murdered by hirsute musicians, who under their leader (the maestro favouring the flamboyant style of dress) plucked, thumped, screamed, perspired, grunted and even sang with much industry in the hallowed tradition of those called to the popular musical profession. They were popular, and after the slow start many "couples" took the floor to ignore each other, each performing

his or her idea of a current fertility rite.

A dance band played in The Recreation Room. More sedate than the beat group the dance band were considerably kinder to the tunes which they played. Some stylish performances (Come Dancing fashion) were observed to music which had considerable appeal, until the floor became so crowded that close male/female physical contact with alternate shifting of weight from one foot to the other was all that was possible, but by then the lights had been lowered and nobody seemed to mind. The Recreation Room featured Bart's rigger shirts tastefully grouped and displayed about the walls, happily these shirts were either new or very carefully laundered, for they were totally innocent of mud and that aroma characteristic of their natural habitat, the changing room on a Saturday afternoon.

The Night Club more prosaically known as the Abernethian Room boasted paper streamers and a Discotheque. Discotheque may be defined as a precious young gentleman, the "Disc Jockey", or "D.J." or worse still the "Dee Jay", with a complicated gramophone or "Turntable". Upon the "Turntable" are placed records otherwise known as "Dises" or to the



The meal was, as usual, the Grand Tragedy of The Evening.

cogniscenti "Waxings" which may be "Hot from the presses", "Groovey" or "a golden oldie" but are always "Great" with certain exceptions, which are placed on the "Turntable" when the "Dee Jay" wishes to display his other stock in trade the "Acid Humour" (this short definition is inserted as a service to all High Court Judges who may be compulsive readers of the social pages of this JOURNAL. Further enlightenment may be gained from diligent study of Simon Dee on television or Radio 1). In spite of the massive built in handicap (the "Dee Jay") the Discotheque attracted many couples who danced with great enthusiasm, not least one couple, seemingly unaware that their strenuous exertions on a loose floorboard were causing the gramophone needle to jump on the record, their depraved conduct earning a stinging reprimand from the "Dee Jay" who gritted his teeth and simpered about "going off people".

The meal was, as usual, the grand tragedy of the evening. Once again the buffet reared its ugly head, causing a huge queue and a twenty minute wait for service more appropriate to the NAAFI or Famine Relief than a ball. The food, cold turkey and ham with the inevitable



Ready, Steady, Go Man Go

uninspiring etceteras would have merited no stars whatsoever save in The Bad Food Guide. The restaurants and bistros in the Kings Road were much favoured by the affluent and prudent prior to the Ball. The organisers of the Ball had obviously done their best with the money available and it is a pity that the results were so disappointing. Perhaps it is time to think about holding a ball without the Supper included in the price of a ticket. Certain members of the Rugby Club, less inhibited than the rest resolved the queuing problem to their own satisfaction by marching boldly to the front of the throng and working their way backwards along the buffet. Unfortunately this rather anti-social initiative would have disadvantages, were it practised by many diners seeking quick service.

Five minutes before the Cabaret was due to start the Recreation Room was a seething mass of humanity jostling for a view of the stage. The Recreation Room can hold three hundred bodies with a minimum of comfort, six hundred people had paid to see the Cabaret and six hundred people required their money's worth, it is hoped that this unfortunate and uncomfortable situation will be remedied by the next ball. Usually cabaret at the Rugby Club Ball is performed in a Bear Garden or Bedlam, the audience participating noisily and with total lack of inhibition. "Finders Keepers", performing their first solo cabaret at Barts launched straight into their act and rapidly tamed their audience, having gained the initiative the performers retained it with a non stop series of songs and a comedy number. The opposition was limited to a very few people at the back who had rehearsed their repartee of "Off, Off, Off." for weeks before until they were word perfect and were determined to perform it, not to be deviated from their stern purpose by the fact that the Cabaret was good. The most justifiable criticism came from groups of people pressed against the loud speakers by the crush, who staggered out during and after the Cabaret holding their aching heads, commenting that the performance was maybe a trifle loud.

Two bars functioned very efficiently until late in the Ball one offering a non vintage Moet et Chandon champagne at twenty-seven shillings which was well thought of, all other drinks were very reasonably priced. The consensus of opinion, as the patrons lurched into the early morning to do battle with the breathalyscr, was that the Ball had been a great success.

Bart's Art 67

An exhibition of some two hundred paintings and sculpture made by the staff of Bart's was held in the Great Hall and those who organised it are to be heartily congratulated for arranging so interesting a show.

Landscapes abounded in the exhibition but apart from the murky and very honestly coloured "Irish Landscapes" by John Challis, the townscapes of Messrs Jephcott, Spooner and Barrett were by far more interesting. C. J. A. Jephcott's "Camden, Sunday" caught well the dismal atmosphere of wet empty streets on Sundays and "View from London Bridge" by A. J. Barrett contained some refreshing colouring not to be found in his other work. Tim Spooner's views of East London were competent, if somewhat lacking in impact.

The sculpture was of a very high standard indeed. R. J. Horton's "Design" came off very well—although it was embarrassingly similar to a Naum Gabo in the Musee d'Art Moderne in Paris—it was a composition of cool clean planes of perspex linked by banks of nylon thread. It might well have looked even better if it had been made on a larger scale. The sculptures by Beth Jukes were all extremely graceful as well as beautifully executed. Her "Mother and Child"* achieved an unorthodox appeal by capturing the emotional link between mother and child, with the child, not cradled at her breast, but strapped to her back.

Amongst the sketches, Neil Monro's pen and inks of girls in coffee bars and in the street had a very real quality, his "Girl in Edinburgh"* was particularly successful. The sketch was not an example of technical virtuosity but of economical statement, he has produced with a few lines a fine summary of the moment. Graham Kidd showed some attractive pencil sketches, although their 'impressionism' might have made them too sweet for some. Peter Hill's chalk doodlings were great fun, with the same sort of spontaneity as a jazz saxophone solo. "Marmalade Rubaujt" looked as if it was executed with a single continuous sweep of the chalk. His "This title has no picture"* perhaps did not quite come off, however it had an arresting, horrific character, half way between foetus and mummified adult, the empty eyes lending it the permanent quiet of a death-mask.

The standard of the Medical Art Section was of its usual excellence, and it was interesting to see that Peter Cull's other exhibits "African Grey Parrot" and "Common Green Crab" were of such a high standard of draftsmanship that outside the context of 'illustration' they acquired in eerie surrealism.

Susan Lee's meticulously executed manuscript of "The Prologue of the Physician's Tale" struck an unusual note of medieval calm—here is a girl who sits patiently adding flower to flower and letter to letter while the rest of the world rushes to miss its bus. Apparently she will consider any commissions for manuscripts, there is no doubt that her customers will be getting real olde worlde value for their money.

John Davies "Camlan"*, a large allegorical work of fantastical composition, recounting the saga of King Arthur's last battle, aroused much interest and was always surrounded by a crowd. In a work of such detail it seemed such a pity that the draftsmanship was not of a higher quality, moreso was it a pity in that the picture had such original composition.

The mad chase of ideas over the richly coloured backcloths of patterns in Roger Roll's "Protoplasmic Machine" and "Wheels" made both pictures very entertaining. His more serious "Chess Game" was a well coloured daring composition, which made it quite incomprehensible that he had painted the very unfortunate "Portrait", which fell heavily between the stools of naturalism and pop-art.

The best exhibit by far, for me, was J. S. Pembrey's "Eagle stepping into Puddle" (unfortunately too dark to reproduce here in black and white). The picture was hung round a corner at the far end of the Great Hall, in bad light, so that many may have missed seeing it. The artist has a great sense of texture and colour, and a masterly flair for picking out and emphasizing salient details. The canvas was filled with the dark feathers of the bird's body, with a Baconesque explosion of colour at the neck and with the characterizing beak and offending foot seemingly sketched in, but both absolutely "right".

There were thus some surprisingly good works in what was a very interesting exhibition, however there was also a frightening quantity

* Reproduced overleaf.

of unadventurous pictures. The forward to the catalogue inferred that painting was a pleasant and charming pastime "which comes as a relief to one whose daily life is ruled by exactitude and accuracy." However it could be more accurately argued that painting is one of the more Godlike activities of man during which he has the opportunity to impose his mind on the canvas. It is only when painters have *dared* to *excess* that they have set the world on fire. I submit that an amateur's credo should be "I will *dare* to choose my subject with lack of reverence to the local Art Society (for more

masterpieces of fields and cows have been painted than of automatic concrete pile drivers). I will *dare* to experiment with style (for if Cezanne had gone on painting like Corot there might well be a Cezanne in my attic), and, most important, I will *dare to the point of lunacy* with colour (for as Paul Klee said "More important than nature and its study is the ability to concentrate on the contents of one's own box of colours.") But I hear the cry "Why? Is there anything better than sitting in a conventional green field messing about with green paint?"

Richard Staughton.



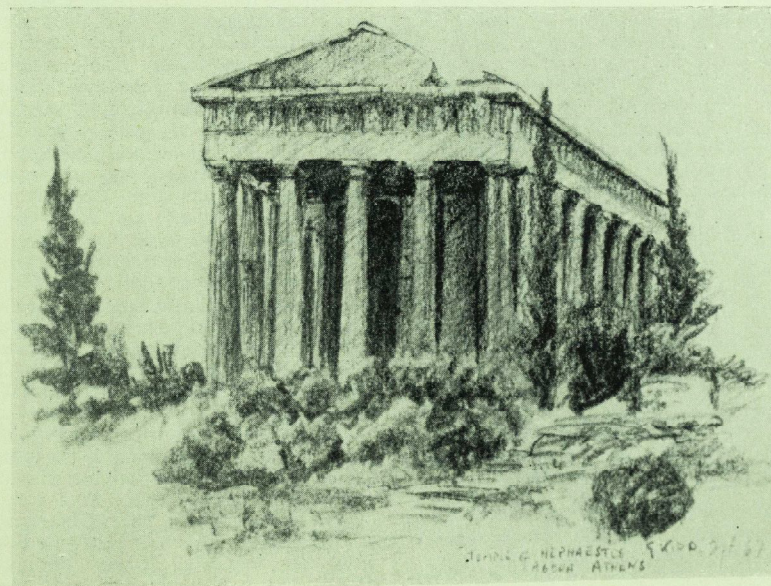
Girl in Edinburgh, by Neil Monro



Camlan by John Davies



Mother and Child by Beth Jones



Temple of Hephaestos—Athens by Graham Kidd

SOUTH PACIFIC

by W. Norman-Taylor, M.D.*

* Dr. Norman-Taylor has recently retired from the post of Public Health Advisor, South Pacific Commission

When I was on leave in London before taking up a post in the South Pacific, I thought I ought to see the film, the film version of the musical of that name. I knew that, as with most films, the real thing would probably be very different. The film was, I believe, shot in Hawaii, a long way from the scene of action of the story, which, as those who have read the book, Mitchiner's 'Tales of the South Pacific', will know, takes place mostly in the New Hebrides and the story is about a war that was fought a generation ago, many years before I got there.

I had liked the film. I liked the music and the technicolor and the gentle story. The only jarring note was the 'colour' question, colour in its 'racial' sense. One hero wouldn't marry a Chinese girl and the other's past association with a 'native' girl was the point of the story. How quickly does our mental climate change! Today such a plot strikes one as not only old fashioned but acutely embarrassing. And the Pacific, of all places as I subsequently discovered, is the last place where such matters are given any consideration.

As I say, I was not expecting to find any resemblance between the film and reality, but, though this was largely the case, I found that, in a strange haunting sort of way, the ghosts of 'South Pacific' still linger on.

It first strikes you in the streets of Santo or Port Vila in the New Hebrides. There are all those characters that peopled the scene in Bali-Hai in the film. True there are no European featured hula girls; on the contrary the girls are very black, ugly and wearing shapeless 'Mother Hubbard' gowns. And the native men are wearing blue jeans not war paint. But there are the raucous Chinese market women

and their beautiful porcelain daughters. There are the French nuns shepherding prim little French girls to and from school. And there are the tall, bronzed and handsome French planters living in their beautiful houses with beautiful views of mountain and sea.

But only the background characters remain. Long since gone are the throngs of soldiers and sailors, marines and nurses, that crowded across the stage set. But their ghosts must still be here. How can it be otherwise? Half a million men, sweated, fought, and cursed their way through these islands, from New Caledonia, New Hebrides, on up through the Solomons to New Britain and New Guinea. The feeling is strengthened by the very visible evidence that they passed this way. All along the route are their Nissen huts, piles of old oil drums, rusting landing barges, floating jetties now half buried in the sand, and tin-helmets and empty shell-cases used as flower pots on poor-white verandahs. The offices of the South Pacific Commission in Nouméa are the wooden buildings that were once U.S. Navy Headquarters and the ghost of Admiral Halsey, it is said, still paces the quarter deck. Across the road are the rows of wooden huts that used to be a Navy Hospital. Part of it is still being used as a hospital by the French. On the beach, the 'Biarritz Bar' marks the site of the 'Officers' Club'. Further along a derelict hut still bears the sign 'In-Bounds Eating House', while nearby, the bare posts of a net-ball pitch stick out of the jungle. Back towards the town, rows of Nissen huts have long since turned into slums of the local poor, and 'Motor Pool' is the name of the nearby suburb. The ticket entrance of what is now the football field still bears the faded sign 'Receiving Station'. For miles the concrete bases of army huts cover the New Caledonian countryside, and tarred roads run

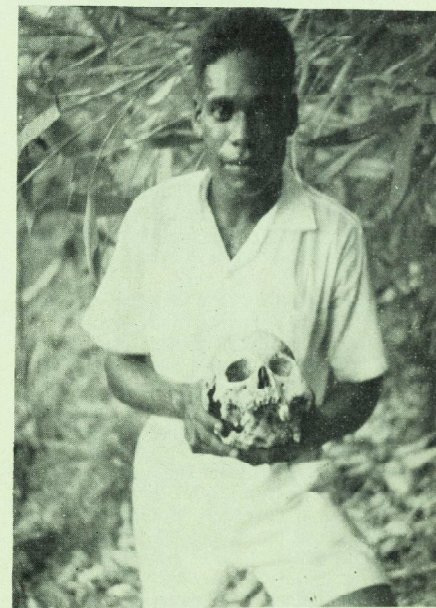
between them to nowhere. The hills, too steep for huts, still show the terraces bull-dozed out for tents. My own house, in one of Nouméa's newer suburbs, was built on such a slope and my children, on a neo-archaeological expedition, dug up a nickel and three dimes.

In the New Hebrides, the next group of islands to the north, lies the town of Santo. Once a quiet colonial station, it was transferred into a camp for four hundred thousand men. Now it is a town of ghosts. The old army huts, strung out along the shore of the narrow channel, house the stores of Chinese traders. Tall, slender coconut palms frame the shore, and high, cloud-capped mountains provide a backdrop to the lagoon where troopships and warships once rode at anchor. Under those placid waves lies a cruiser and six hundred men, sunk by one of their own mines. The local hotel, run by an enterprising Corsican, where Australian planters and French officials replace their fluids at the bar, is built of a few Onanset huts linked together. Along at the end of the road made of coral, tarred with American tar, where a naval dockyard was built, a modern freezing works now stands. Japanese fishing fleets bring in their catch of huge tuna to await shipment to Japan. So in this topsy-turvy world the Japanese have gained by lawful means a little of what this was all designed to prevent them getting unlawfully.

Further north again, on past the smoking cone of Vanikoro rising sheer out of the sea, lie the long string of mountainous islands, the Solomons. From the plane, Guadalcanal is a beautiful picture of blue forested peaks and green grassy hills, with the white edged ocean in the foreground. There below is Henderson Field, originally built by the Japs and literally the turning point of the war, their high-tide mark. But no marble column marks the spot where the U.S. Marines waded ashore completely surprising the over-confident Japanese. On the drive into town we cross the Matanikai River, so vividly described in 'The Naked and the Dead' and not much more than a big brook—where the Americans held off the furious Japanese counter attacks for many terrifying months.

Honiara, the present capital of the Solomons, was the old American Army Headquarters taken over after the war complete with tarred streets and waterworks. The fast delapidating Army huts are now being replaced by box-like

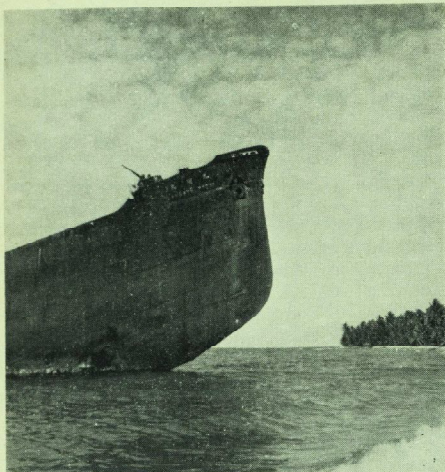
'contemporary' tropical architecture. Up on the ridge behind the town, where the Japanese and Americans painfully killed each other, prim new bungalows house prim colonial officials. Their bridge-playing wives pick flowers from gardens fertilized by blood and high explosives. In the jungle a few yards off the road you can pick up mossy skulls and shattered helmets and you have to step carefully to avoid unexploded grenades and barbed wire. I know because I have done it. I noticed that there seemed to be as many 'British' type helmets as American ones, and when I enquired why, I gathered that they belonged to those un-sung heroes, the Fiji Scouts and their New Zealand officers.



Japanese Skull

Along the beach, almost overhung by the tall palms that reach out over the waves, lie the hulks of the Japanese troopships. Now they are being broken up for scrap—by Japanese firms.

Out across the pale oily sea can be seen more islands. There is mountainous Savo, where aircraft-carriers used to play hide-and-seek with each other, and so many ships lie sunk



Japanese Troopship

in this stretch of water that it now bears the name 'Iron Bottom Sound'. Among them is the Australian cruiser 'Canberra' whose loss to the Australians was as devastating as the loss of the 'Repulse' and 'Prince of Wales' was to us.

Florida Island is the site of the scene in 'South Pacific' where the American radio-operator is in touch with the French planter who is now working behind the Japanese lines. His job was to count the Japanese troopships sailing down 'The Slot' to Guadalcanal. In real life, most of these watchers were Australian planters who had lived here before the Japs arrived. Many still live there. One of them succoured a certain Lieutenant Kennedy, U.S.N. who had been brought to him by loyal natives when his torpedo boat was hit off Kolombangara in New Georgia. It does not look so difficult when you sail among those close packed islands in the Government launch. The mountains are high and the thick forest comes right down into the water, thick enough to shelter a thousand torpedo boats among the tall mangrove roots.

Further on lie the Shortland Islands, where the real Bali-Hai is to be found. Mitchener so liked the name that he transplanted it to the New Hebrides. On one of the islands is a huge

American airfield bulldozed out of the forest on a high coral cliff a hundred feet above the sea. Small trees and bushes already dot its surface and at one end of the mile long emptiness still lie the piled up bones of all the lorries and tractors and disabled aeroplanes that the Americans could not be bothered to take away.

All the way up Bougainville are airstrips among the plantations, first built by the Japs then used by the Americans and now useful stopping places for the local Australian planes that now seem to run as regularly here as buses would anywhere else.

Then we come to New Britain and there is Rabaul, with its rectangular German-built street-layout, lying on the circular bay that was once a volcano's crater. On one side a small black cone still smokes and we get a close-up look into its yellow inside as the plane comes in to land. Rabaul was the Japanese headquarters. It was never captured; McArthur simply bypassed it. Its soft volcanic cliffs and hills were honeycombed with galleries for Japanese ammunition. There are great sea-level caves and you can still see where the submarines were run in on rails. A huge floating crane, said to have been towed all the way from Singapore, now lies rusting and half sunken nearby among the other hulks.

Over on New Guinea proper is the town of Lae. Across the park, behind the orchidarium and the zoo with its birds of paradise, is a tidy war cemetery. Its velvet green lawns and blood-red hibiscus hedges are beautifully kept. Here lie the Australians, New Zealanders, Fijians and Indians, side by side, each with a little headstone and name, all that is left of them. The Americans left no cemeteries. They carted their dead away and only the rusting junk heaps, modern monuments to mechanized warfare, now silently testify that they too were here.

That is the pattern all up through the South Pacific. A mighty army passed this way. No marble columns mark their passing, only thousands of rotting wooden huts, miles of tarred roads, piles of old iron. Their saga is a 'musical'. Perhaps it is a fitting one, characteristic of our times—no heroics, only crooning heroines.

Stylytes

All You Need is Laugh

Smiley smile comrades and consider the amount of effort expended per capita et lingua per annum in persuading a fellow human to bare his teeth and expire explosively in response to your social stimulus. In *halitote salus communitatum* and a diffuse shower of saliva on your lapel the dandruff of social acceptance. Laugh needs to laugh makes the world go round but beware. The ill-placed, ill-fashioned laugh betrays the most carefully crusted accent and belies the assurance of the most dapper suiting. Catch your breath or the down-going social bobsleigh. Laugh openly and longingly with your mouth and not with your nose, do not laugh first unless you are sure your laugh will spread; unrequited laugh spares no blushes.

Laugh to show no malice. There are those it is important to show no malice to: drunken Irishmen, armed and joking Viet Cong, con-

sultants in jocular mood. Peel back your teeth, narrow your eyes, fix your stare upon the target and exhale (silently if watch, noisily if short or not easily seen) Laugh as long as decent, stop, come back for more. Bubble intermittently somewhat in the manner of a coffee percolator.

Laughter is infectious, the hilarity bug carried winging on droplets; we know from childhood that the laughing policeman is an acute and infective case. Exhalatory laughter clears the head of vapours, dissolves tensions and elevates the nature. Compare the inspiratory nature of crying, a snivelling incorporation of cold exterior vapours into a congested cranium where the humours certainly aren't. Face it, crying's unphysiological.

Spread the glee thick then, pass the pun and save the crumbs for the shaggy dogs. Haul out the rusty jest expander for this newer year and boost your productivity. Make laugh not bore.



"HE'S GONE MAD ON THIS MUSIC THERAPY STUFF—HE CLAIMS TO HAVE CURED TWENTY-THREE CASES OF PLANTAR WARTS WITH JUST ONE CHORUS OF 'COLONEL BOGEY' "

MEDICAL BOOK REVIEWS

Ward Procedures and Techniques, by Cooper. Published by Appleton-Century-Crofts. Paperback. Price 50s.

This book is highly recommended to all clinical students and housemen. It provides an account of most procedures normally carried out in the wards and casualty departments, from venepuncture to cardiac catheterization. Each account is superbly illustrated with line diagrams and contains instructions, dosages and complications. At the end of each chapter relevant references are cited, often those written by the pioneers of a given technique. There are also chapters on pre- and post-operative management, resuscitation, burns treatment and wound care, electrolyte disturbances and pulmonary mechanics. In every case the text is concise, clear and interesting if perhaps transitatlantically polysyllabic. Confusion arising over American nomenclature is, however, minimal and should not detract from an enthusiastic recommendation. Perhaps the price is rather high and the size a little too big for the pocket (which is where such a book belongs), but it would seem impudent to suggest any improvement in the content.

Peter Hill.

Current Medical Research. Published by H.M.S.O. Price 8s.

This publication is a reprint of the articles in the Medical Research Council's Annual Report April 1966-1967 and reviews advances made over a number of years in some of the subjects with which the council is concerned. It is not an anthology of research papers but a compilation of absorbing review articles on chromosomes, protein synthesis, viral carcinogenesis, the control of leprosy, virus vaccines, dust diseases of the lung, thrombosis, visual pathways, puberty, etc., etc. There is also a section of reports from individual council establishments. The booklet provides interesting reading in its own right but one of its most endearing features is the inclusion with each article of long lists of references, not only to papers by council members, but by many other research bodies concerned with the topic in question. There are also some rather superfluous photographs.

K. A. Wilbur.

"The Essentials of Otolaryngology". R. Lewis, M.A., M.B., F.R.C.S., S. R. Mason, M.A., M.B., F.R.C.S., U. C. Edwards, M.A., M.B., F.R.C.S., H. C. Ludman, M.A., M.B., F.R.C.S. Published by Heinemann. Price 55s.

This book is designed, we are told, to act as a guide to the student (house surgeon and general practitioner) through the maize that is Oto (rhino) laryngology.

The authors introduce their subject in the first chapter, discussing the anatomy and physiology of the upper respiratory tract.

The two subsequent Chapters outline the major presenting symptoms likely to be encountered in this speciality and suggest a scheme to enable examination of the upper respiratory tract to be carried out in a consistent and precise order, following a natural sequence which passes from the least disturbing examinations of the neck and ear and progresses to the more difficult mirror examinations of the post nasal space and larynx.

The remainder of the book is devoted to the diseases themselves, beginning with congenital malformations and working systematically through the field.

The Chapters are generally laid out in a logical and digestible manner: typically classifying the types of disease, summarising the causes, and indicating the management.

The book is illustrated throughout with numerous photographs and line diagrams. The majority of photographs are excellent, although in earlier chapters one or two pictures might, perhaps, be considered superfluous: inasmuch as the photograph of a small child listening to the squeaking of a rubber duck, and another arranging coloured beads, contribute but little to the greater understanding of deafness in early childhood.

The line diagrams are adequate, clear, and uncomplicated, if lacking a little in the finer artistic appreciation of the impenetrable recesses of the human skull, whose beauty stirs the soul of every true-born otolaryngologist.

The target which the authors have set themselves they seem adequately to attain, if at times becoming a little less readable.

The book has a most impressive cover, well

worth carrying and exhibiting on the bookshelf — may even lead to reading it.

Martin Clifton.

Psychiatry. Merrill T. Eaton, Jr., M.D. and Margaret H. Peterson, M.D. Pp. 564. Published by Heinemann, 1967. Price £2 2s. 0d.

This is a rather thick paperback which is intended as a 'concise but comprehensive review of modern psychiatry.' Within the limitations inherent in such a task, the authors succeed quite well. The dogma is not intrusive, though the book is heavily slanted towards a psychoanalytic viewpoint.

Its advantages include clear type and good design, with a clear lucid style. Most terms are explained fully, with a wealth of homely examples. The initial chapters on psychodynamics and personality development are an excellent introduction to analytic concepts, and offer tempting opportunities for self-examination to the beginner! Descriptions of the common syndromes occupy the second section; even 'normality' is considered. Treatment is considered in the third section, and the fourth includes forensic psychiatry, the history of psychiatry, and some review questions.

The disadvantages stem largely from the authors' nationality; there is a tendency to indulge in folksy wisecracks (though these are often very relevant). The American standard nomenclature differs from ours, and the reader quite unversed in psychiatry might find this confusing. Some of the chapters, such as that on classification, and much of that on forensic matters, are so obviously expatriate as to be useless.

The section on psychophysiological (psychosomatic) disorders is sketchy, and that on physical treatments is poor. Those on psychopathic behaviour disorders, psychotherapy, and mental health and adjustment, are excellent.

All things considered, this book is recommended for systematising the student's clinical knowledge, and as a handy concise reference book for the non-specialist.

R. V. Berry

"Quantitative Problems in Biochemistry", by E. A. Dawes. Pp. 351. Published by F. & S. Livingstone Ltd. Price 37s. 6d.

This is an extremely useful book which deserves to be better known. Professor Dawes sets out to compile an anthology of numerical problems in Biochemistry, largely from published papers. He extended his scheme to include answers, worked examples to the problems and an account of the theoretical background in each field. This limited objective

and the compression it has necessitated has produced a concise textbook of quantitative Biochemistry which concentrates on those areas where students are weakest and examiners are most active. Such traditionally difficult subjects as acid-base relationships of macromolecules, enzyme kinetics, thermo-dynamics and redox potentials are all covered in depth and there are chapters on molecular weight determinations, equilibria, photometric analysis, manometry, isotopes and bacterial growth which frequently cover material not easily come by outside the specialised literature.

Many of the problems are derived from original papers, though some are old examination questions. They cover a wide range of difficulty but are mainly of Honours B.Sc. standard. Despite the sprinkling of recent references in the new edition, some of the problems are based on obsolete technical methods, though it could be argued that the latter provide practice in the use of knowledge of Chemistry and Physics in unfamiliar settings. Six brief appendices complete the work.

B.Sc. students (and their examiners) will find this book invaluable, while it will also be useful to research workers venturing into unfamiliar fields.

J. R. Griffiths.

An Introduction to Gynaecology and Obstetrics, by P. Rhodes. Lloyd-Luke (medical books) Ltd. Price 21s. and

A Summary of Gynaecology, by C. W. F. Burnett. Published by Faber and Faber Ltd. Price 18s.

Neither of these books would find a place in a student catalogue for "all you need to know for finals" but both have something to offer which shows the hand of an experienced and perceptive teacher. When asked to compare the two books it is important to realise that the two set out with a different aim in view. Gynaecology and Obstetrics are invariably taught together in our medical schools and Professor Rhodes's approach succeeds in integrating the two subjects while at the same time keeping us constantly aware that this is a human art dealing with the fears and problems of a woman's life. *A Summary of Gynaecology* is perhaps more directed at the intelligent and enquiring nurse rather than the medical student and indeed in doing so perhaps falls between the two schools in its detailed and partially exhaustive aetiological lists in the first part together with the admittedly well described and drawn details of instrumentation in the later section.

To say that Mr. Burnett's book is designed for nurses in no way belittles its usefulness to the student and the codefied definition-symptoms-treatment approach has a lot to recommend it as a pocket crib in the back row of out-patients when the basic points of the cases seen are most usefully revised. The section on gynaecological operations also offers something unique in its brief but rewarding section of operative detail. Here is a running commentary which will conjure up in a minute the essential steps of an operation and help the student learn to anticipate the surgeon's objectives and next move which is the essence

PAPERBACK REVIEW

Le Petomane 1857-1945, by Jean Nohain and F. Caradec. Published by Souvenir Press. Price 5s.

In the closing years of the last century, so the book recounts, Joseph Pujol was farting his way to 20,000 Francs a night at the Moulin Rouge. Pujol could imitate on stage the fart of the mason (dry, no cement), that of the virgin bride followed deafeningly by that of the consummated bride, the blast of a cannon or a roll of thunder. He could blow out a candle from a distance of one foot, smoke a cigarette through a rectal tube and empty a basin of

BRITISH FILMS 1967

Nineteen hundred and sixty-seven has seen the start of a new era in the British Cinema Industry. The Post-War renaissance was led by David Lean and Schlesinger, both no longer young men and both from the conventional background of British Film-makers; Schlesinger from documentaries, and Lean from the cutting rooms.

Last year saw the rise of Peter Watkins and Ken Loach, and the consolidation of Dick Lester's already considerable reputation. These men went in at the top, all having served an apprenticeship in Television. In contrast to the imaginative employment of new playwrights by I.T.V., especially in the "Armchair Theatre" series, the B.B.C.'s emphasis has been on producing fine documentaries, where Watkins, Loach and Lester were pre-eminent. In this lie the qualities of immediacy and objective reportage typical of this "school" and also its failing. Lack of partisanship on the part of the director for his characters does not provide the necessary involvement of an audience with films whose themes are exploited at the expense of characterization.

of a successful apprenticeship.

An Introduction in Gynaecology and Obstetrics lives up to its title because it is a continuous, clear unification of the two subjects using the same basic but flexible schemes which will serve to help the student make a sensible and informed answer when hard pushed in a viva, but will also serve as a framework for all his gynaecological problems in practice later. This is a book that is worth buying at the start of an Obstetric course to give a broadbased introduction with the sure knowledge that its usefulness will guarantee a good resale price to the next batch of students.

T. G. McCarthy

water by sitting in it. The artist was examined by doctors who were able to certify that his act employed no apparatus apart from his own anatomical endowments (whereas a rival woman Petomane was discovered to be using a pair of bellows to procure the desired effect). The audience fell about in their seats and the King of the Belgians travelled incognito to Paris for a private demonstration. So the story goes. It just might be a gigantic hoax; better read for yourself.

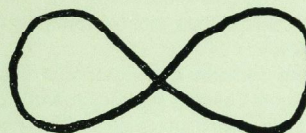
Peter Hill.

ANSWERS TO INVESTIGATIONS AND IDEAS

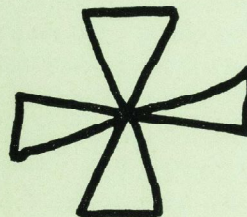
Answer to the problem set on page 49

The results of giving the problem to 100 people were as follows:

35% COULD NOT DO IT

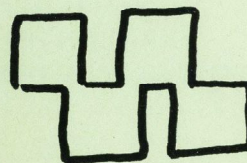


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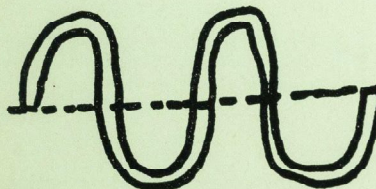


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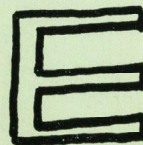
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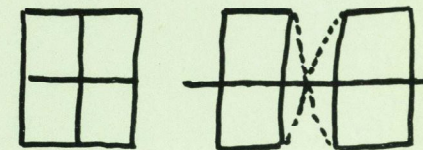
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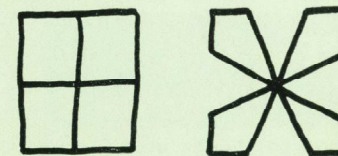
Comment

Both figures shown for the 50% response are clearly wrong. If either figure was cut out of cardboard then a single scissor cut would separate it into two parts not four.

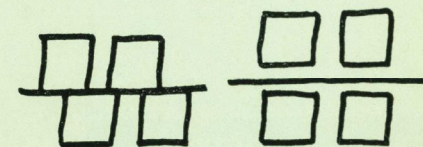
Both the figures follow from the initial impression—on being told the problem—of a square divided into four quarters. The first figure is derived from separating the square into two halves each of which is bisected by the line and following this by joining the halves together again.



The second figure is derived by gradually narrowing the quarters of the square until the cross shape is given.

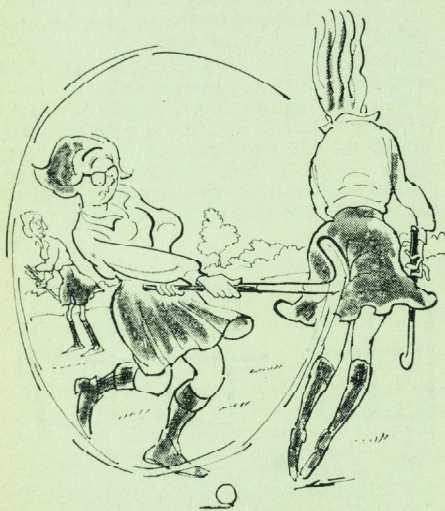


If instead of looking at the problem in terms of dividing up a figure one changes the preceptual choice and tries to assemble four similar shapes around a straight line one soon arrives at the version shown below.



Surprisingly only 3% produced what is clearly the neatest and most elegant solution. The trouble here is that the pieces are not used symmetrically. One is used as a base and the others as prongs.

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SPORTS NEWS

RIFLE CLUB

At the half-way stage of the season the Club is doing creditably well in all its leagues.

All the pistol teams are lying second in their leagues after four rounds, in each case the league leader is University College.

In the Postal leagues, the "A" team after two rounds was first, but we are still waiting for the last two results. The "B" team are struggling at the bottom of their division having just been beaten by our ladies team who are lying a very good third. The Novices team were lying second at the end of the third round, but we are still waiting for the results of the last round.

In the Standing and Kneeing league, our position reflects our experience. We hope that this will improve in the second half of the season.



PISTOL TEAM

The results so far are quite satisfactory, but I hope that the coming term will be more successful than the last.

C. I. V. Franklin

answer to diagnosis

from page 47

The salient points in this case are that the patient was an ill-kempt old man who complained of generalised itching and abdominal pain and who had palpable nodes in his neck and groin and a filling defect in the pylorus of his stomach. The X-Ray appearance of the stomach suggests a carcinoma of the pylorus, and the mechanical obstruction caused by the infiltration could account for the abdominal pain, flatulence and feeling of fullness after eating. On this explanation the palpable lymph nodes could be secondary deposits from the carcinoma while the pruritis of which he complained and his pigmentation could be accounted for by vermin or some other unconnected skin condition. It is this pruritis which is the clue to the correct diagnosis. This condition is not infrequently a complication of Hodgkin's disease which should certainly be

considered in cases of diffuse lymphatic enlargement. Biopsy of a cervical lymph node did not show evidence of carcinoma, and laparotomy was therefore performed.

An extensive infiltrating lesion of the pyloric end of the stomach was confirmed. There was no direct invasion of surrounding organs although numerous large, fleshy glands were involved. A palliative sub-total gastrectomy was performed and histologically the specimen did, in fact, show Hodgkin's disease and not carcinoma of the stomach. The patient later died of bronchopneumonia and pulmonary oedema. Hodgkin's disease can affect any part of the gastro-intestinal tract, and generalised lymph node involvement may not be present.

I am indebted to Dr. Holdsworth for advice and permission to publish this case.

JUDO CLUB

This season started for Bart's with a trip to Cambridge for a match against the University. We were accompanied by a United Hospitals team containing some Bart's men. The U.H. team fought the University 1st team, whilst the Bart's vs. Cambridge fixture was for men of no higher grade than Orange belt. Both U.H. and Bart's won.

U. Hospitals 20pts. Cambridge U. (1) 10pts.
Bart's 30pts. Cambridge U. (2) 10pts.

This October saw the start of the University of London Loose League System. This has replaced last seasons Wednesday League, of which we were the eventual winners. The competition is much stronger this year, and we are weakened by the loss of some of our more competent fighters. However we hope to win again.

So far in this series we have fought two very close matches, beating St. Mary's Hospital and losing to Imperial College:

Bart's 6pts. St. Mary's H. 5pts.
Imperial C. 7pts. Bart's 3pts.

The following have represented Bart's in these matches:

P. Clarke, R. Thrush, A. Ruddle, J. Davies, J. Dearlove, D. Matthews, M. Navin, R. James, G. Dunkley.

Tuition of beginners has continued on Tuesdays throughout the term, the mat area always being overfull with practising members.

At the recent gradings there were two promotions of note—J. Davies, Green belt; Miss R. Galloway, Orange belt.

A. C. Ruddle

SOCCER CLUB REPORT

Barts defended resolutely for most of the game against a strong Bedford College side. In goal, Quinn made many splendid saves but could not prevent Bedford scoring the only goal.

Although the team that went on the annual Cambridge trip was below strength in football talent it made up for it off the pitch. Barts beat Clare 3-2 (Leech 2 and Burke) but lost to Trinity Hall 0-2 and Christs 0-6.

A win over St. Mary's 4-2 restored the team's faith in footballing ability. Farrow (3) and Burke were scorers in a good team win.

Against the Inst. of Education, Barts struggled in the first half but eventually ran out 4-0 winners with goals by Ellis, Burke and Leech (2).

The luckiest win came against K.C.H. with five minutes left, Barts were 2-0 down after being under constant pressure: Woodrow scored from Dorrett's centre and Dorrett equalised with a long range rocket, Leech grabbed the winner with a splendid lob over the goalie's head.

S. C. Ellis

ATHLETIC CLUB

The Athletic Club A.G.M. was held on Monday, November 27, and although not well attended, many new ideas were put forward for the coming season. It was again emphasised that new members are welcome no matter of what standard; the only requirement being willingness to support the club. Therefore if there are any freshers who want to run for the club or just want to keep fit for other sports, will they contact anyone on the committee. The new officers for coming season are as follows:

President: Dr. Francis (re-elected)
Captain: R. Thompson
Vice-Captain: P. Jordan
Hon. Secretary: A. J. Breeson
Treasurer: A. J. Breeson
Preclinical Rep.: J. Brookes

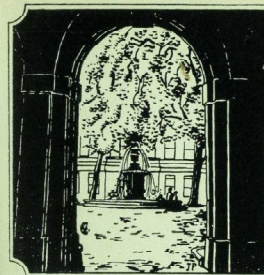
Barts is still in the 1st Division of the Winter league, and so far we have lost one and won one match. The winter league is an excellent system for promoting a competitive spirit during a normally boring training period; and its success during the last 2 years has led to its becoming a permanent fixture. This is especially mentioned for those misguided people who still think that athletics is a Summer event.

The Athletic Club Dinner was so successful last year that it is to be repeated this Summer. It is hoped that the restaurant will be as exotic as last year when it was held at a Chinese restaurant.

This season we regret the loss of John Coltart who now can't devote as much time as previously, due to his recent House Job with the "Medical Unit".

More fixtures of the more rewarding nature are being organised for the coming season. This follows the great demand to compete in the Westminster Bank match—after which suitable refreshments are provided. Thus with such fixtures it is hoped to encourage a better turn-out.

A. J. Breeson (Hon. Secretary)



Saint Bartholomew's Hospital

JOURNAL

Vol. LXXII No. 3

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Editorial

In this issue of the *Journal*, recent advances in the field of organ transplantation are described. Conspicuous in their absence are comments of the financial and ethical aspects of this type of work. Although these are of great importance, it has been decided that the reader must make up his own mind on such matters and that it would be presumptuous of the editor of this journal to offer advice on this subject. If the reader is undecided even after great individual thought, he is referred to recent articles in every National Newspaper, and most medical Journals, and if still undecided he may wait for the conclusions of the Inquiry into transplantation being set up by the Ministry of Health.

Television has been with us for many years. It is here to stay. Cardiac transplantation arrived in December, and is likely to stay. What is more natural than for the first man to perform this operation to discuss it on television? The increase in the standard of living in Great Britain has brought television into increasing numbers of homes, and the public is interested in advances in most fields, and especially those concerning health and the prolongation of life.

Public money is used in our hospitals and for research in medical fields in this country. This money comes from the taxpayer's pocket. If money is to be spent on research into cardiac transplantation, and for other such operations, even if they are well into the future, have the public not a right to be informed? And is the television not as good a medium as any?

Why then has the programme "Professor Barnard faces his critics" aroused so much criticism? For criticism there has been, from inside and outside the medical profession.

Some criticism of the content of the programme is justifiable. The outstanding point was the appearance of a potential heart recipient on the television screen. This added nothing to the value of the discussion, and introduced an unfortunate note of sentimentality. The second point was the appearance of Mr Malcolm Muggeridge, whose questions were embarrassingly irrelevant. It was a pleasure to hear one of his arguments effectively squashed by a clergyman.

Professor Dempster, from the Hammersmith Hospital, is reported to have refused to appear on the programme because he felt that a television studio was not the place for discussing serious medical matters. This may be true. Nevertheless, if, as he is reported to be, he is one of Professor Barnard's critics, would he not have served the public better by appearing on the programme and stating his criticisms, rather than having his views possibly distorted in the National Press? The discrepancy between views held in the Medical Profession and the general impression of these views given in the Press was well demonstrated in this programme by the comment of Sir Thomas Holmes Sellars, who suggested that the programme had been unfortunately named, as many of those present were not critical.

During the course of the programme Professor Barnard and his colleague Doctor Botha answered questions as well as they were able, and frankly in all instances.

Was this programme criticised because it is felt that no professional man should be in the public eye as much as Professor Barnard?

Was it because some of us are jealous, or could it be that an anti-South African Press would have us believe that there is more criticism than there actually is?

NEWS

LETTERS TO THE EDITOR

Sir,—Without sounding pompous, it is difficult to comment on the 1967 Residents Christmas Dinner. Nobody in their right mind would expect any body of students to observe the standards of decorum found in Victorian drawing rooms. We all know both the necessity for and the value of safety valves when working under pressure. Accepting this, we must also accept the fact that there is always a danger that manifestations of high spirits may cross the borderline into the realm of bad manners. Where these instances do occur, I feel that they ought to be recognised in the hope that recurrence may be limited.

To most people who attended it, this year's Residents' Christmas Dinner must be given a "five star" rating as such an instance. The staff had taken no little pleasure in making the extra effort required to produce a beautiful dinner table and an excellent meal. To see the results of their labours transformed at speed into something resembling a refuse pit was

galling for them and embarrassing to the guests. I am sure that these feelings must have been shared by some of the hosts many of whom will, like me, have been struck by the fact (if by nothing else) that an element of humour was missing. It is this element, I suggest, which defines the borderline we are seeking to recognise. Tricks which most of us left behind in the "Remove" are clearly no substitute.

I am glad to record that, in due course, apologies were presented to the staff. I trust that you will understand the reasons which have prompted me in laying myself open to the charge of being so ill mannered as to criticise my hosts on this occasion.

Yours faithfully,

C. D. H. NIXON,
The Medical College of St.
Bartholomew's Hospital,
College Hall,
Charterhouse Square,
E.C.1.

4th January.

Sir,—In his essay "Music and Medicine" of last month's issue, Mr. Leo Temple has attempted the impossible task of rationalising subjective response—for, in spite of the subtitle "Extemporisation", that is what comes over as his main concern. Though peri-medical references supply an element of scientific enquiry appropriate to a Hospital Journal, what emerges is one man's serious effort to account for one form of emotional reaction. Inevitably, it brought forth, from some, the sort of response embodied in a rather flat little cartoon on page 67—an amused and supercilious tolerance, at least partially diagnostic of ignorance and lack of interest.

Predictably too, Mr. Temple has constructed his theorising along time-honoured lines: the statement of an established fact which leads gently into and is used to add gentle weight to any theory he chooses to allow breath in his general argument. It is difficult to refute where the topic is an imponderable.

Mr. Ernest Ansermet, the Swiss conductor, mathematician and philosopher, in his lectures at the Royal Institution some years ago, chose to talk about the phenomenon of music

generally with particular reference to the difference between tonality and atonality. Much of what he said passed over my head and it is only fair to say that some pretty heavy breathing went on amongst the more knowledgeable in his audience at some of the points he made.

He, too, analysed the phenomenon of sound and went on to derive the structure and the affective properties of the Chromatic scale from their logarithmic relationship to one another and to their basic tonal centre. This is a far more exact thing—whether correct or not in its application—than Deryck Cooke's idea which defined the affective value or significance of intervals by empirical observations, illustrating them with profuse examples from many composers. Ansermet derived them from intrinsic properties of heard sound. As I understood him, what Ansermet was getting at was that certain subjective reactions are impossible under given musical conditions and I am convinced that he has at least got to the crux of the problem. Any emotional response must be by contrast.

A British soldier blowing his brains out before Gestapo officers to prevent himself

revealing the whereabouts of the regiment's supply of toothpaste would draw nods of approval mixed with baffled chagrin from his would-be interrogators. "He did the only possible thing", they would say. If back at home in Surbiton he did the same thing out of sheer boredom at a cocktail party, his fellow guests would react differently. Ladies would swoon, strong men would clasp their brows. Their minds would boggle!

Education is one means of providing ready-made contrasts. In the western world most people's ears are educated by a steady development in music through Baroque, Classical and Romantic styles to respond to musical sounds in a way that is firmly rooted in tonality. The final resolution in "Tristan and Isolde", for instance, is overwhelming because though it is inevitable it is withheld for so long—yet it is a tonal resolution proceeding out of tonality. Atonality and discord have always been used to point the contrast between beauty and ugliness. Mahler in his second symphony utters a musical "cry of disgust" (*sic*) by placing a series of shrieking discords after a strongly lyrical tonal line.

In this context is seen the influence of the mind over the ears. A simple example is perceived when pure intervals—such as one hears in plain chant—become "complicated" by harmony. The brain here compensates for the very small degree of contortion of the interval that must occur. But if this trend of thought is carried to its logical conclusion it would appear to be a direct contradiction of Mr. Ansermet's hypothesis, for would not a similar emotional response be realised if one was educated by progressive hearings of development along atonal lines. Yes—unless he is correct in saying that the only human response to atonal music is on an intellectual plain. He has thus rather boldly tried to define a limit both of the affective power of music and of human reaction.

This question of education is germane to the issue of performance. Mr. Temple in discussing the subtleties of different performances of the same work launches out into what seems to me at first sight something of an irrelevance. I simply do not believe that the piano is too unelastic and insensitive an instrument by itself to convey the nuances of an interpretation. One of the factors inherent in what we consider a great artist is the ability to make the piano do just that. He may be right to say that there is a radar-like subconscious that makes a pre-auditory analysis of sound before it is consciously perceived—but the preconditioning is

something that started long before the soloist sat down at the piano. It is a compendium of mood, predilection, education and good old-fashioned prejudice. (And doubtless a bit of radar, too).

Aesthetic sensitivity is different things to different people and is a purely subjective quality. If two separate performances of the "Moonlight" sonata are heard on record, one, for example, by Arthur Schnabel and the other by Fred Murphy, there are many people who would be predisposed to pass into ecstasies over the former if they knew Schnabel to be the artist concerned. Murphy would have to be fairly phenomenal to draw more than nods of approval if he was known to be up against such opposition. But if both were anonymous it is quite obvious that, whatever merits of the renderings would be at least a great deal more objective and very likely some people would react quite differently to the interpretations under those circumstances. It would be no reflection on their aesthetic sensitivity or of the radar transmitters belonging to the artists.

Up until very recently the social influences which are to a large extent related to the creation of art have worked alike on the composer and his audience. Though he may to some extent mould and channel cultural developments, the composer at any time has his artistic consciousness rooted in the same soil as his public. Ansermet gives Christianity much of this credit for the liberation at least of European man's affective consciousness and hence for the exploration of the affective possibilities of sound and the development of a tonal language. Insofar as it goes, this theory can be tested against fact. Lately, however, composers have developed a new language without reference, as it were, to their public. It is not surprising that, having rejected much of the dictates involved in musical development up till now, such works are themselves rejected by many.

Hans Werner Henze would seem to have found at least part of the answer in that he seeks to exploit the affective possibilities inherent in the deliberate juxtaposition and contrast of both types within the framework of a single structure. For most people this would seem to be a more immediately palatable way of accustoming their ears i.e. educating their ears to atonality.

Mr. Temple is more interesting in his discussion of actual physiological responses to music. Reference to the musical cultures of

India and China is of value in this realm. Development along the lines understood in western music is virtually impossible according to Ansermet. The music is hampered by "artificial" divisions of the octave (whatever that means) and is unable to achieve polyphony. This is obviously an enormous obstruction. The music would therefore become to its devotees and practitioners a very efficient and somewhat purer emotional trigger—physiological, if you like—and at the same time have much more closely defined purposes and stimuli as a social phenomenon. The reflection or establishment of specific moods, as a means of augmenting fable and legend, and as a rhythmic entity. To be grossly patronising about it, it is primitive and its effects are therefore more empirical and uncomplicated for its usual audience.

Engagements

COBB—STEPHENSON.—The engagement is announced between Mr. Crispin Cobb and Miss Jennifer Stephenson.

COOKE—RUNCIMAN.—The engagement is announced between Dr. John Cooke and Miss E. A. Runciman.

DOGGETT—GOFFIN.—The engagement is announced between Mr. Geoffrey Doggett and Miss Linda Goffin.

MILES—PERCIVAL.—The engagement is announced between Mr. David Miles and Miss Jennifer Percival.

Births

GALLOP.—On 9th January to Margaret (née Packe) and Dr. Andrew Gallop, a son (Mark Edward Vere).

GAY.—On 23rd December, to Patricia and Dr. Norman Gay, a son (Charles Esmond).

Deaths

HADFIELD.—On 9th January, Geoffrey Hadfield, M.D., F.R.C.P., F.R.C.S., M.B.B.S., F.C. Path., aged 78. Qualified 1911.

LUMSDEN.—On 1st January, Dr. Kenneth Lumsden, M.B., Ch.B. Edin., F.R.C.S. Qualified 1922.

MORGAN.—On 1st January, Dr. George Sidney Morgan, M.B., B.S., M.R.C.S., L.R.C.P., aged 72. Qualified 1923.

The medical applications of music are to some extent recognised. At the trophic level, cows apparently produce more and creamier milk if their secretions are stolen to the accompaniment of Mantovani and the clinical manifestations of insanity are staved off by Musak in persons working in large department stores. The possibilities are, of course, endless.

Perhaps the most startling comes from a gentleman reported in a perfectly serious journal who intended to have an abdominal operation without anaesthetic—a form of hypnosis to be used. "I have been listening to Mozart and Brahms for weeks now," he told reporters, "in order to accustom myself to pain!"

Yours faithfully,
RICHARD THOMPSON.

ROWE.—On 17th December, Dr. W. T. Rowe, M.C., T.D., M.D., M.R.C.P., aged 92. Qualified 1897.

RYCROFT.—On 6th January, Dr. Peter V. Rycroft, M.A., M.D., F.R.C.S., D.O., aged 39. Qualified 1955.

GRANT OF FELLOWSHIP DIPLOMAS

At the ordinary meeting of Council held on 14th December Diplomas of Fellowship of the Royal College of Surgeons were granted to the following Bart's men:—

BOOTES, John Anthony Hart.

BOOTH, David.

* ELLIS, Robert Paul.

† HAMILTON, John William.

MANSELL, Peter William Anson.

PLANT, John Charles Douglas.

ROLES, Nicholas Crosbie.

RUOSS, Christopher Fredrick.

SHEARER, Robert John.

WARR, Arthur Clive.

WILLIAMS, Colin Roger.

* In Ophthalmology.

† In Otolaryngology.

The rest were in General Surgery.

Obituaries

Dame Katherine Jones D.B.E., R.R.C. and Bar

When Dame Katharine Jones died just after Christmas at the age of 79, a very gallant lady who had brought much credit to St. Bartholomew's passed to her well-earned rest, deeply mourned by all who had known and admired her sterling character and what she had achieved for the Army Nursing Service.

In early life her education at home was amplified by further periods of school in Germany, and of living in France to learn the language. This not only gave her a lasting conviction of the importance of higher education for women, but was also an excellent preparation for her professional training at St. Bartholomew's where she took her Certificate in April, 1916, and must have been one of the first nurses on the State Register.

She joined Queen Alexandra's Imperial Military Nursing Service in 1917 and served in France till the end of the First World War. Between the wars she was posted to various Military Hospitals at home and overseas, till eventually she was called to the War Office in 1938 as Principal Matron. When war broke out in September, 1939, she was in charge of the nurses who went to France with the British Expeditionary Force, and soon after Dunkirk

she became Matron-in-Chief and so she remained till her retirement in July, 1944. For some years after her retirement she remained very active in the Civil Defence field and she served as a Member of the Board of Governors of Hammersmith Hospital and was Chairman of their Nursing Committee.

Of her many contributions to the organisation and administration of the Nursing Services there was one to which she referred with particular satisfaction. The status and seniority of Army Sisters in their "Grey and Scarlet" seemed an insoluble mystery to the rest of the Army, and particularly to the civilian staff at the War Office, so Dame Katharine arranged that they should wear on their uniform the insignia of officers of their corresponding rank in the R.A.M.C. She was herself the first Brigadier, and in the course of her travels to many theatres of War, she found her nurses in the forward areas wearing battle dress, or whatever uniform was most appropriate in the circumstances, but always with clearly distinguishable badges of rank.

Though the authorities at Bart's feared at one time that the recruiting ardour of "Soldier Jones" might rob them of some of their best nurses, it was but natural that she should look to her own Training School for reinforcements. She was a born fighter for all things good for Nursing and Nurses, particularly for improved training and status, and Bart's remembers her with a proper sense of pride, and a deep sense of thankfulness.

Una Malcolm-King

If there was in existence an official record of the Friends of St. Bartholomew's, the name of Una Malcolm-King would come high on the list. Her brother, Dr. Frank Stammers, qualified from Bart's, but she herself had no personal contact with the hospital until 1933, when she was introduced to the Women's Guild by Mrs. Sydney Higgs, the then secretary. Una Carr, as she was at the time, quickly became involved in the Guild's affairs, and from then on through the war years, she played an energetic part in hospital activities. She succeeded Mrs. Higgs as Secretary of the Guild, and her particular flair for fund-raising soon showed itself. It must be remembered that this was in pre-N.H.S. days and monetary aid was not only beneficial but necessary.

The Treasurer's Reports of this period mention her name again and again. In 1938 Messrs. Derry & Toms threw open their roof

garden to the public for the benefit of the hospital—"thanks to Mrs. Carr with members of the Women's Guild". In the same year £1,250 was raised by a film premiere—"grateful thanks due in particular to Mrs. Carr". Flag Days in successive years figure largely—"Mrs. Carr has rendered invaluable service". One of her schemes was to place collecting boxes in the local pubs and shops, a fruitful source of income. Then, just before the war and continuing through it, came her pet project, Bart's Bazaar. This was a small shop in Little Britain, where she sold anything and everything that came her way. A member of the staff recalls that City waiters came there to buy "tails" donated by affluent consultants, and someone else mentions an "extraordinary collection of ancient and fascinating 'byegones'." Mrs. Carr lived at that time in Charterhouse Square and she ran the shop personally, with some assistance, and with the physical and moral support of a wonderful old Cockney char-

woman, whom she named "The Duchess", and about whom stories were legion.

The peak of Una's service to the hospital came in 1946, the four hundredth anniversary of the second foundation and the granting of the Charter by Henry VIII, when she wrote the script and had much to do with the organising of the pageant which was performed in the Priory Church. This was a royal occasion, and the cast was a notable one, including Lewis Casson, Russel Thorndike and Robert Morley. The latter played the part of the Tudor monarch, and aroused considerable interest while being driven from his theatre to the church in full costume. At the conclusion of the performance Mrs. Carr was found, with

some difficulty, at the back of the audience, and had the honour of being presented to Their Majesties King George VI and Queen Elizabeth.

Following her marriage to Commander Malcolm-King after the war, Una lived mostly abroad, first in Barbados, and later in Majorca, where she died last December. During these years she was, of course, unable to continue her active association with Bart's, but she retained many friends there, and on the occasions when she was in England was happy to have up-to-date news of the hospital. Her affection for its traditions and its history never diminished, and she was always proud to have played a part in its activities.

ABERNETHIAN SOCIETY

Symposium: Advances in Cardiology

Dr R S O Rees, MA, MRCP, FFR

Dr Jane Somerville, MRCP

Dr E A Sowton, MA, MD, MRCP

Chairman: Dr N A J Hamer, MD, PhD, MRCP

At our first meeting of the year we were most fortunate to have three distinguished Cardiologists from the National Heart Hospital to speak on various advances in Cardiology.

Dr Jane Somerville began the Symposium with a talk on some aspects of the correction of congenital heart disease. The highest mortality from congenital heart disease occurs within the first year, 30 per cent. dying within a month and 60 per cent. by 12 months. Yet it is over this period that the technical difficulties of corrective treatment are at their greatest, and the infant is least able to withstand major surgery, particularly when already in heart failure. Successful treatment must thus aim at simple operations to aid survival until the child is of an age where definitive correction is more likely to succeed. Of all those dying in the first year of life, transposition of the great vessels is the anomaly which accounts for the highest mortality; 60 per cent. die within the first month of life. Life is in fact only maintained by a shunt between left and right sides of the heart, either by a patent ductus or an associated septal defect, but this is often inadequate. Surgical treatment thus aims to produce a larger shunt by creating an atrial septal defect. In a new method devised by Rashkind the atrial septum is perforated by a venous catheter and a large shunt created by rupture of the septum with an inflated balloon. With this method quite a number of patients have survived for a more definitive operation. Another problem is posed by large ventricular septal

defects which had a high mortality until it was noticed that those that survived usually had associated pulmonary stenosis. By creating an artificial stenosis operatively with a nylon band, the mortality has been strikingly lowered, and with no sign of heart failure or ventricular enlargement many years later, although the defect is still present. A more exotic anomaly which carries a 90 per cent. mortality in early life is that of the pulmonary venous system draining into the great veins rather than the left atrium. Operative procedures in which the veins are replaced in the left atrium still carry a high mortality. Thus for success to be achieved in severe anomalies, palliative treatment in early life is usually the most important factor, though Dr. Somerville amply illustrated the skill of cardiac surgeons with some slides of infants in whom homografts had been used to replace atretic pulmonary valves. She concluded that of all the cardiac anomalies, there were now few which some successful treatment had not been devised, the greatest barrier to success being the high mortality in early life.

Dr. Edgar Sowton began his talk on cardiac pacemakers by drawing our attention to the fact that these devices represent the first encroachment of electronics into the *milieu interne* of the human body. The indications for artificial pacemaking in heart block could be divided into long and short term. Short term pacemaking is particularly found in cases of myocardial infarction 18 per cent. of which show some conduction defect and 8 per cent. requiring artificial pacing to maintain adequate cardiac output. In these cases, series have showed that the one year mortality is reduced from 67 per cent. to 40 per cent., but the clinical improvement for that period is excellent. Chronic heart block with Stokes Adams attacks ideally requires packing, though at present the numbers

are too great for this treatment. Implantation of the electrode into the tip of the right ventricle is achieved by a venous catheter, and the pacemaker usually situated beneath the skin in the axilla, since external pacemakers in long term carry the risk of damage and infection. Although the heart is kept at a fixed rate, cardiac output studies reveal that increased cardiac output is achieved on exercise entirely by increased stroke volume, with little difference from normal function. The reliability demands placed on pacemakers are very high, and it is only through the enormous research of the space programme, that many of these have been met; at present most types last up to two years, and then only 50 per cent. are due to generator failure. Dr. Sowton then astonished us by describing the ingenuity of the more complicated pacemakers which compensate for any spontaneous cardiac activity, such as the Bundle of His replacement with an electrode implanted in the atrium, but these would cost at least £400 each. Overall figures show that artificial pacemaking for heart block has a one year mortality of 15 per cent., compared with the 40 per cent. of the most vigorous medical treatment. There is thus no doubt of their efficacy; the problem that remains

THE HARVEY SOCIETY

Dr. Trevor Roper of the Moorfields Eye Hospital addressed the Harvey Society on a very unusual topic viz "Defects of the Eye of the Artist".

To a medium-sized audience aided by numerous slides he showed many paintings and drawings by the world's most famous artists. Not being an expert on the various shades of colour I was not a very good judge of the slides from an artist's point of view, but the undoubted numerous hours of research spent by the lecturer provided some very convincing deductions that many a great artist suffered from common eye defects such as astigmatism, myopia, hypermetropia, colour blindness, squint and cataract.

Many drawings portrayed characters that appeared disproportionately long, but when viewed through a corrective lens appeared of normal dimensions—astigmatism seems the correct diagnosis. Others showed blurring of the background and foreground and the responsible artist's myopic and hypermetropic respectively. Colour blindness was demonstrated either by the absence, or vague use of, a specific colour and this appeared more evident to the audience when a slide of an ISCHIARA test

is now an economic one for the National Health Service.

Dr. Rees introduced the subject of cine-angiography by an account of its development. Early attempts used dye injected into peripheral veins, but the injection was too slow, and the dye too diluted to achieve satisfactory results. Now dye is injected mechanically into the chambers of the heart to be studied, and X-ray pictures can be taken in the normal way by a machine at the rate of 6 per sec. However, the movement of the dye is so rapid that for many diagnostic purposes, high speed cine is used at 50 frames/sec., which is then examined in slow motion at about 15 frames/sec. A recent advance is a machine taking two films at right angles simultaneously, of which there are only a few in this country, enabling greater diagnostic accuracy. Dr. Rees then illustrated his talk with an excellent film of cine angiography made recently at the National Heart Hospital.

In the chair, Dr. Hamer conducted the Symposium with considerable diplomacy, and the Society are greatly indebted to him for this and all the organisation required to assemble the speakers for this most successful meeting.

C. D.

card proved many a person to have some defect in colour vision. Those artists who suffered from red pigmentation of the lens, noticeable in some forms of cataract, produced paintings that showed a remarkable red hue whereas previous to this complaint they seemed definitely to use less of that colour.

Convincing or not as all this may seem, and backed up to a certain degree by historical evidence of eye defects in many artists, one was left with the impression that the reknowned Gaugin, Greco, Rubens *et al* suffered eye defects in some form or other.

Yet, *sine dubio*, they have been regarded as world famous throughout the centuries so it leaves one food for thought—"perhaps to be famous one must not be absolutely perfect in one's field"—or as Dr. Roper quoted a saying to this effect—"perhaps the Almighty conferred eye defects on people so that they might be unaware, of things in life that they should not see".

This entertaining talk though not physiological in the purest sense was most entertaining and was given in a light-hearted and interesting manner by a man convinced that many a great artist painted life not in its true colour and dimensions.

Colin C. Hugh

FORUM of the Students Union

What is the Point of the Students' Union?

The main function of the Students' Union is to represent the student body when and where necessary. This involves on occasion some surprising encounters.

Most of the time and effort in day to day affairs is spent in providing and promoting educational, social and athletic aspects of student life. The organisation responsible for these activities is the Students' Union Council which meets six times each year. The senior officers, the President and three Vice-Treasurers are members of the consultant staff and are elected by the Council before the A.G.M. The presence of these officers provides an invaluable link between students and staff. The rest of the Council members are students. Officers are elected by the Council and elections for Year representatives are conducted among the students in general immediately prior to the Annual General Meeting.

The Chairman and Secretary are responsible for dealing with correspondence and with general organisation. The Financial Secretary deals with Club grants and the organisation of the Pot Pourri. The Assistant Secretary is responsible for car parking arrangements and allotment of permits, together with sale of stationery, ties and scarves. Also sitting on the Council are the Editor of the Journal and the Students' Union Columnist whose job it is to keep the students informed of Union activities through the medium of the Journal. But perhaps most important as a cohesive force are the Year representatives who should be most involved in correlating activities, discussing specific problems and assimilating a general impression of opinions and attitudes.

Various sub-committees undertake specific tasks. The financial sub-committee consists of the President, Vice-Treasurers and Senior Council Members and deals with the allocation and review of club grants. The Clubs Union has its own Vice-President and Secretary and awards colours, agrees dates for hops and other club affairs. The Teaching Committee consists of five clinical and five pre-clinical students who negotiate with the College for teaching improvements.

The Newspaper Sub-Committee is headed by a Chairman elected by the Council and is responsible for the choice and continued delivery of newspapers and magazines.

The Wine Committee runs the Charterhouse

Bar. The minimal profits are ploughed back into the Barbecue Ball, Hops, Mystery Tours, the Smoker, Wrestling Matches, Wine-tasting and suchlike assorted activities. The B.M.S.A. Sub-Committee consists of Vice-President and four Representatives, two of whom are clinical and two pre-clinical. Working with the main B.M.S.A. organisation they provide diaries, travel grants, etc.

The BART'S JOURNAL is now paid for out of your Union subscription. It is independently managed and edited but the Financial Secretary sits on its Publications Committee.

In summary the student is rewarded for his subscription by unlimited club facilities, daily newspapers in Charterhouse and at the Hospital, the unorthodox bar facilities in College Hall, Billiards and Snooker in the Hospital A.R., and quietly and immeasurably by the efforts of the Teaching Committee.

A suggestions book is available in the Hospital A.R., otherwise any officer or your representative will deal with your comments and enquiries.

Do you speak any language unusual among the English-Speaking Peoples? If so you may be interested in the Language Bank Scheme being organised by the University Union. The idea arose from the need for a body of people working as emergency translators for the Social Services, Hospitals, the Police and other public bodies. The scheme aims to use the language skills of student volunteers, for emergencies only. Since there are other people who earn their living by undertaking translation it would be wrong to interfere with this kind of work. Although no fee will be charged services using volunteers will be responsible for their transport particularly at night. In practice hospitals and police could send their own cars. The aim is to have a 24 hour service available, seven days a week, and experts outside the University who are interested in the scheme as a social service have agreed to lend their expertise to the venture. A similar scheme organised recently in Manchester has proved highly successful. If you are bilingual and are interested please get in touch with the U.L.U. External Affairs Committee.

The Smoker is planned for March 20th; experimenting with new devices the *avant garde* will be explored a little more thoroughly than last year.

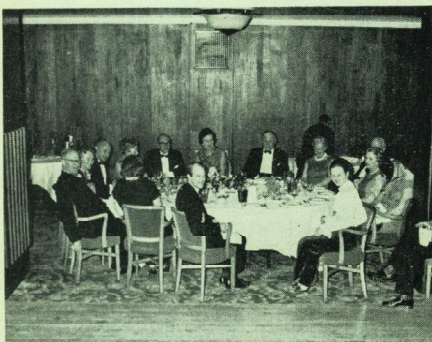
Reminder: Label or remove your possessions in the Locker Room at College Hall or they will be auctioned off in the Summer Term.

Elisabeth Macdonald

MATRONS BALL

The Editor was adamant—if the Social editor can hammer out twelve hundred words on the Barbecue Ball you can do five hundred on Matron's Ball. But as I pointed out, why analyse past glories? Matron's Ball is something different for everyone, contents and pattern of the event are the same every year, only the personalities change. However, I didn't labour the point, the Editor wouldn't understand—he didn't go.

The organisers of Matron's Ball, held on the first Wednesday in January each year, must have had not only the anti-climax of post-New Year in mind, but also the January sales. This is not meant in any derogatory sense, there were some extremely smart outfits, and one or two very nice Victorian attires, and there was a definite trend away from the Come Dancing costumes.



Top Table

However, it is no good comparing the evening with previous years as the quality and atmosphere changes with successive partners. Popular consensus believes the best choice in partners can be found within the Hospital. Who else would understand the off-duty atmosphere of six hundred nurses and

appreciate the change from uniform to resplendent evening wear?

After decent socialising time in Pub and bar, arrival at Grosvenor House is greeted by a splendid uniformed Commissionaire, wrong entrance. Re-park vehicle and make second stunning arrival at the side door. Too late to make a table near the dance floor, so settle for one near the staircase, where there is a good view of newcomers being greeted by the new Matron Miss R. Jones, who has just begun her appointment, and by Mr. Goody—hope he doesn't recognise partner. The table is also near the Bar—this is not really an advantage, drinks are at prohibitive prices. Veterans of the occasion are well supplied with other wines and spirits. Bitter lemon, however, is only a shilling.

The majority are dancing already to resident Grosvenor House band, interrupted with almost pop-like group in splendid bright satin blouses and flower power pants. Microphone is not quite loud enough to be heard above twelve hundred energetic dancing souls. Time for another dance before supper at ten-thirty. Fating is interrupted by the photographer—thirteen and sixpence for group photo of smiling faces and littered plates. The wine cup is stifled with Vodka and Gin and anything else to hand. Empty bottles under the table.

Dancing resumes once the clatter of plates and waitresses has died away. The food has disappeared from mind as always on these occasions but was agreeable at the time. Now really in the swing of things begin to notice other people and partners, very illuminating. Men's outfits similar to last year, one or two with daring shirts with ruffles. Lots of girls with shimmering dresses grown over night.

Suddenly all is quiet, an announcement—the night nurses coach is waiting spreads gloom over the gathering. Long wait for coats, cloaks and carriages as reality dawns. Many continue to further entertaining, discotheques, bowling, parties breakfast in Smithfield and even the Bunny Club. Another very enjoyable Matron's Dance is over.

STYLLYTES

DEATH

Pick up a newspaper. . . . The Journalistic assumption is that we've nearly made it. Transplantation of vital organs is the technique which will conquer not only disease but ageing; with one same stroke death repulsed in the battlefield of youth and harried right up to its base camps of senility. Give us immortality and we shall be gods. Please.

Arguably it would be sane to squat and negotiate. The conquest of death in the hard-won fields of youth is excitingly possible. Pressing the advantage to gain secure footholds in middle age would be rewarding. Advancing into senility might be fighting an overstretched campaign and would possibly not be an entirely

logical escalation—is death-in-age the same enemy as death-in-youth?

First, know your enemy. As a people we know less about death at first hand compared with the knowledge and experience of a century ago. Firstly, death is less common due in part at least to the drastic decline in infant mortality. Secondly, death has, like birth, become institutionalised (in hospitals and nursing homes) and is thus more remote from the direct experience of most, and especially, children. Thirdly, natural death has become associated almost exclusively with age; not until middle age does one's own death become a truly personal reality, whereas a century ago death

nudged the shoulder of every medical student, as he saw as many as half his contemporaries carried off by infectious disease before qualification.

Possible, therefore, to argue that our curious ignorance, the fear of the unknown magnified by the fear of the known. There are other arguments: the lack of direct witness of death and (for men at least) of birth, throws our current undervaluation of other lives into relief against our overvaluation of our own survival. How much of the power and mystery of life is manifest in both these events! And surely how poor an emotional understanding of life we must possess if we have direct experience of neither.

But can our experience of death be diminished by the ever-present human disaster features of the press and television newsreel: the carnage of Vietnam, the slaughter on the roads, the murders in Biafra? Or what of the necessary assassination of numerous secret agents within our cinemas and the bullet rule of the novelette Western? Surrounded by U.N.C.L.E. and the N.K.V.D., surely death is at every turn of the knob? Killing, however, is invariably death-in-youth and not death-in-age. Our treatment of death in the cinema or in literature is limited to the kill. When did you last see someone die gracefully of "natural causes" in a film, or read a deathbed scene in a book? Killing is easier to understand than death-in-age because of the difficulty of admitting that our own natural death is inherent in ourselves. The *Arapesh* of New Guinea, living in the mountains, attribute the death of one of their tribe to the malevolent machinations of distant enemy plainsdwellers, many miles distant. Similar attitudes to death are typical of many uncivilised communities. Have we then regressed to the primitive in our emotional understanding of death since the 19th century? Well, possibly yes, but there are other factors.

Death has become associated with age rather than childhood. The contemporary Occidental thing about the youth bit exerts continual

pressure, particularly through advertising, on all: think young, look young, act young. Teenile si, senile no. Consequently we scare of ageing because this implies progressive failure to conform to the O.K. image. Our attitude to the aged has also become less respectful, tilting the see-saw further. Senile dementia has replaced the wisdom of the aged. Fear of growing old therefore magnifies the fear of death.

The previously considered isolation of birth and death from the direct experience of much of the community has been suggested as inhibiting full emotional comprehension of life. It may also have accounted for some of the decline in religion. Pointless to talk of the mysteries of life if we don't see many mysterious events. With the demise of the more supernatural theologies, our beliefs in a life after death have waned, bringing further fears of the terrible finality of death. This in turn may promote our desired isolation from the act of dying, further institutionalisation and further removal from immediate experience. Circular anxiety generator.

The point has recently been made that our present attitude to natural death resembles the Victorian attitude to sex. We cannot simply pretend that natural death does not exist while condoning killing; such dual standards are of the kind that preach virginity for the bride at one level and sanction prostitution at another.

Nor is it any use to pay lip service toward the acceptance of death. Some concrete proposals must be made. Bring back the deathbed. (Shocked? Proves my point.) What greater dignity than for a man to die in his own home surrounded by his family? (Cause distress? Well yes, but isn't this the core of the matter, the vapid emotional near-beer of polythene existence. With more deeply explored emotional responses, with genuine grief and real joy, how much richer our lives, how more real our deaths.) To understand ourselves and let others see that we believe that death is the proper end of life.

ORGAN TRANSPLANTATION

INTRODUCTION	G. Blandford
BLOOD TRANSFUSION:	
1. An Historical Approach	Sir Geoffrey Keynes
2. The Immunology of Blood Transfusion and Tissue Transplantation	A. E. Mourant
SKIN TRANSPLANTATION	T. D. Cochrane and A. F. Wallace
CORNEAL GRAFTING	M. A. Bedford
THE PRESENT STATUS OF RENAL TRANSPLANTATION	J. E. A. Wickham
CARDIAC TISSUE TRANSPLANTATION	
1. Surgical Aspects of Grafting Cardiac Tissues	I. M. Hill
2. Medical Aspects of Cardiac Transplantation	J. Hamer
3. An Interview	R. Rolls
LIVER TRANSPLANTATION	H. J. O. White

INTRODUCTION

by G. Blandford M.R.C.P.

Senior Registrar, St. Bartholomew's, Hospital

The application of machines to acute or chronic organ failure has brought about a revolution in the treatment of end-stage organ disease. With artificial kidneys, hearts and mechanical respirators, patients can temporarily survive what would otherwise be terminal illnesses. There is no doubt at all that organ transplantation, if successful, could give a great number of people many more years of active useful life. In this edition of the JOURNAL

various authors deal with the medical indications and surgical techniques of organ transplantation. I shall try to outline some of the more general problems involved in this highly complex subject.

Tissue Typing

If a tissue is transplanted from one animal to another, it is rejected and this rejection depends upon many variables.

The following nomenclature is used for different types of grafts:

AUTOGRAFT (autologous graft) Donor and recipient are the same individual, e.g. transplantation of skin from one site to another.

ISOGRAFT (syngeneic or isologous graft) Donor and recipient are the same species and same genotype, e.g. transplantation between identical twins.

ALLOGRAFT (allogeneic, homologous or homograft) Donor and recipient are the same species, but of different genotypes, e.g. you and I, you and your non-identical twin brother.

XENOGRAFT (xenogeneic, heterologous or heterograft) Donor and recipient are different species, e.g. man and monkey.

In immunologically competent individuals autografts and isografts are not rejected and xenografts are uniformly rejected. Allografts are rejected to a greater or lesser degree depending upon genetic disparity (i.e. you would probably reject tissue from me more vigorously than from your non-identical twin brother.

Gorer (1937) and Medawar (1944) are responsible for laying the foundations of our present knowledge in transplantation immunology.

Van Rood, Batchelor, Ceppellini and others followed up Gorer's work and searched for a system of transplantation antigens in man, analogous to the blood group system. In different countries, using different techniques these workers raised and collected antisera to human lymphocytes and then studied population groups and families. In Turin last year they exchanged material and fed the results into a computer. It soon appeared that they had all been detecting the same thing and had, so far, defined about 39 different transplantation antigens which appear to be inherited in groups. Almost certainly more will be found. Retrospective tissue typing, using these leucocyte antigens, in patients after renal transplantation, has shown a 25-30% increased survival at 1-2 years in favour of those whose tissues matched best (Dausset, Terasaki). It would therefore seem that the first precaution, after the decision to graft has been taken, must be to match donor and recipient. Major blood group compatibility (i.e. ABO, Rh(D)) is essential and feasible, but a perfect match of leucocyte antigens is very unlikely. The reasons for this are firstly that transplantation antigens are more numerous and complex and secondly that the

choice of possible donors is likely to be very limited.

The type of tissue transplanted and its location are also of considerable importance to the final outcome. Tissues which are relatively acellular and do not vascularise and which may have been specially treated and stored are only slightly antigenic and therefore not greatly susceptible to immunological attack (e.g. cancellous bone, aorta, cornea).

Graft Rejection

Rejection in a graft is characterised by infiltration with lymphocytes, plasma cells and macrophages, circulating antibody deposition, and clotting in small vessels, leading finally to total destruction. Not all of these factors are operative at the same time or are equally destructive. The ways in which antigenic information is transferred from the graft to the lymphoid tissue of the host is not fully understood. However, Medawar's original experiments and those of later workers implicate the small lymphocyte as the prime mover in all transplantation reactions, and as a result, the prevention and treatment of rejection episodes rests upon methods which are aimed at depleting the body of lymphocytes. If all the potentially active lymphocytes were destroyed and stem cells then permitted to regenerate, the new potentially active lymphocytes would grow with the graft as part of their natural environment, and might fail to distinguish it from true self and hence not react against it. This is termed immunological tolerance, and is the aim of successful transplantation.

The immunological status of the recipient is also relevant. Neonates are, relatively speaking, immunologically incompetent, as their lymphoid tissues are immature. Patients who have chronic disease of lymphoid tissue, such as Hodgkin's Disease, reticulum cell sarcoma, chronic lymphatic leukaemia, and perhaps sarcoidosis, often have impairment of delayed type hypersensitivity and may not reject grafts with normal vigour. The same applies to patients with metabolic disturbances, such as those which occur in chronic renal failure.

Management of Rejection

Most methods for depressing lymphocyte activity are non-specific. They include radiation, steroids and the administration of cytotoxic drugs such as 6-mercaptopurine, cyclophosphamide and azathioprine. The exact mode of action of these agents on cells is not fully understood, but they seem indiscriminately

to damage or arrest dividing cells. This, of course, affects not only lymphoid tissue but all the cells of the bone marrow and, as a result, agranulocytosis, anaemia, or thrombocytopenia may occur. The most important side effect of all these drugs, including steroids, is an increased susceptibility to infection. This occurs because of the impaired immunological response, agranulocytosis and, with some agents, depression of the simple inflammatory reaction. Additional complications occur with steroids (osteoporosis altered carbohydrate metabolism, etc.) and radiation (late fibrosis of irradiated tissues).

Recently a new and very important preparation has become available which is designed to affect lymphocytes only. This is antilymphocyte serum, raised by repeated injections of human lymphocytes into animals. It is a very effective immunosuppressive agent which appears to prevent lymphocyte activation, but its exact mode of action is not fully understood. Haemopoietic cells are spared, but as complete suppression of all lymphocytes is not obtained, anaphylaxis to the animal serum may occur, as may a serum sickness like illness. A further hazard is viral jaundice.

In practice then, transplantation should be carried out in donors who are compatible for major blood groups and leucocyte antigens. The patients are probably best treated with a combination of anti-lymphocyte serum, steroids and azathioprine (which is one of the least toxic drugs in the bone marrow) and irradiation of nearby lymphoid tissue is probably advisable. Because of the increased susceptibility to infection, a germ free environment is desirable, at least to begin with.

Future Problems

In spite of these precautions rejection phenomena still occur. The changes in a renal graft during rejection can be detected clinically by renal functional impairment, a fall in serum complement levels and urine examination; and when detected the drug regime may be increased to overcome such episodes. In other organ transplants it will be much more difficult to detect rejection phenomena as good tests of organic function or an easily investigated excretion or secretion are not always readily available.

Organ failure in a graft highlights another important problem. With renal failure the patient may be easily transferred to a haemodialysis unit until a rejection episode subsides. What can be done for heart failure, respiratory failure or liver failure associated

with graft rejection? At present there are no adequate machines for maintaining these functions for any length of time, and I am certain that such machines are vital for a successful grafting programme. Considerably more research is required in this field.

Adequate supplies and choice of donor material are rarely available. A maximum lapse of time of about ½-1½ hours (dependent on type of tissue) can be allowed between removal from donor to insertion in the recipient. Live donors of paired organs are scarce, and it would obviously be best to use fresh cadaver tissue (which is essential for unpaired vital organs in any case), whenever possible. There are, however, real problems of definition of what constitutes death, when artificial aids to life are being used, and legal considerations which hamper this source of supply and cause critical time delays. Changes in the law pertaining to transplantation are urgently needed.

In the future, instead of waiting for the donor to arrive and selecting the most suitable recipient from a panel of patients, as at present, it would be very desirable to have banks of stored tissues and be able to choose the best match for each patient at leisure. A further advance would be to use animal tissues, but unfortunately both of these techniques require further research and neither are practical propositions at present.

At some time the cost of transplantation will have to be considered. A unit consisting of physicians, surgeons, immunologist, haematologist, technicians nursing staff, isolation wards, theatres, etc., will be very expensive. The State, who will have to foot the bill in this country, may inquire about the return for the money invested. Great care and foresight will be necessary by those already undertaking tissue transplantation and those about to enter the field, to ensure that the treated patients play a productive role in our society. If they do not, an economist is likely to suggest spending the money on research into the prevention of disease, instead of keeping alive a costly colony of unproductive invalids.

In this article I have touched only lightly on many fascinating aspects of tissue and organ transplantation, and for those who would like more detailed information, I give the following references:

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BLOOD TRANSFUSION

1. AN HISTORICAL APPROACH

by Sir Geoffrey Keynes, M.D., F.R.C.S., F.R.C.O.G., F.R.C.P.

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It is plain that the simplest form of transplantation of tissue from one animal or from one human being to another would be the transfusion of blood, a tissue so vital to the survival of animal life that it became invested at a very early date with mystical or magical properties. The idea of this transplantation is found in Ovid (*Metamorphosis*, Bk. VII), and it has often been stated that late in the fifteenth century rejuvenation of Pope Innocent VIII was attempted by giving him the blood of three young boys. Yet the technical difficulty was too great for the performance of transfusion and neither Jason's father, Aeson, nor the Pope can have received anything more than a draft prepared from blood.

Harvey's enunciation of the principle of the circulation of the blood in 1628 did not lead to his attempting to perform transfusion himself, though it stimulated various writers to describe transfusion as if they had done it. In fact nothing was done until about 1657 when the young Christopher Wren suggested the infusion of various liquors, such as milk, wine or beer, into the circulation of an animal. A few years later, after the foundation of the Royal Society in 1662, a number of suggestions of transfusion experiments were made by Fellows of the Society, such as Dr. John Wilkins and Robert Boyle. In the end it was Dr. Richard Lower of Oxford, who, with Dr. Edmund King, earned the credit for devising a series of practical methods of performing blood transfusions, using chiefly dogs for the purpose. Lower recorded these first in the *Philosophical Transactions* of the Royal Society (1666) and later in his celebrated book, *Tractatus de corde*, 1669. For some time he had watched other people carrying out Wren's suggestions, and finally decided to try for

himself transfusion of blood.

Lower's first attempts were made by using the jugular veins of two animals, but he found that the flow was too slow so that it was soon arrested by clotting of the blood. He accordingly devised a means of conveying blood through silver cannulae from the carotid artery of one animal to the jugular vein of another. In this way he was able to prove that one could be exsanguinated almost to the point of death and then be immediately restored to life by the blood of another. He shrewdly overcame the clotting problem by uniting the cannulae in each animal with a length of the cervical artery of an ox.

These experiments were watched with great interest by foreign visitors, and in July, 1677, Henry Oldenburg, Secretary of the Royal Society, was dismayed to receive from Paris a letter signed by Jean Denis, physician to Louis XIV, describing his claim to be the originator of blood transfusion because he had actually used it therapeutically on one of his patients, giving him the blood of a calf. Denis' letter gave credit to the Royal Society for providing the initial experiments, but claimed clinical priority for himself; it was set up in type for publication in the *Philosophical Transactions*, but was immediately suppressed as being a false claim. Nevertheless Denis was undoubtedly the first man to perform blood transfusion on a human being, and his claim was valid. The glory of this priority was, however, short-lived. Further transfusions of patients with calf's blood resulted, as it was bound to do if enough blood passed, in injury to the patients owing to rejection of the transfused blood through protein incompatibility. The procedure therefore quickly fell into disrepute, and was actually forbidden by the Medical Faculty of Paris. A few parallel experiments were carried

out in London and were witnessed by Samuel Pepys, the diarist, but these were not therapeutic and were not repeated after the disasters in Paris.

The first text-book on transfusion was published in Bologna in 1668, but this was merely compiled by the writer from printed sources and did not signify any widespread use of therapeutic transfusions. Various writers later in the seventeenth and in the early eighteenth centuries illustrated the operation of transfusion from animals to man, but obviously none of them had actually performed it. Near the end of the eighteenth century the possibility of transfusion was raised by Dr. Erasmus Darwin, though again he did not carry it out.

After these numerous false starts, the real beginning of modern therapeutic transfusion is to be reckoned as having taken place on December 22nd, 1818, when Dr. James Blundell, obstetrician to Guy's and St Thomas's Hospitals, delivered a paper to the Medico-Chirurgical Society of London describing the performance of the first man-to-man transfusion, done with the help of a surgeon, Henry Cline. Experiments carried out by Dr. Leacock of Barbados had warned Blundell of the fatal effects of incompatibility of blood as between different species. He had shewn that an exsanguinated dog would inevitably die if given the blood of a sheep. It was the treatment of post-partum haemorrhage that first suggested to Blundell, as an obstetrician, the possibly life-saving use of transfusion. Yet his first patient was an elderly man suffering from pyloric obstruction and consequent inanition. He received 12 to 14 ounces of blood from more than one donor by means of a syringe, and for a short time improved only to die soon after. In 1824 Blundell recorded five further transfusions, but he was a cautious man and his exsanguinated patients were either already dead when transfused or so far gone that recovery was impossible. His first successful transfusion was done in 1829 for post-partum haemorrhage and he performed ten transfusions in all.

Blundell used a clumsy instrument called an *impellor*, a wide funnel incorporating a piston operating two spring valves. This was filled with blood from a donor's vein, the whole being surrounded by a water jacket to keep the blood warm. The blood was pumped thereby through a cannula connected with the patient's basilic vein. Blundell also used a gravitational method, and, with collaborators, carried out experiments on horses, repeating those done by

Lower with smaller animals. After this lead had been given by Blundell various simpler methods were devised, one of the best being Aveling's, described in 1873. This employed the principle of cannulae fitted with stop-cocks and inserted in the veins of donor and recipient: midway between the cannulae was an india-rubber bulb to act as a pump when compressed by the operator's fingers. At the same time Sir Thomas Smith at Bart's was using defibrinated blood in an attempt to overcome the difficulty due to clotting of the blood in any instrument used. An anticoagulant had been tried at Guy's Hospital in 1869, but the phosphate of sodium used for the purpose proved to be poisonous and all the patients died.

French practitioners tried similar methods, though with little success. In 1874 a return to the use of animals' blood (this time a lamb) was made in Germany, but with no gain. During the Franco-Prussian war transfusion had been used in the field and some success was claimed. In 1877 a small book by the French army surgeon, Roussel, was published in London with a preface by Sir James Paget of Bart's and in 1882 Roussel reported on sixty transfusions performed in six different countries. In 1873 the Obstetrical Society of London carried out an enquiry into the value of transfusion, but seem not to have been greatly impressed by the results obtained. Severe reactions and deaths were sometimes found to follow transfusions of human blood, even as they had followed the use of animal blood. Various explanations for this were suggested, but none was convincing until in 1901 Landsteiner in Vienna and Shattock in London demonstrated the presence of agglutinins and iso-agglutinins in human blood. In 1907 the four main blood groups, O, A, B, AB, inherited as Mendelian dominants, were determined by Jansky in Prague and again by Moss in London in 1910.

This discovery led to the practice of using group O as "universal donors", which was useful in an emergency, but was proved to be a fallacy when used on a large scale. Frequent reactions followed, though they were less severe than when fully incompatible blood was used. Methods of direct transfusion were tried as a result of this advance in technique, but were difficult to use and it was not possible to measure the amount of blood received by the patient. A better plan was then developed by using glass cylinders coated on the inside with wax, so that coagulation was prevented or

delayed. The cylinder was filled with blood from the donor's vein and then run by gravity into the recipient. A measured amount of blood could be given by this method, but the technique was still difficult to carry out with certainty of success.

At last in 1914 three experimenters in Belgium, Buenos Aires and New York arrived almost simultaneously at the conclusion that sodium citrate was the perfect anticoagulant, and so it became possible during 1915 and 1916 to bring transfusion into full use for the casualties of the first World War. Mild reactions due to the as yet undiscovered minor agglutinins were erroneously attributed to the citrate, to the use of new rubber tubing and so forth, but the main difficulties had been overcome, so that countless lives could be saved in wartime and later in civilian practice by application of the proper principles.

Further refinements followed in due course. The Rh agglutinin was identified in 1940 by Landsteiner and Wiener, and the numerous sub-groups were detected in quick succession.

The London Blood Transfusion Service was founded in 1921 by P. L. Oliver, Honorary Secretary of a branch of the Red Cross Society, and this organisation supplied blood donors to all the London hospitals for many years. The second World War gave further impetus to investigation of blood substitutes, to the use of pooled serum and the organisation of blood banks, with standardisation of apparatus by the Medical Research Council. Great care has to be exercised to avoid transmission of disease by transfused blood, particularly of infective hepatitis. Apart from this, transplantation of the circulating fluids of the body has proved to be one of the major events in the therapeutic advances of this century.

2. THE IMMUNOLOGY OF BLOOD TRANSFUSION AND TISSUE TRANSPLANTATION

by A.E. Mourant D.M., D. Phil., F.R.C.P., F.R.S.

The history of blood transfusion has in the previous article been traced by Sir Geoffrey Keynes from the first literary suggestions through the early experimental period to the present time when millions of transfusions are performed every year with an extremely low failure rate. It is worth trying to see why transfusion is so much more successful than most tissue grafting, and also what lessons the long history of the transfusion of blood may have for those who transplant other tissues.

The central problem of blood transfusion, as of all tissue grafting, is that of immunological compatibility. The other main problems, of prevention of clotting, avoidance of infection, and the mechanics of the transfer are, by comparison, very simple. Mechanics, of course, loom very much more largely among the problems of transplantation of complex organs, but even here they are usually easier to solve than that of incompatibility.

The mere existence of incompatibility was first demonstrated, as between mammalian species, by Leacock, as described by Blundell in 1818, but it was not until 1900 that Landsteiner demonstrated intraspecific incompatibility in man, in the form of the ABO blood groups. Almost simultaneously Ehrlich and Morgenroth showed the existence of blood groups and iso-immunisation in goats. The next milestone was not, as might have been expected, the application of Landsteiner's discovery to human blood transfusion, but the discovery by Dienst in 1905 of immunisation of the human mother by her foetus, to the factors A and B.

Gradually, however, it was realised that the use of blood grouping techniques had removed the greatest danger from transfusion, and during the first World War this form of therapy was used on a considerable scale. From time to time, however, unexplained fatal transfusion reactions took place, and the major cause of these was revealed by the discovery of the Rhesus factor in 1940 by Landsteiner and

Wiener. Immunisation to this factor was shown by Levine to be the main cause of **Erythroblastosis foetalis** or Haemolytic Disease of the Newborn. Whereas human blood (of other groups than AB) normally contains antibodies against one or both of the factors A and B, the blood of an Rh-negative person contains anti-Rhesus antibodies only after active immunisation by transfusion or by pregnancy.

These brilliant discoveries necessitated much more elaborate tests than had previously been thought necessary on the blood of donors and recipients, and so initiated a period of intensive research which still continues. It is a very fortunate situation that the 1940's also saw a great increase in interest in human genetics, so that there was constant cross-fertilisation between the clinical investigation of haemolytic disease of the newborn and transfusion reactions on the one hand, and academic research into human genetics on the other. The greatest exponent of this dual field of research has been a Bart's man, R. R. Race, F.R.S.

As a result of the attempt to make transfusion more and more secure, the Rhesus blood-group system has been shown to be highly complex, both immunologically and genetically, and about a dozen other blood group systems, genetically independent of one another, have been discovered. The number of possible combinations of blood-group antigens that can exist in one individual is thus astronomical. If all these antigens had to be taken into account it would rarely be possible to find a completely compatible donor for any patient. One of the lessons which has been learned, however, is that for most recipients it is sufficient that blood should be compatible with regard to the ABO system, and the main antigen (D) of the Rhesus system.

But there is a small minority of persons needing transfusion who either have been transfused many times, or are exceptionally sensitive immunologically, and these may need

blood which is compatible to an extreme degree. Sometimes no compatible blood is available in the recipient's own country and it is necessary to import blood from another country. For the benefit of these special patients there have been set up two special panels of donors whose blood-group antigens have been exhaustively tested, the National Blood Donor Panel, and the International Blood Donor Panel of W.H.O. Both these are based on the Blood Group Reference Laboratory in London (which is next door to the Lister Institute).

Thus it can be seen that the present high degree of safety of blood transfusion is the result of research extending over nearly 70 years, and intensive research in hundreds of laboratories in the past 27 years, combining the disciplines of immunology and genetics.

Those who work in the field of tissue and organ transplantation are the first to admit that they have much to learn from the history of blood transfusion and of blood-group research.

The problems of blood transfusion are, however, in many respects, simpler than those of other transplantations. Transfusion is mechanically very easy. In the great majority of cases all that is needed is a temporary replacement of lost red cells until the haemopoietic system of the recipient can meet the demands of the body; the problems of long-term rejection therefore do not arise. And even when repeated transfusions are necessary it is only the very rare recipient who demands compatibility with respect to more than a very few antigens. There is indeed, as already mentioned, an elaborate national and international organisation for supplying blood of a high degree of compatibility for special cases, but its use is made possible only because blood from a living donor (or in theory at least from a cadaver) can safely be stored for several days before administration; the transplant material can thus be transported thousands of miles, and there is usually time for all the elaborate immunological tests that may be needed.

In the case of blood transfusion it was only when the major mechanical problems had been solved that extensive immunological research began, and the full complexity of the relevant antigens has taken a score of years and the work of hundreds of investigators to decipher.

Profiting from the lesson of transfusion, tissue immunology was tackled thoroughly at an earlier stage in the development of the surgical techniques, but it is now clear that about as many antigens are involved in tissue incompatibility as in blood incompatibility, and that far more antigens have to be considered in the routine transplantation than in the routine transfusion.

The blood group antigens would never have been disentangled had they not been treated as a genetical as well as an immunological problem. The genetics of the tissue antigens has indeed received much attention, but it may be that quicker advance would have been achieved if earlier and fuller attention had been paid to this aspect. Very recently, thanks largely to the work of Van Rood on the immunology and of Ceppellini on the genetics, the nature of the problem at least has become clear, and detailed advance is likely to be accelerated. Briefly, it may be said that the isoantigens of the leucocytes, which are largely shared by organised tissues and organs, and play a major part in tissue incompatibility, depend mainly if not entirely upon a single complex genetical system, analogous to that which determines the Rhesus groups of red cells, or that which controls the Gm antigens of the plasma globulins, but very much more complex than either of these. Because of the very large number of immunological types which now appear possible, anything approaching complete compatibility is likely to be very difficult to achieve.

Adequate compatibility would, however, be easier to attain if the field of choice of donors were increased. It may be that, one day, intention to become a post-mortem tissue donor will become as fully accepted as a public duty as becoming a blood donor is at present. Methods for the preservation of organs will probably also be improved, and it would then become feasible to set up extensive panels of such potential donors (who would also, of course, be potential recipients), very fully typed, on rather similar lines to the present National and International Blood Donor Panels. It has, however, been suggested that we shall in the more distant future learn from some of the "lower" animals, which can replace lost parts, how to grow whole organs *in vitro* for replacement purposes.

THE TRANSPLANTATION OF SKIN

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and

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When skin grafting is required there is usually no need to consider the transplantation of allogeneic material, for in most cases there are sufficient donor sites available to provide the skin necessary for reconstructive procedures. An outstanding exception to this is in the treatment of severe burns.

A patient completely burnt below the waist and one completely burnt above the waist each has approximately a 50% burn. Such a clear-cut distribution rarely occurs. The first patient would require much homografting—the arms being the only readily available donor site—while the second would have excellent sites preserved. Burns of 30% and more do not always therefore need homografts. When their use is unavoidable, alternating strips of autograft and homograft each measuring about 1 in. by 3 in. are laid on granulating areas leaving narrow gaps in between. The strips are placed at right angles to the long axis of the limb or trunk. As the patient's general condition improves a process of "creeping substitution" occurs as the homografts are shed and epithelium spreads from the autografts.

Autografting is always to be preferred, and the decision to employ homografts is a grave one. Homografts, except those taken from an identical twin, provide only temporary cover. They cause local complications and later in life a possible increased risk of foetal death (*vide infra*). Problems begin when the time arrives to use autografts to resurface the areas exposed as the homografts "fall off". These areas are deeply fibrotic and accept autografts badly.

Also the homografts may "dissolve" away slowly over a period of weeks, leaving unobtrusive surviving patches of dermis. At operation these patches may be covered with autograft which therefore fails to take. Clinically this slow homograft disappearance is related to the ill state of the patient and not specifically to a low gamma-globulin level.

Homografts obtained from blood relatives are best both in theory and in practice and every effort should be made to persuade a parent, a brother, or a sister to give skin. Maternal skin is recommended, but with a young family to care for the mother may be unable to come into hospital. Unrelated homografts can be obtained from one, or multiple, live donors often as unused scraps rescued from the "fridge" from a fresh cadaver, or as preserved cadaveric skin. Brepheplastic skin grafts can be used.

It has been stated that multiple-source homografts excite a less violent reaction and are cast off less quickly. Against this must be set difficulties of supply and the increased theoretical risk to premenopausal female recipients. The more donors used the more types of antibody the woman or girl makes and the greater the chance of foetal death, due to a reaction with antigenic material inherited from the father. The state of affairs would be analogous to that which has been reported in a woman who had received a number of blood transfusions.

A large quantity of skin from one unrelated live donor is difficult to obtain and in 1890 Ivanova⁽¹⁾ reported the successful take of skin

excised from a dead body and transplanted to a granulating surface. Since then there have been many protagonists for the use of cadaver skin as temporary cover for large denuded areas following burns and with the passing of the 1961 "Human Tissue Act" its use is now legal. These cadaveric grafts have been used extensively over the years and many cases have been reported in which this use of allograft skin appears to have contributed to survival after a pattern of thermal injury in which the mortality rate is particularly high. When a second homografting operation is necessary at an interval of more than one week after the first, skin from a different cadaver is required to avoid a "second set" reaction.

A Brepheplastic graft refers to embryonic, foetal or new-born tissue, which survives and functions after it has been transplanted to an unrelated animal of the same species of any age. Brepheplastic skin grafts have been used in clinical surgery and recently their possible value has been reviewed.⁽³⁾ It is concluded that:—

Embryonic skin can be stored and can then be homografted.

Such skin has an enormous growth potential. Skin taken from embryos at about the end of the first third of their gestation apparently grafts most successfully.

Such a skin graft may live and grow for longer than a comparable adult homograft. This could be due to some form of graft adaptation; however, it seems more probably to be due to reduced antigenicity. Brepheplastic grafts grow best on young hosts. (Perhaps they could be used for burned children).

Despite some promise, the unpredictable onset of allograft rejection, often after a period which is too short to be really useful, together with the manner of rejection which is frequently patchy and accompanied by superficial infection, has given rise to doubts about the usefulness of the method. Nevertheless, on a significant number of occasions where allograft skin has been used as initial cover after severe burning, the onset of rejection has been considerably later than expected. Recently Rapaport et al.⁽³⁾ and Alexander et al.⁽⁴⁾ have shown experimentally that severe burns are accompanied by a form of immunosuppression, and now it can be argued logically that where allografts have lasted longer than anticipated, this may be due to a combination of a fortuitous good match, in terms of histocompatibility, together with

immunosuppression. If there is substance in this hypothesis then the ability to bank large quantities of typed viable skin would lead, in these cases, to a position in which the delayed rejection of allograft skin could be guaranteed. This, in turn, would make possible the earlier surgical closure of large open wounds with the subsequent planned substitution of still viable allograft by autograft, as donor sites become available.

Results of investigations in this clinical field accumulate slowly over a prolonged period, but early work indicates that where random allografts are used in the treatment of severe burns the antibodies produced in the recipient are of restricted specificity. This supports the original hypothesis for, under these circumstances, it appears that the host has reacted immunologically only to the stronger histocompatibility antigens and it seems that any reaction to the weaker antigens has been suppressed by some function of the "burn illness".

The possibility of the long term preservation of living skin has been well known since Medawar,⁽⁵⁾ and Parkes, Smith and Polge,⁽⁶⁾ performed their pioneer work investigating tissue storage at profoundly low temperatures. Skin banks have been established in the past and J. B. Brown⁽⁷⁾ and his colleagues have written extensively on the subject. The stimulus provided by the work of Rapaport and Alexander has given additional meaning to work in progress at East Grinstead⁽⁸⁾ where skin has now been stored in a viable state for periods in excess of one year, and where facilities are available to examine both patients with full skin thickness burns and possible donor skin for histocompatibility.

Freeze-dried skin, with 99 per cent. of its water extracted in vacuo, is dead. On a granulating surface it acts as a dressing and possibly as a fibrous skeleton into which host capillaries grow. The dead graft proteins are denatured or sloughed off and do not get incorporated unchanged into the host's blood stream. It would seem very reasonable to cover desloughed areas of slow healing deep part-thickness burn with freeze-dried cadaveric skin, which is an excellent dressing, antigenically ineffective, comfortable, conducive to healing, and probably superior to any medicated non-stick gauze dressing ever to be invented.

Sufficient has been written here to indicate one of the major fields for investigation lying in the no-mans-land between experimental immunology and practical reconstructive

surgery yet, in concluding, extra space must be taken to mention another recent advance directly affecting the problems of skin transplantation.

The last few years have seen the perfection of the techniques of microvascular surgery, in which can be performed end to end anastomosis of vessels having an external diameter down to the region of 0.7 m.m. The usefulness of this is immediately obvious, indeed digital reimplantations have been performed and in one case Cobbett⁽⁹⁾ salvaged the ring finger of a two and a half year old child by direct digital arterial anastomosis. Slightly less obvious, but nevertheless important, is the possibility of immediate transfer of a segment of tissue with

its vascular pedicle and its direct anastomosis to vessels sited conveniently near the recipient area. In the case of full thickness flaps of skin and subcutaneous tissue this will obviate the necessity of using intermediate areas of attachment, and will not only significantly shorten the course of treatment but will occasionally bring within the scope of reparative surgery those for whom such work is at present technically impossible. The pertinence of this work lies in the fact that where large composite free grafts, e.g. whole joints, are required, be they autografts or allografts, they can be transferred using these techniques. Here the surgical foundation has been laid in anticipation of further advances in immunology.

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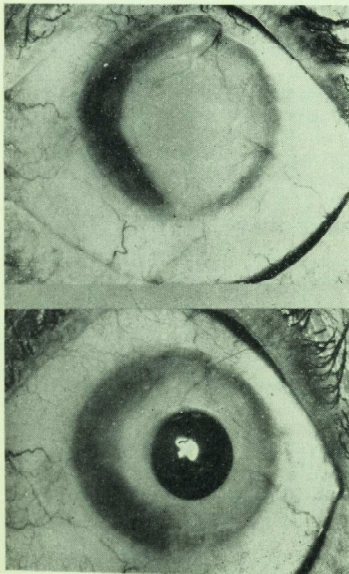
CORNEAL GRAFTING

by M. A. Bedford F.R.C.S.

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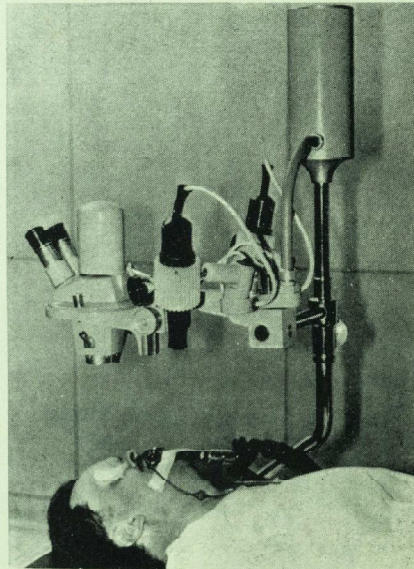
Corneal grafting (keratoplasty) has been an accepted surgical procedure all over the world for many years now. In most cases, pre-operatively the eye is blind and, by removing a circular disc of the scarred cornea and replacing it with a donor transplant sewn in at operation, the patient is able to see. The normal antigen-antibody reactions responsible for rejection that occur in the rest of the body, do not happen if the operative technique is faultless and a fine circular fibrous ring is formed between the host and donor tissues. If this is intact and avascular, then the immune reaction cannot cross it to any great extent.

Even though this basic procedure is practiced in many centres, a great deal of research is still

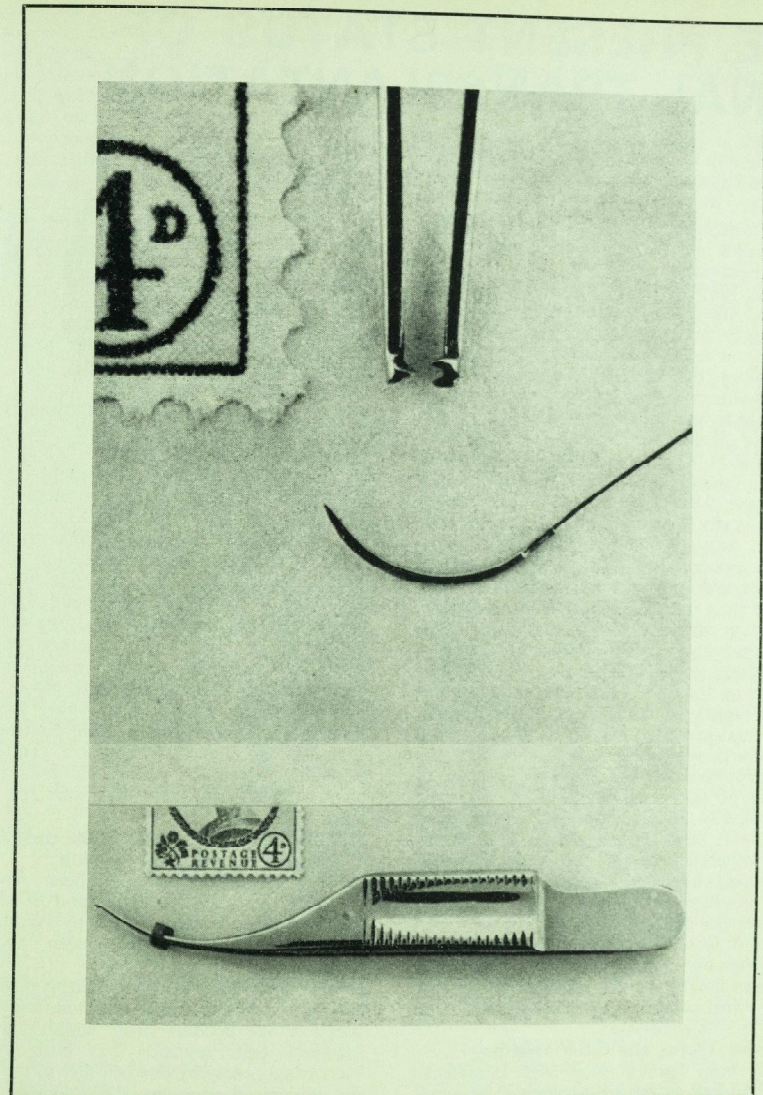


Replacement of the centre of the scarred Cornea (above) by a clear circular graft (below)

being carried out particularly on the preservation and storage of the donor eyes in deep freeze. Methods of combining plastic lenses embedded in the cornea (alloplasty) are being investigated. Surgical techniques are being constantly revised as it must be perfect to ensure the watertight fit of the donor and the integrity of the fibrous ring of union. So newer, finer instruments are being perfected which, with the stereoscopic operating microscope and zoom lens, are all designed to ensure a higher percentage of successful results. The knowledge and techniques for keratoplasty are now becoming so sophisticated and specialised that, in the future, probably most of this work will be undertaken by specialist surgeons in relatively fewer units.



The use of a binocular microscope like this enables the surgeon to work at high magnification which is essential as the graft is only 0.5 m.m. and in many cases even less.



Using needles and silk such as these the graft can be accurately conditioned so that the front and back surfaces of the host and donor material are perfectly flush.

THE PRESENT STATUS OF RENAL TRANSPLANTATION

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The last two years have witnessed a dramatic improvement in the results of human renal homotransplantation.

In June 1967 Dr. J. E. Murray, director of the United States inspired Human Transplantation Registry, reviewed the accumulated world experience in renal homografting to that date at the First International Congress of the Transplantation Society in Paris. At this time 1,200 patients had been treated by renal homografting in 50 different centres. Of these cases approximately 75 per cent. of those receiving kidneys from related donors were alive at the end of one year, whilst 60 per cent. of patients receiving grafts from cadaver donors were also alive one year after operation.

More experienced individual centres returned even better figures, thus Starzl claimed a 95 per cent. one year survival, Hume an 83 per cent. one year survival and Kountz a 100 per cent. one year survival rate for all patients treated.

From these results it can be appreciated that the status of human renal homotransplantation has been rapidly advanced from that of a purely experimental procedure to one of proven therapeutic benefit, competing on at least equal terms with intermittent haemodialysis as a means of treatment of end stage renal failure. Equally heartening was the added observation that most patients who survive the homografting procedure for a period of six months stand an exceptionally good chance of long term graft survival. The longest recorded homograft survival at the present time is approximately six years.

To what factors therefore may one ascribe this considerable improvement in the results of the human homograft procedure?

Four principal advances in technique would appear to be responsible.

(1) Tissue Typing and Cross Matching

It has been known since 1965 (Simonsen) that only a few strong histo-compatibility antigens were probably relevant to tissue transplantation and tremendous efforts have been made by many workers to identify these antigens and permit the establishment of a method of tissue typing akin to the now routine, blood cross matching techniques. This work was how-

ever hampered by the terminological difficulties existing between various groups of workers which were dramatically resolved at the Paris Congress when the computerised results from all teams were analysed and demonstrated that

(i) All teams had identified and were talking about the same antigens and that these totalled in all about 39 identifiable types and

(ii) that all antigens belong to one genetic system controlled by five chromosome loci.

These findings coupled with the recently reported technique of Terasaki, which permits the rapid cross matching and identification of lymphocyte antigens by a micro method within one and a half hours, revealed for the first time that it had now become possible to perform rapid and accurate cross matching of donor and recipient tissues. The practical benefits of this work in terms of prolongation of graft survival are apparent and in fact the increasing use made of this type of method has been primarily responsible for the major improvements in graft survival reported above.

It is now mandatory that typing should be carried out prior to any renal homografting technique in man and reputable centres now achieving significant periods of graft survival have been utilising this technique for two to three years.

(2) Immunosuppression and the early recognition of the rejection reaction

Most human grafts have been performed using the now well tried method of chemical immunosuppression produced by Azothiaprime and dosage values have been accurately evaluated.

With knowledge of correct drug dosage and timing of administration immunological suppression has become more sophisticated and incipient graft rejection has been identified increasingly early by one or other of the following clinical observations.

(i) Urinary lymphocyte excretion, a rising level of which has been shown to indicate early graft rejection.

(ii) A fall in circulating platelet population which has been shown to have similar significance.

(iii) Alteration in the pattern of graft blood flow especially in the direction of cortical shut down which has been demonstrated both by radioactive Xenon and by local angiography to indicate incipient rejection.

With this early identification of graft rejection, appropriate drug therapy may be administered before severe graft damage has occurred and it is due to such techniques that some part of the recent improvement in transplantation results can be ascribed.

(3) Clinical Management

In the early days of human renal homografting severely ill and uraemic patients were subjected to the hazards of both immunosuppression and surgical operation when they were in a condition which left them ill able to support any of the complications of rejection in the post-grafting period.

The development of chronic intermittent renal dialysis as an established procedure within the last three to four years has enabled patients in chronic renal failure to be restored to a near normal state of physical well being before submission to the grafting procedure a process that has in fact come to be known as "well patient surgery".

Thus patients removed from their previously precarious metabolic state have been more physically able to withstand the rigours of the transplantation procedure and its sequelae and much of the recent success in human homografting can probably be attributed to this fact.

(4) Improvements in Surgical Technique

At the 1967 International Urological Congress in Munich further reviews of transplantation experiences were reported and it was interesting to note that when the reasons for early graft failure were analysed, almost one-third of these were due to some technical failure of either vascular anastomosis or the complications of urinary fistula formation.

It was also revealed that the more experienced units had obviated a number of these difficulties by improvements in surgical technique and it is apparent that the gradual reduction in surgical complications arising from past experience has materially contributed to the overall betterment of results already noted.

What of the future of Renal

Homotransplantation?

Further progress in the transplantation field would appear to depend upon developments in the following areas:

(1) Further improvement in the technique of tissue typing in an effort to provide even more perfect matching between tissues of donor and

recipient and thus reduce the need for extensive immunosuppressive measures.

(2) Improved methods of obtaining immunosuppression. The development of specific antisera to depress the immunogenic mechanisms of the host has already resulted in the production and clinical use of successful anti-lymphocyte sera. Considerable extension of graft survival time has been achieved both in the United States by Starzl and in this country by Woodruff, and results comparable to those produced by chemical immunosuppressives have been obtained. Refinement of these sera in the direction of increased specificity will be of great importance in the next two or three years.

(3) Improved methods of cadaver kidney recovery, and maintenance will obviously provide a far wider choice of graft material and increase the chance of attaining graft/host compatibility. Short term support methods for the isolated kidney have been able to maintain an organ for up to 24 hours with little deterioration in function and allow time for tissue typing and more adequate preparation of the recipient. The next step must now be to perfect methods of long term sub-zero low temperature storage in order to provide a bank of organs readily available at any time. This facility would eliminate the present necessity for undue speed in organ collection and would provide a library of ready typed organs available for immediate use.

Conclusion

It is inevitable that with increasing improvements in technique renal transplantation will within a few years become a routine method for the treatment of end stage renal failure. Already the results of this procedure are approximating to those obtained by dialysis. The latter technique whilst capable of maintaining life does not restore the patient to a full and independent existence, requiring as it does continual and extensive medical and nursing care. These persons are irrevocably tied to a system which requires a six to 12-hour period of treatment at least three times per week coupled with considerable dietary restriction. Transplantation on the other hand, if successful, permits the patients to return to a completely normal way of life. Excessively close attachment to a hospital is no longer mandatory whilst the general physical well-being produced by a complete return to normal renal function makes even the best results of dialysis look poor by comparison.

CARDIAC TISSUE TRANSPLANTATION

1. SURGICAL ASPECTS OF GRAFTING CARDIAC TISSUES

by Ian M. Hill M.S., F.R.C.S.

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The earliest operations on the heart were concerned with the relief of valve stenosis, either congenital or acquired. A considerable measure of success was achieved, especially in the mitral area once the serious effects of incompetence were appreciated. Mitral stenosis is, however, basically a progressive disease and each subsequent operation for restenosis is likely to produce less benefit. Operations to reduce mitral incompetence by repair of the valve meet with very varying success and as the fibrotic process continues, any residual regurgitation may again increase. Decalcification of the stenotic aortic valve is of temporary benefit only.

Attempts have been made to replace lost valve tissue or to elongate contracted cusps by autografted tissue. Pericardium or fascia lata give a fair imitation of heart valve tissue and may be used to block defects in cusps or septa. Such tissues implanted in the bloodstream however, attract deposition of thrombus and if this becomes organised progressive contracture takes place. There is some evidence, however, that if such fascia is implanted to make a good functioning valve, fibrosis and contracture is much less marked, and Senning has recently reported initial success with complete fascial replacement of the aortic valve. Similarly complete fascial replacement of the mitral valve has been carried out, but reports of late good results are lacking. One of the difficulties with fascial valve replacement is the extremely accurate tailoring required to mimic the beautiful efficiency of the natural aortic valve. It is tempting to try to make the body reproduce its own cusp valve by encouraging the formation of fibrous tissue around an implanted plastic former inserted, for example, in subcutaneous tissues. Excellent anatomical, though thick valve structures may be thus made, but un-

fortunately when implanted in the bloodstream they rapidly degenerate and cease to act as valves.

At present it seems, therefore, that where a valve is irreparably damaged it must be replaced, either with a prosthesis which may be partly incorporated in the host tissues, or by a graft of normal valve from another animal of the same or different species. If a homograft is used supply of suitable material will be a limiting factor. Such grafts will need to be taken in an uncontaminated state from a healthy young donor. They could be maintained in a viable state for short periods at 4°C in nutrient and antibiotic solutions. These are true grafts and animal experimental work shows that donor cells may persist in such grafts. Some form of reaction takes place after insertion, which may result in thickening of the valve cusps, but frank rejection does not occur, even in an animal sensitised to donor tissue. This may be because the quantity of tissue inserted is small, of low antigenicity and as far as the aortic valve is concerned the orthotopic (sub coronary) position may be a privileged site. Murray reported a successful implantation of an aortic valve in the descending aorta in 1956, but Ross was the first to insert a human orthotopic aortic valve allograft in 1962.

The supply and storage position is made much easier if stored sterilised valves are used. The valve may then be removed under ordinary autopsy conditions, sterilised by chemicals such as beta propiolactone, ethylene oxide or formalin and stored after freeze drying in an evacuated receptacle at normal temperature, or in a deep freeze. Alternatively sterilisation may be carried out by irradiation. All these processes modify the physical properties of the grafted valve, but no living tissue is present in it, it does not become organised, and it

functions simply as a biological prosthesis. It cannot be expected to grow any more than its plastic mimic.

This has proved so far successful where the aortic valve is concerned, though the technical task of obtaining a perfect seating and union with host tissues is more difficult than with a mechanical prosthesis. The principle, however, is the same, the live host tissues invade the interstices of the graft anchoring it in position and some foreign body reaction occurs.

Anatomically the aortic valve is a relatively simple proposition, but in the mitral position implantation of another mitral valve is much less successful, though complete blocks of combined mitral and aortic valves have been inserted with survival. There seems no fundamental reason why such a complicated structure as the mitral valve is essential in this position. A simple tricuspid valve should function here, and indeed it is possible to excise the mitral valve and replace it with an inverted aortic valve. The seating is, however, different and the aortic cusps need to be supported with a metal frame and a fabric sewing ring and cylinder incorporated.

If we do not have to rely on human valves for implantation, the position with regard to supply, both in respect of number and size will be much easier and the subject of heterograft valve implantation has received much attention. Animal valves differ in microscopic structure and vascularity from one another and from the human, and though pig and calf valves have been known to work efficiently in man, human valves seem to degenerate rapidly in the calf.

Valve homografts and heterografts are relatively free from the thrombotic risk associated with the present prosthesis. If grafts can be shown to be mechanically reliable for a long period they are clearly preferable. The present assessment of the situation is far from final. Most valve homografts that function well from the outset continue to do so for the few years they have been observed; but there is autopsy evidence that cusps may degenerate and rupture, or calcify and this may be related to basic inherent defects in the grafted tissue, or to the sterilisation and preserving methods used. The same changes may be levelled at the balls or plastic structures of prosthetic valves, but as far as the embolic risk goes, if the prosthetic valve can be covered with a porous coat such as fabric which will encourage the ingrowth of host tissues covered by endothelium, this problem may be largely solved. At present the embolic risk of a

prosthesis is such that all recipients must remain indefinitely on anticoagulants, whilst homograft or heterograft patients may be managed without.

Many feel that all homografted valves will in time degenerate, especially under the stress to which the aortic valve is subjected and that an autografted valve would be the only solution to the problem. Ross has demonstrated that a diseased aortic valve may be replaced successfully with the patient's own pulmonary valve, and the pulmonary valve replaced with an aortic homograft. In this position of much less stress the homograft may remain longer with good function and the living pulmonary valve may modify itself to the additional stress in the aortic position.

So far the only practical possibility has been to replace areas of the heart with a purely passive function. Technically it has been possible to transplant the entire heart for some time, and in animal work in very rare cases it has been possible to obtain long term survival. In the light of our present rather scant knowledge of the immunological problem it is doubtful whether any series of human cardiac transplants stands any reasonable chance of success at this time.

Technically the surgical problem is relatively straightforward. The donor of the healthy heart will have a lethal condition not primarily affecting the heart. Artificial ventilation will be maintained to keep the essential organ oxygenated. This is a simple process which may be carried out by a relatively inexperienced team.

Cardiopulmonary bypass may be started before the donor circulation fails; but must be started before irreversible cardiac anoxia occurs or there is intravascular thrombosis.

The heart may then be excised, its oxygenation being maintained by coronary perfusion and additional protection against ischaemia given by cooling. During this process the recipient will be prepared, also on cardiopulmonary bypass. The cardiac inflow at caval level will be occluded and the pulmonary artery and aorta clamped. The heart will be removed by division of the aorta and pulmonary artery central to the clamp, and the atria divided central to caval or pulmonary venous inflow. The donor heart is then transferred and the atrial suture lines completed, and the aorta and pulmonary artery anastomosed. Coronary perfusion will be removed just before completion of the aortic suture line so that the period of ischaemia will be minimal, and coronary perfusion will resume as soon as the

aortic clamp is released. The perfusion temperature will have been raised during the last process of the operation, and when normothermia is reached the heart can be defibrillated electrically, as at the end of any other bypass procedure.

By ordinary surgical standards this sounds a formidable procedure; but it has been shown to

be feasible in the human both in South Africa and America. The surgical difficulties are certainly not the greatest of the present problems in this context, and it is wise to remember that premature attempts surgically to correct mitral stenosis in the late 1920s, without sound knowledge of physiological factors involved, delayed successful application of the operation for twenty years.

2. MEDICAL ASPECTS OF CARDIAC TRANSPLANTATION

by John Hamer Ph.D., M.D. M.R.C.P.

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The apparent simplicity of the concept of replacing a damaged heart with a normal one makes cardiac transplantation an attractive prospect. However, there are many difficulties to overcome in carrying out this type of procedure, and it seems unlikely that it can ever be of more than occasional use. Clearly, as heart disease is one of the most frequent causes of death, there are enormous numbers of patients whose hearts are so severely damaged that they are unlikely to survive for long. All these patients might have their lives prolonged by the transplantation of a fresh heart from a healthy donor, and the procedure would be under consideration nearly every day in the average medical ward if there were no delayed complications. However, the measures needed to prevent rejection of the transplanted heart interfere so much with the normal function of the tissues that in most cases it would be preferable to retain the patient's own heart even if it is grossly inefficient. The prospects for improvement in patients with severe heart disease are, to some extent, unpredictable.

Reports have appeared recently of patients selected to receive a cardiac transplant who have recovered spontaneously and left hospital before a suitable donor could be found (*Time*, 15th December, 1967, p. 36). In valve disease replacement of the abnormal valves by a prosthesis or a graft produces very great clinical improvement and must be preferred to cardiac transplantation as no immunological disturbance is produced. In coronary artery disease the possibility of direct surgical treatment of the coronary arterial occlusions, or of bringing fresh arterial blood supply to the heart muscle using other systemic arteries, seems likely to have a more important place in the future than cardiac transplantation. The treatment of heart block with implanted electrical pacemakers is now established as an effective and satisfactory technique. The only remaining groups of patients that might be considered suitable for cardiac replacement are those with severe heart muscle disorders and those with serious congenital heart disease. In many of these patients the problem is basically one of a disturbance

in energy utilization in the myocardium, and it may be that future developments in our understanding of the biochemical processes involved will enable us to treat these diseases medically. At present, however, if the heart muscle is severely damaged or affected by a progressive degenerative disease, cardiac replacement may be the only possible way to help the patient. Severe congenital heart disease may be unsuitable for direct surgical correction because of the complicated nature of the defects, and in these patients cardiac transplantation may be considered. In some ways the prospects are best in this group as the immunological problem may be more easily overcome immediately after birth. Other patients with congenital heart disease are not suitable for direct surgical treatment because of associated degenerative changes in the pulmonary vessels. In these patients a lung transplant would be more appropriate than a heart transplant. Pulmonary transplantation has been attempted several times with uniform failure.

In spite of the other possible lines of treatment of severe heart disease, there is likely to be no shortage of patients whose abnormalities are so severe that death is likely in a few weeks without cardiac transplantation. The main difficulty is to obtain a satisfactory donor. It is necessary to remove the donor's heart shortly after it has ceased to beat, so the donor must die in or close to the hospital where the transplantation is to be carried out. Patients with heart disease will not, of course, be suitable donors, and older subjects, particularly men, are likely to have some degree of coronary artery disease which will make it more difficult for the donor heart to survive the procedure, or impair its efficiency after transplantation. The use of donor hearts from patients with neoplastic disease might also be thought undesirable. The best donor is undoubtedly a young woman who has died of cerebral damage, as from trauma or a cerebral vascular abnormality. In infancy the high incidence of congenital abnormalities of the brain will provide a source of donors. Babies with anencephaly are particularly suitable as there is no prospect of survival and the heart is likely to be normal at birth. The recognition of the abnormality by X-rays in utero may allow suitable preparation for transplantation. To obtain the best possible success, careful matching of donor to recipient is necessary, and co-operation between various

centres in a large urban area offers the best prospect of bringing suitable donors and recipients together.

The technical aspects of transplantation do not seem unduly formidable in the present state of cardiac surgery, and after operation the main problem is to prevent rejection of the donor heart. Normal function of the donor heart in its new environment is to be expected. It is often thought that the absence of any nervous control of the donor heart within the recipient will lead to difficulties. In fact, this is unlikely to give rise to trouble. The normal sympathetic and vagal control are responsible for the adjustment of heart rate and contractility when the cardiac output is increased by exercise or anxiety. However, if these nervous influences are removed, other mechanisms are available which allow the heart to respond suitably to the needs of the body. The production of sympathetic amines by the adrenal medulla will stimulate the heart indirectly, and an increase in venous return will lead to a rise in heart rate as the right atrium is increasingly distended. In the recent South African cardiac transplant, the dividing line between donor and recipient passed through the middle of the right atrium so that the patient's original pacemaker was retained. However, the impulse was unable to cross the scar tissue in the atrium so that the donor heart was controlled by its own atrio-ventricular node. This form of heart block is unlikely to give rise to any difficulties as the rate was nearly as fast as normal. Patients with complete heart block are usually free of symptoms while the heart rate remains above 40 per minute, and any increase in cardiac output is provided by a greater stroke volume as the rate is fixed. The atrio-ventricular node is likely to be affected to some extent by circulating catecholamines so that some increase in rate on exercise might be expected. A more satisfactory physiological adjustment to exercise would probably be obtained if the donor sino-atrial node was included in the transplant.

In spite of the difficulties of finding suitable donors and of preventing rejection of the transplanted heart, it seems likely that this operation has come to stay. The recent South African operation has shown the feasibility of the procedure, and the extent of recovery that can be obtained, and it will be difficult to reject the opportunity of prolonging life in this way when other forms of treatment have failed.

3. INTERVIEW

by Roger Rolls

After having tea in the Press office of the Savoy Hotel, we were taken to the suite of Professor Barnard's P.R. man.

His brusque and off-handed manner might well have been the necessary attitude of a P.R. man, but McKenzie's real grievance lay in the way in which the British Press had recently handled the publicity of Professor Barnard's work and the way in which it was regarded in certain medical circles in this country. He dressed hurriedly as he was being questioned. The time of departure for the television studios was drawing close and the others were still asleep in the next room. However luck was on our side in being able to question Professor Barnard's chief assistant.

He felt that it was inevitable that such a major work as a heart transplantation should promote criticism and publicity. Other organ transplants were now acceptable to many people and he was confident that the same could be true for the heart. The problems involved were not so different. There had undoubtedly been more publicity over heart transplants because of the mystique surrounding the organ. Heart stirred up greater emotions than kidney or cornea.

Asked for his criterion of success in these operations, he replied: When the patient walks out of hospital the operation is a success. The first operation was a technical achievement but certainly not a success. However the patient's heart condition had been only one of his disabilities; he had come into hospital with an infected leg and was a diabetic. He died of pneumonia. We could find no evidence of heart rejection. So often in such patients,

it is the cardio-vascular system as a whole which is diseased. We have little knowledge of how a new heart will operate in such a system.

In the case of the second operation, the patient's general condition was slightly more healthy than that of the first. Even so he could do no more than lie on his bed, gasping for breath, not able to do anything for himself or say more than a few words. All the digitalis, diuretics and aminophylline in the world could not have saved this man. Yet three weeks after operation he is up and around the ward and shaving himself. Answering questions about immunosuppressive therapy, he stated that in the case of the first patient they had used immuran and prednisolone, together with cobalt irradiation. Cobalt was not being used with the second patient in an attempt to minimise the variables. For the same reason they had not used anti-lymphocyte serum in either case. After leaving hospital, patients would remain on immunosuppressive drugs as did the kidney homograph patients.

No direct answer was made to how many failures could be tolerated. He was quick to point out that the first eight valvotomy patients had all died on the table. They had so far had one failure and one potential success. The Americans, with whom they had not collaborated, had had three failures. Already they had chosen a patient for a third transplant. It seems likely that cardiac transplantation is here to stay and after talking to Professor Barnard and his colleagues, one cannot but congratulate them on being the first to carry out this procedure.

LIVER TRANSPLANTATION

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Although the need for liver transplantation may not be so evident as it is for the kidney, it has been estimated that approximately 200 patients a year in this country, all relatively young, die from liver failure as a result of cirrhosis, primary hepatic tumour or biliary atresia.

Until some form of artificial liver comparable to the artificial kidney is invented, it will always be extremely difficult to support patients in terminal liver failure and prepare them for the major surgery of liver transplantation. The course of liver failure is unpredictable, as is the time a potential recipient may have to wait for a suitable cadaver liver. Apart from conventional treatment of a low protein diet, oral neomycin and steroid therapy, several experimental methods have been used in an attempt to treat severe hepatic coma. These methods include exchange blood transfusion⁽²⁾, cross circulation with a volunteer donor⁽¹⁾ and extra-

corporeal perfusion of the porcine liver⁽⁴⁾ and none of these have met with more than a limited success.

Animal Work

Moore *et al.*⁽⁵⁾ and Starzl *et al.*⁽⁶⁾ have both shown canine orthotopic liver transplantations to be technically possible with survival of some animals on immunosuppression for over a year. Recently, experiments in the pig have shown survival for several months without immunosuppression. The technique used in our porcine transplants⁽³⁾ is illustrated in Figs. 1 and 2. Following removal of the recipient's own liver blood from the infra hepatic inferior vena cava and the portal vein is shunted into the right and left jugular veins respectively. The donor liver is placed in the recipient and four vascular anastomoses are carried out as illustrated in Fig. 2. Biliary drainage is established by a cholecyst-duodenostomy. Vagotomy and gastroduodenostomy are added to prevent the trouble-

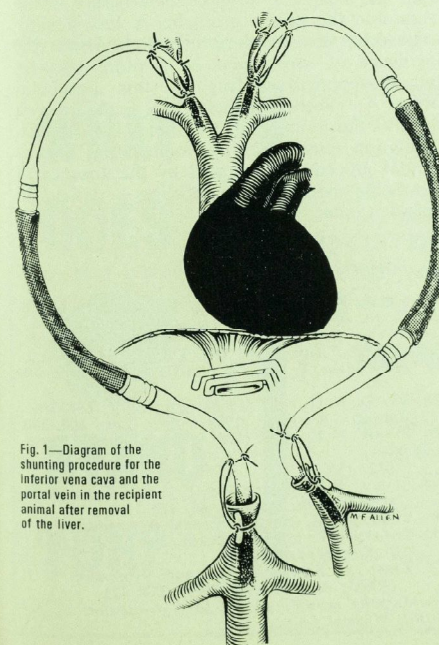


Fig. 1—Diagram of the shunting procedure for the inferior vena cava and the portal vein in the recipient animal after removal of the liver.

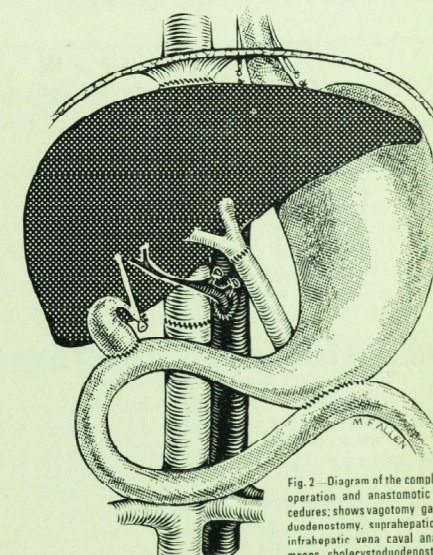


Fig. 2—Diagram of the completed operation and anastomotic procedures; shows vagotomy gastro-duodenostomy, suprahepatic and infrahepatic vena caval anastomoses, cholecystoduodenostomy, end-to-end portoportal anastomosis, and Carrel patch with the orifice of the coeliac artery anastomosed to the aorta.

some gastric erosions that followed our earlier experiences⁽²⁾.

Similar canine experiments have been carried out placing an auxiliary liver in the recipient, treatment that might be considered in a patient with cirrhosis. It has been shown however that for the auxiliary liver to thrive⁽⁵⁾, it must receive adequate supply of splanchnic venous blood into the portal vein. In the canine experiments conventional immunosuppressive therapy of steroids and azathioprine have been used and more recently antilymphocyte serum (ALS) also. Unfortunately azathioprine is a hepatotoxic drug and poorly detoxicated in the liver during rejection crises. The liver tolerates ischaemia poorly and yet a transplanted liver must function at once to support the life of the recipient. To protect the donor liver against ischaemia, the liver is always perfused through the portal vein with a cooled electrolyte solution and often whole body hypothermia is also employed. The liver core temperature will rise over the next half hour from approximately 10° to 25°C unless cold perfusion is continued. This is acceptable if the donor liver is revascularised over this period of time but cannot be accepted during the necessarily longer ischaemic period during a human liver transplant.

Human Liver Transplants

Until recently the longest survival of an orthotopic liver transplant was 23 days and for an auxiliary graft 35 days⁽⁹⁾. At least seven attempts at the former and nine at the latter have been recorded in the world literature. The technical problems encountered were formidable. The recipient livers were often bulky with co-existent portal hypertension. Coagulation defects were present at the outset and became exaggerated during the transplant by acute fibrinolysis often followed by a state of hypercoagulability with thromboembolic complications. How much these coagulation defects represent ischaemic damage to the donor liver is debatable. As the liver is an unpaired organ, only cadaver donor sources are available with the possible exception of animal heterografts. After death has been established in the donor, the operation of donor hepatectomy must be undertaken carefully but as rapidly as possible. The liver is perfused with a cold electrolyte solution and should be preserved on continuous cold perfusion until the recipient is ready. If a perfusion system could be devised that not only preserved the ischaemic cadaver liver but also in some way resuscitates it, cadaver grafts would be more successful in the future.

More recently Starzl⁽¹⁰⁾ has carried out five further liver transplants all in children, four with biliary cirrhosis and one had a primary hepatoma. Three are surviving at six, four and one month and two have died at two and four-and-a-half months. In four of these five cases the cadaver liver has been kept on continuous hypothermic perfusion in a hyperbaric chamber while the recipients were prepared. Antilymphocyte serum has been used as part of the immunosuppressive regime. Furthermore, tissue typing using Terasaki's⁽¹¹⁾ lymphocyte toxicity test was carried out to match recipient and donor as well as possible.

The Future? Heterografts

Reemsta⁽⁷⁾ has shown that a patient can live with a chimpanzee's kidneys supporting his life for a period of eight months with conventional immunosuppressive regime. Eiseman⁽⁴⁾ has shown that a pig's liver can be perfused with human blood and function for several hours. Although suitable primate sources are limited there would certainly be no shortage of porcine donors of suitable size and weight.

Conclusion

Liver transplantations will always remain a more difficult technical feat than the kidney or even the heart. A suitable heterograft would overcome the donor problem. A less hepatotoxic drug than azathioprine might lessen the incidence of sepsis and be a more effective immunosuppressive drug in this particular organ. An effective artificial liver is the greatest need at the moment in this field. Liver transplantation remains at the moment an experimental procedure frustrated by the absence of a reliable method of supporting a patient in hepatic coma.

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SPORTS NEWS

RUGBY CLUB

Our record at the beginning of the New Year stood at:—

P	W	D	L	Points
17	9	3	4	176-124

This is believed to be one of the better pre-Christmas records for some years, and is naturally very pleasing.

Our congratulations go to Tim Fenton and Graham Hopkins on obtaining their first taste of Representative Rugby by joining E. Lloyd and M. Britton in the University of London team which played Scottish Universities. Keith McIntyre regained his place in the Middlesex team after injury, and we wish him the best of luck in the Semi-Final and Final of the County Championship.

Now for the Hospital's Cup. Training has begun in earnest, and the first hurdle is over; by the time this report is printed we shall know if we are to meet Guy's Hospital in the Semi-Final.

Our results are as follows:—

- Nov. 25th—K.C.S. O.B.'s 0, Bart's 0.
- Dec. 2nd—O. Cranleighans 3, Bart's 21.
- Dec. 6th—Univ. of London 3, Bart's 8.
- Dec. 9th—Bart's v. Old Askeans. Cancelled.
- Dec 16th—Oxford 3, Bart's 12.**

On a dark winter's afternoon the 1st XV extended its run of victories by overcoming Oxford. The result was an extremely creditable one as several changes had been made due to injury. The game was off to a good start with Griffith putting over a penalty from the 25, after the pack had worked their way up into the opposition half. Good defensive tackling by the threequarters, with Hopkins prominent, kept Oxford out for the first half.

Bart's were consistently in the Oxford half, and penalties awarded for infringements of the offside law were accurately converted by Griffith. An impeccable performance by Graham at full-back, standing in for the injured

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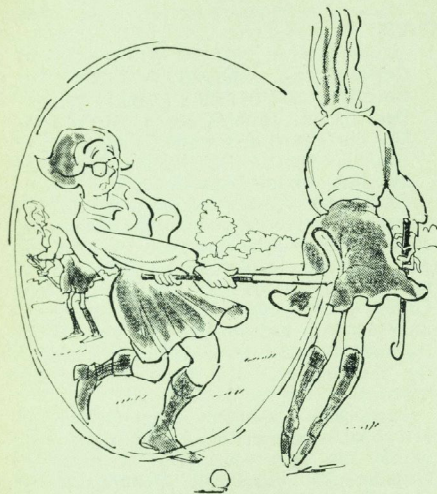
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St. B.H.J., March, 1968

111

Packer, ensured that Oxford did not cross our line. In the dying moments of the game Oxford were rewarded with a penalty goal for malpractice by some forward who shall be nameless.

Jan. 6th—Old Rutlishians 11, Bart's 22

Jan. 13th—Cambridge City. Match cancelled.

Jan. 16th—Bart's Hospital 36, St. George's Hospital 0.

With an accurate goal-kicker Bart's could have reached a half-century of points. The absence of a goal-kicker has all too often been the downfall of the Hospital in the past and as much encouragement as possible should be given to those whose boots show potential.

Nevertheless this hardly detracted from the impressive performance the Hospital gave in clocking up the highest score in the Cup for some time, three goals and seven tries. In my opinion no player should be singled out for it was truly a "team effort" which achieved this success.

The whole team was well drilled in a style reminiscent of the All Blacks. Every loose ball was flicked to a waiting pair of hands, supported by a line of half-a-dozen or more men who moved the ball swiftly along in attack after attack; and speed did not seem to be lacking even in the forwards.

Possession was unlimited, Bart's winning most of the ball in the lines-out and rucks, and achieving five heels against the head. Credit is due to St. George's for they resisted pluckily

to the end, but their defence had its limitations. However, in their next match against St. Thomas's, Bart's must expect tougher defence and less possession.

The try scorers were as follows: Tim Fenton 3, Nick Fairhurst 2, Sam Johnson 1, Peter Buckley 1, Keith McIntyre 1, Mark Britton 1, Dave Jefferson 1.

Unfortunately in the dying minutes Dave Jefferson injured his leg, which turned out to be a fractured fibula.

Jan. 20th—Bart's 6, R.M.A. Sandhurst 6.

In typical post Cup lethargy the 1st XV just managed to draw against a very fit, mobile Sandhurst side by a try and penalty goal to 2 tries.

A much smaller army pack consistently on the retreat in the tight scrummages and only some good work in the loose ensured that our threequarters were given some runable ball. Sandhurst scored first when a quick switch to the blindside found the defence lacking. A lone effort by Fenton kicking on over the goal line and touching down after an attack had broken down enabled Bart's to draw level at half time. Sandhurst scored again when a scrappy heel from a scrum going backwards on the Bart's line was touched down by their scrum half. Griffiths ensured a draw with a penalty 10 minutes from time.

On a whole a scrappy game better forgotten with much room for improvement for the game against Thomas's.



The 1st try: v. St. Georges

SWIMMING CLUB

U.H. League

The beginning of last season saw the Swimming Club with two fairly strong water-polo teams. Jolly had been newly elected secretary.

The first team, in the second division of the league, started the season well with convincing wins over Guy's and Charing Cross in the first two matches. We then went on to beat Mary's, the favourites, in a very exciting game, the final score 6-5. Two subsequent games, against Westminster and the London were both won, but we then went down 1-5 against a very strong Georges side, possibly due to the loss of Jolly who had left to start his three months Paediatrics in California. The last two matches, played with a weakened team were lost, consequently we finished fourth in the league behind Mary's, the London and George's.

The second team was weakened by the requirement for replacements in the first team, they had several good wins early in the season, unfortunately these did not prevent the team finishing sixth in the third division.

The following have represented the hospital: Shearer, Weir, Durey, Davies, Jolly, Coburn

and freshmen, Heynigen and Tweedy.

U.L.U. Knockout

We were unfortunate to be drawn against the St. Mary's first team in the opening game. Bart's were represented by Shearer, Weir, Weller, Van Heynigen, Davies, Coburn, Durey and Mees.

The team played well, especially Shearer, marking the formidable John Fox. St. Mary's star player. To thunderous applause the opposition made up a four goal handicap, but a last minute shot from the half-way line by Mees looked as if it would put us ahead, sadly the final whistle went as the ball was in mid-air and the goal was disallowed.

During the two extra quarters Mary's scored three times making the final score 7-4.

Throughout the season several players have consistently played well, notably Weir and Weller and Doug Shearer who has matured into a formidable marker and a powerful and intelligent attacker. Dai Davies has been stylish and effective in goal.

The U.L.U. League restarts in the spring, and regular training has begun.

P.R.C.

SOCCER CLUB

Bad weather was the cause of several cancellations at the beginning of January; two matches however were played.

Wednesday, 17th January v. U.C.H. (Away). Won 3-1.

This was the first match for several weeks and both sides were lacking in ideas. Play was scrappy at first though Bart's produced some good football late in the second half and Weir scored following a downwind clearance. U.C.H. had most of the play in the second half but came upon a resolute Bart's defence with Quinn making two excellent saves from long range shots. When Bart's did manage to break from defence the forwards always looked dangerous. On one occasion Weir pounced on a loose ball, beat two defenders and rounded the goalkeeper to score. The centreforward completed a great hat-trick with an angled lob after being put through with a fine pass from Farrow. U.C.H. forced a goal in the last minute.

Saturday, 20th January v. Inst. Education. (Home). Won 2-0.

Bart's recorded their third win of the season over the Institute of Education. The home defence was rarely troubled. Dorrett having a sound game at centrehalf. The attack was alarmingly off target in the first half and the Institute had many lucky escapes. Leech hit the woodwork twice, another Bart's player once and saw another shot fly over the bar. Every forward had a chance to score in the first half but the score remained 0-0.

Bart's took up the beginning of the second half where they left off before the interval; the Institute were under continual pressure. Even the fullbacks were in the opposition's penalty area. Ellis missing narrowly with one shot and causing the goalie to tip another round the post. However, it was Knight who eventually got the first goal by heading in Skanderowicz's accurate cross. Some minutes later Farrow beat several men before passing to Leech who made no mistake with a shot into the top of the net.

S.C.E.

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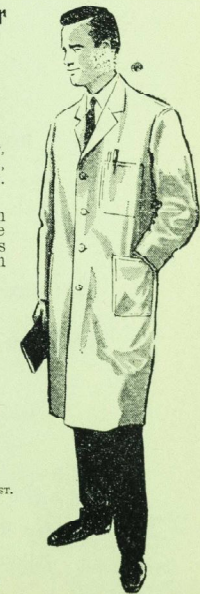
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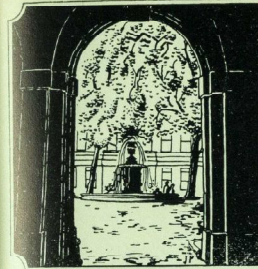
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The ball is open to all past and present members of the Students Union and applications should be sent to Mr. C. P. Wood Secretary of the Wine Committee not later than 1st May. If on receipt of your ticket you are then unable to attend it must be returned not later than 31st May or money cannot be refunded and tickets are not transferable.



Saint Bartholomew's Hospital

JOURNAL

Vol. LXXII No. 4

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TEACHING HOSPITALS

With increasing knowledge in all fields of medicine, the concept of a general physician or a general surgeon is rapidly disappearing. What is more natural then, than the staff of a London teaching hospital being made up of men who are highly skilled in their own fields? And what could be of more benefit to the patient, whose best interest we must have at heart?

The benefit to the student, fortunate to find a place in a medical school, is not so easily defined. Even with a new curriculum, such as that recently introduced at Bart's, it is difficult for a student to see run-of-the-mill medicine in his teaching hospital. Aside from this there is the problem of the size of firms. It is not exceptional to attend a ward round in a company of twenty. This makes teaching extremely difficult, and a harassing experience for the patient, and taxes the concentration of the student in some cases to breaking point.

A trend has therefore developed for students to spend time away from the hospital. More and more are taking elective periods—and enjoying them, not only in the U.S.A. but also in peripheral hospitals in Great Britain.

Some of these visits (for example a fortnight during Paediatrics, a fortnight during specials at a Psychiatric hospital and months during midder) are organised by the hospital, others by the students themselves. Regardless of by whom these trips are arranged, praise for them is universal. This is not hard to understand. In

a peripheral hospital there are only few students, and they receive much more attention as a result of this. Further, because many such hospitals are short-staffed, the students are given much more responsibility than they are at Bart's. And they are seeing the everyday medical and surgical cases which they do not see at the teaching hospital.

It is to be hoped that these trips will be encouraged by the teaching hospitals, and play an increasing part in the curriculum. If this is to be the case, it is clear that the influence of the teaching hospital on the student will be decreased. It is possible to envisage a situation in which the teaching hospital acts as a central bureau, at which the student is introduced to medicine and to which he returns having spent perhaps a year in peripheral hospitals, to learn about the subjects in which the consultants at the hospital specialise.

Under these circumstances it would clearly be necessary for the peripheral hospitals being used to be checked for teaching suitability. It is most important that those teaching in such hospitals have a tangible arrangement with one of the medical schools so that they receive more than thanks for what they are doing.

* * *

The Editor apologises for the mis-spelling of Sir Thomas Holmes Sellors in the editorial of the last *Journal*, and the mis-spelling of Dame Katharine Jones in the obituaries.

NEWS

LETTER TO THE EDITOR

Sir,

FOR THE RECORD

For Rugger Ball nosh we bear no blame,
To please four hundred we would not claim.
For smaller parties we do our best,
Outside caterers must do the rest.
Our many faults we know full well,
The food can be good—it can be hell.
Sometimes it's hot—but it can get cold!
Our limits we know without being told.
No doubt that firm did what they could,
But not much money means not much food!
If thirsty Groups use up the lolly,
To hope for much would seem just folly.
Our cooks who work quite hard all day,
For not a lot of thanks or pay,
With numbers such as these can't cope.
No lunch, would be the only hope!

College Hall Catering

Appointments

St. Bartholomew's Hospital

Mr. C. A. C. Charlton, M.S.Lond., F.R.C.S., has been appointed consultant urologist.

Mr. H. B. Ross, M.S.Lond., F.R.C.S., has been appointed consultant general surgeon.

University of Western Ontario

Dr. I. R. McWhinney has been appointed to the new chair of family medicine.

Change of Address

Mrs. J. E. R. McDonagh to 23 Nethergate, Clare, Suffolk. Telephone: Clare 370.

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Engagement

ANDERSON—MOORE.—The engagement is announced between Mr. Alan Anderson and Miss Rosemary Moore.

Births

FREARS.—On January 22, to Dr. Janna (née Philips) and Dr. Christopher Frears, a son (Tobias Seymour).

JORDON.—On February 24, to Bernice (née Gordon) and Peter Robert Jordan, a son (Nigel Robert).

WHITE.—On February 1, to Christine (née Pike) and Dr. Roger White, a son (Andrew Christopher).

GUEST.—On February 24, to Elizabeth (née Lamb) and Dr. Andrew Guest, a daughter (Emma Teresa Catherine).

OBITUARY

Loswell Israel Braude Braun,**O.B.E., M.D., F.R.C.P., Hon L.L.D., (Rand)**

Dr. L. I. B. Braun, Honorary Consulting Physician of the Johannesburg General Hospital died on the 18th December, 1967, from gross heart failure. He was 73.

Los Braun was born in the Western Transvaal and received his medical education at the South African College, Cape Town, and St. Bartholomew's Hospital, London. I knew him well as a student as we shared "digs" together in London. He was a most popular, likeable person with a great sense of humour and a great sportsman, and was Captain of the Hospital Soccer team. He served as a Houseman to Dr. Drysdale, for whom he had the greatest admiration. "Dropsy" Drysdale was a great influence in his career and this led to his becoming a medical consultant in Johannesburg with a great reputation as a Cardiologist.

Qualifying in 1917 he became a Special Reserve Officer in the R.A.M.C. and was sent out to Mesopotamia, serving with a field unit up the line, and later on the North West Frontier of India before being repatriated to South Africa. He was Mentioned in Despatches.

In 1921 he returned to England and we again joined forces to work for higher degrees. He passed his M.D.(London) and M.R.C.P. Then he returned to South Africa to get married and establish himself as a Consultant. He got on the staff of the Johannesburg General Hospital and built up a large private practice. At the same time he was keenly interested in the growth and development of the medical faculty of the University of the Witwatersrand and was a first class teacher. At this time he became the Amateur Golf Champion of the Transvaal.

At the outbreak of the Second World War he gave up both private and hospital practice

to serve with the South African Medical Corps. As a Lieutenant Colonel he took charge of a Field Ambulance, later a Casualty Clearing Station, and finally was Colonel in Command of a Military Hospital in Egypt. His services were recognised again by being Mentioned in Despatches and being awarded the O.B.E.

At the end of this War he settled down to consultant practice and took a very large part in the activities of the Medical Association of South Africa, first as President of the local Branch and later as Chairman of important Committees negotiating with the Transvaal Provincial Administration and finally as President of the Medical Congress held in Johannesburg in 1952. For his distinguished service over many years he was awarded the Gold Medal of the Medical Association of South Africa.

For his outstanding services as a clinical teacher in medicine the University of Witwatersrand conferred the Hon. L.L.D. degree in 1952.

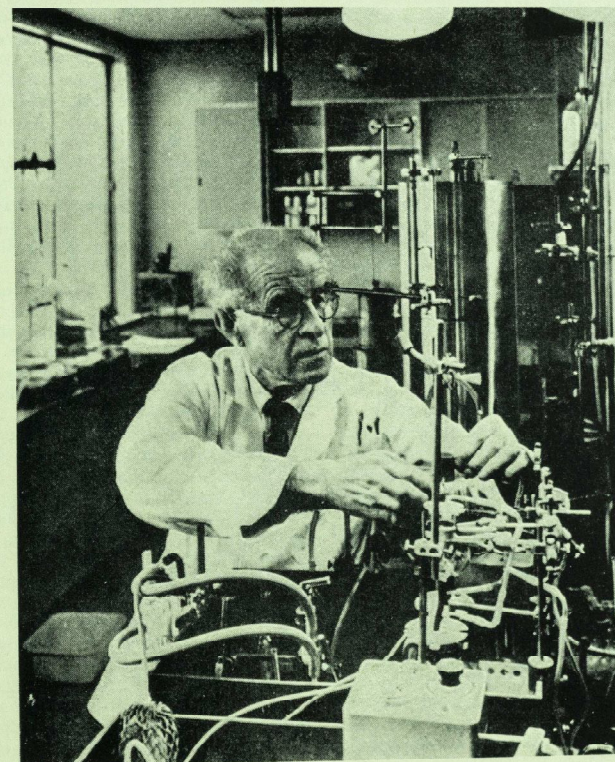
This is a wonderful record of a true sportsman and a very able clinician, moulded at Barts and greatly influenced by one of its noted physicians, "Dropsy" Drysdale.

I was fortunate to renew his acquaintance in February 1966 and stay in their charming home in a suburb of Johannesburg where he was enjoying his retirement, growing dahlias and breeding turkers on a farm not far away.

He leaves a widow and two married daughters, to whom we extend our sincerest sympathy.

R. S.

A MEMOIR

Professor E. B. Verney F.R.S., M.A., F.R.C.P

Bart's has had many sons, some illustrious, a few notorious, and a number whose praises, though well deserved, are insufficiently sung. Among these, little recognised by clinicians, are the servants of pure science, their relative obscurity often being increased by their retiring nature. One such was Ernest Basil Verney. Modesty is often a protective cloak, used to

shield its possessor from the buffets and the hurly-burly of life. Basil Verney was no such shirker. He would fight hard for a principle when necessary, disregarding the odds. He despised all time-serving by scientists, all political compromise, and all tampering with the truth. To this characteristic, however, he joined a sensitivity of feeling and a most active and

deep appreciation of the humorous, both of situation and of verbal wit.

He came to Bart's from Cambridge, having obtained a first-class degree in the Natural Sciences Tripos, and there joined the firm of Dr. J. H. Drysdale, a stickler for accuracy of thought and clarity of expression. "Dropsy's dry humour and critical incisiveness were not unlike Basil's own, and his influence on Verney, as on so many generations of students, was considerable. Verney at first remained unnoticed, one of many, but with the passage of time the gradual impact of his personality became felt. Miss Powell, that Sister of legendary fame, known for her great nursing skill, her practical medical knowledge, and also for her strong likes and dislikes, was among the first to appreciate Basil. "So you've taken on Verney" was her remark to Langdon Brown—Dropsy's junior at that time—"Whenever there is the devil of a lot of work, or the devil of a lot of mischief about, little Verney is at the bottom of it." Basil was indeed small in stature, but one never thought of him thus, for acquaintance with him quickly revealed a firm strength of purpose beneath his quiet kindness.

In 1920, after my own Chief Assistantship, I applied for the post of Physician to the East London Hospital for Children (Shadwell), seizing the opportunity created by vacancies due to the 1914-18 war. Thanks to this factor, I was appointed, at an unusually early age to have the responsibility of two wards, and was able to pursue my interest in the problem of the rheumatic heart in children. Verney had by then become qualified and had served as Drysdale's House Physician. He expressed a desire for a further spell of clinical work, and I took him on as my House Physician at Shadwell, where also he met, and married Ruth, the daughter of Professor R. S. Conway. He was little younger than I, so that our work constituted a partnership unusually close in such an association. In addition to the routine hospital work we entered into a series of clinical investigations dealing with the various methods of treatment of acute rheumatism by sensitised vaccines made from a streptococcus viridans, which had been isolated from post mortem material by Dr. Mervyn Gordon, the Bart's pathologist, who was in need of some clinical collaboration. This shared research increased my respect for Verney's scientific integrity, and laid the foundation for a life-long friendship.

He soon returned to experimental physiology, his first love, and the subject in which he quickly established a reputation. He joined Professor E. H. Starling in 1931 at University

College, where he was given full opportunities for research. He was allowed a six months spell with Professor Straub in Friburg, and on the way back met Starling in Paris, where in 1922 they performed a heart-lung preparation for cinematography.

Verney's operative skill as an investigator grew continually from this time until the end of his life, and most of his research achievements were due to his ability to apply to the living animal questions, the answers to which could be obtained with clarity and with little or no extraneous post-operative disturbance. His experimental technique was not only wonderfully clean and neat, but it was always directed towards sparing the animal, usually a dog, from suffering. He knew his "patients" by name, and would visit them at night to ensure their comfort. On one such visit the lift in the block broke down, leaving the surgeon isolated and getting progressively colder until the dawn of a chill December morning. During the night he lay down on the floor and tried philosophically but vainly to sleep. When at University College he was proceeded against by the Anti-Vivisection Society on the charge of receiving dogs for experimental purposes, knowing them to be stolen. He was completely exonerated, but the case was much publicised. One of his treasured trophies was a dun-coloured poster from the "Star" evening paper, which he framed and hung in a place of honour in his room at the Pharmacology Department—"Professor v. Dog. Case Result".

His scientific achievements were great. Starting from the observation that the kidney, perfused by a heart-lung preparation, excreted urine which gradually acquired the characters found in clinical diabetes insipidus, he proceeded to prove that this change was reversible by the addition of pituitary extract. He deduced from this and proved by experiment that the pituitary gland controlled the output of water and of chloride. His three Goulstonian lectures in 1929 on polyuria associated with pituitary dysfunction, with the experimental reduction of renal tissue, and with chronic nephritis, were framed very largely in terms of the findings and theories of experimental physiology. Further details of this and other work can be found in the obituary written by Professor M. de Burgh Daly in the *Lancet* of September 2nd, 1967.

Verney was appointed in 1926 to the Chair of Pharmacology at University College, in 1932 to the Readership in Pharmacology in Cambridge, and in 1946 to the Professorship at the University. Here again I had the honour and

pleasure of associating professionally with him, this time as an examiner in the first part of the third M.B. Again I admired his clarity, judgement, and industry and his sense of humour was clearly shewn during a viva when the treatment of angina of effort was broached. The candidate gave a good account of the action of glyceryl trinitrate, and the possible side effects were mentioned, among these loss of consciousness. "What further advice would you give the patient if the symptom recurred?" I asked. "I would tell him to lie flat before taking the next dose", replied the candidate. "Could he repeat the treatment?" "Yes, several times" was the reply. The picture of the sufferer taking the tablets and lying down on the pavement, to rise again and continue the process, like some prostrating pilgrim on his way to Mecca, was not lost on Basil, and an amused glance passed between us which, being intercepted by the candidate caused all three to burst into a peal of laughter. The aspiring physician passed.

There is a famous story of Basil's own student days at Bart's, when he was dressing for the Girding Ball. The surgical firm had been involved in a heavy duty, and Verney had omitted to write down his note upon a case of acute appendicitis, operated on that night. Unfortunately Ball on the following day chose this patient for teaching purposes. Basil, without the flicker of an eyelid, read out the operation note from a blank page. "The incision was made over McBurney's point—bleeding points

were secured," he quoted, "the external oblique was reflected, and then the internal oblique—bleeding points were secured at every stage of the operation at which he needed a further few moments to collect his thoughts, but he concluded the account successfully, and achieved the feat of repeating part of it at Ball's request. That the surgeon was aware of the deception and had enjoyed it became apparent at the end of the round, when he patted the delinquent on the shoulder and muttered gruffly "Damn good note, Verney".

Honours came to Verney throughout his career. In 1936 he was elected an F.R.S., and in 1957 awarded the Baly medal of the Royal College of Physicians and elected an honorary member of the Physiological Society. In 1956 he visited the University of Melbourne and received an honorary D.Sc. He returned there in 1961 for three years as Honorary Professor, and worked on the effect of adrenal secretions on the lesser circulation. He enjoyed his stay in Australia and made many friends there, but his first and constant love was Cambridge, its history and traditions. To walk through the city with him or to visit one of the Colleges was a memorable experience, his detailed knowledge of the University spiced by his ever-present sense of fun. His companionship was a constant joy, his friendship a source of pride. Those who knew him well are much the poorer for the loss of his integrity and his shining generosity of spirit.

G. B.

ABERNETHIAN SOCIETY

"Some Physical Aspects of Ageing" Dame Kathleen Lonsdale, F.R.S.

For our second meeting this year the Society was most honoured by an address from Dame Kathleen Lonsdale, who from her enormously wide field of experience, elected to speak on the subject of ageing, particularly those aspects which have struck her as a physicist and crystallographer.

She began by presenting a model of ageing found in crystallography when copper and aluminium are mixed; initially the mixture is amorphous but with time the copper precipitates out in spherical or discoid crystals depending on the proportion present. This process is termed age reorganisation, and occurs with greater rapidity with increased temperature; it is similar to the changes in the structure of bone and collagen with advancing age. Two other factors are also important in the ageing process; wear-and-tear effects, in for example, teeth, and accidental factors which affect life expectancy in a random manner. Experimentally these factors may be studied in single celled organisms, or in seeds, when survival appears to depend on temperature, humidity, oxygen content and so on. The effect of radiation is to reduce the population in an experimental manner; but it is difficult to be certain whether this or other factors with the same effect are having a direct ageing action, or are merely age-linked phenomena acting indirectly.

In a similar way the results of the ageing process may be direct effects of age, or age linked phenomena; decreasing height and weight, blindness and deafness are probably age-linked, but a decreasing pupil diameter is probably a real ageing effect and is responsible for a greater susceptibility to poor light in the elderly. The intellectual ability to reach the top of one's profession does not directly parallel increasing age: mathematicians are at their peak in their twenties, whereas politicians and businessmen approach this in middle life—the one being dependent on inspiration and the other experience.

The mineral content of bone is known to change with age, the crystalline fraction encroaching on the amorphous fraction in the manner of the "age-reorganisation" mentioned above. This results in a harder, but more brittle structure which has impaired ability to heal on fracture. Dame Kathleen envisaged bone to

be in a continuous state of flux, being destroyed and reformed by the body with the use of energy—a system which without interference from other factors could continue indefinitely. However, it may be upset by another factor, and it is possible that the age reorganisation with the formation of a more crystalline structure may upset this steady state and result in the impaired bone formation common in the elderly. Electron micrographs of hair have revealed that defects in the structure—"vacancies"—appear with age, giving rise to changes in the quality as well as the graying of hair with age. Changes in the protein composition of elastin have been demonstrated, and may be responsible for the loss of elasticity in the tissues of the old. Remarkably, though, the protein from the bones of a fossilised horse on analysis show little change in proportion to the mineral content from the horses of today. Perhaps one of the most important processes in ageing may prove to be changes in the shape of molecules, and this and many other fields leave much room for research.

Dame Kathleen concluded with a general warning on the subject of research, that whereas we may come closer and closer to explaining the nature of living processes, this does not change on experience of them. Professor Spector then commented on the need for more and more correlation between the sciences as so admirably demonstrated by Dame Kathleen, and proposed a vote of thanks. At this and the previous meeting, the following Committee members were elected: J. S. Davies, C. Bridgett, Miss J. Gould. C.D.

Professor J. G. Scadding, F.R.C.P.

"The History and Definition of Sarcoidosis" — The Society was most fortunate to have persuaded Prof. Scadding, a world authority on sarcoidosis, to speak on the aspect of the disease which has recently interested him, namely the development of the concept of sarcoidosis, with its many manifestations, as a single disease entity.

The first descriptions of sarcoidosis were of the skin lesions. In 1899 Besnier recorded a case of "Lupus pernio", lesions of the face in the distribution of lupus vulgaris, but with the appearance of chilblains. As it showed a similar histological appearance to the former, and apple-jelly nodules on compression with a

glass slide, it was thought to be an unusual manifestation of scrofulous T.B. In 1898, Jonathan Hutchinson published in his own journal of clinical surgery, a case of chronic granulomatous erosions found on the trunk, which he named "Mortimer's Malady". This was more clearly described by Boeck in 1899, who by a curious misinterpretation of the histology of the lesions, named it Dermatological Sarkoid; later, as the granulomatous nature of the lesions became more obvious, he renamed it "Miliary benign lupoid", but the original name of sarcoid had by then become established. Both Boeck and Besnier had noticed the association of these skin lesions with disease of the hands and in 1904 Kreibich demonstrated radiologically multiple erosion in these bones, with associated tenosynovitis and dystrophy of the finger nails. An association had been noticed between the lesions of lupus pernio and sarcoid, and in 1916 Schaumann reviewed the disease in a prize essay, and concluded that all were manifestations of the same disorder. Pathologists then began to report the results of necropsy on patients with the disease, and multiple granulomata were shown in many organs in which there had been no evidence of disorder during life. A condition of the eyes named subchronic uveo parotid fever (bilateral iridocyclitis and enlargement of the parotids with or without facial nerve palsy) had been recognised for 20 years when in 1937 it was shown to be associated with sarcoid, and the lesions to be histologically indistinguishable from those of sarcoid. In 1942 Löfgren noticed that in those patients with Erythema nodosum, in which no known cause could be found, a proportion showed bilateral hilar gland enlargement on X-ray and generalised lymphadenopathy, and these lesions proved histologically of sarcoid type. Lung shadows, often quite severe, but with minimal clinical symptoms, and no other evidence of sarcoid, had been noticed for some time, but histology again showed these lesions

to be identical.

The characteristic histology is that multiple non-caseating granulomata consisting mainly of large epithelioid cells with occasional giant cells, and relatively little reaction in the surrounding stroma. Over a period of time these may undergo complete resolution, or the process of hyaline fibrosis, and in the latter characteristic inclusion, bodies of three types may be found: the crystalline birefringent body shown to be composed of calcium carbonate; the concentric conchoidal body of Scaumann, possibly an amorphous collection of calcium salts, and the asteroid, all of which may occasionally be found in other diseases such as T.B. The histology is therefore not specific in itself, but the formation of multiple granulomas of the same type in many organs, is characteristic only of sarcoid. In order to define sarcoidosis as a single entity, and bring within its compass all the different manifestations of the disease, it is necessary to show that clinically the lesions are found in definite association with those known to be due to sarcoid, and that the pathology and histology of the lesion is close to that of sarcoid. Professor Scadding then offered a definition of disease itself as an aid to more concisely defining sarcoidosis; that a disease is a deviation from the normal with definite characteristics which places the individual at a biological disadvantage with others of its species. On this basis sarcoidosis may be defined as "a disease characterised by lesions in all of several affected organs with non-caseating epithelioid granulomata which proceed either to resolution or hyaline fibrosis".

The talk was a most eloquent elucidation of disease which by its variety has often confounded students, and the Society was most grateful that Professor Scadding was able to give up his time to come.

J. Stewart Davies proposed a vote of thanks.

C.D.

DRAMA SOCIETY MAIN PRODUCTION

BARTHOLOMEW FAIR by Ben Jonson

Director: JAMES GRIFFITHS

The challenge of Jonson's complex plot was bravely met with enthusiasm and skill by both director and cast. Three major problems faced the director and production team from the onset. Firstly, the assembly of a large cast with a high acting ability from a drama society somewhat thinned by the pressure of exams. Secondly the problem of cutting the text to a tolerable length and still retaining the innate humour of many of the long and overwordy speeches. Many of these speeches required a combination of pace and clarity which would have tried the most experienced of actors. Thirdly the problem of transferring the play from its rehearsal location to the stage of Cripplegate with practically no time for interim rehearsal.

The ultimate cast list turned out to be highly effective. Due to sudden illness, Mike White was only able to appear as Bartholomew Cokes on the first night. Bartholomew Cokes is one of the leading characters but fortunately for the production, James Griffiths's virtuosity turned what could have been calamity into success by taking over the part for the remainder of the run! Wandering the stage with Aguecheek-like vagueness, innocence and good humour, Griffiths's Cokes was obvious prey for the sharp-witted greed of the fair folk. Although he car-



ried a copy of the play (which he seemed to rely on only for the initial clue) he never allowed it to hamper his movement or response to the action. Having admitted the need for a prompt copy, he turned it into a prop for comedy. Griffiths played the part for laughs (rather than a Jonsonian character) and these he deservedly received.

The audience greeted Benita Wylie's Ursula with a delighted roar as she waddled monstrosously on to the stage "all fire and fat". This was a splendid performance which, while at all times projecting the gross bawdiness of the indomitable Ursula, never overbalanced into burlesque. The stance, the gait, the voice, her whole enormity sent this characterisation rattling at us from the stage. Many others in the large cast stood out with achievement. Barbara Appleby gave a performance of great vivacity and charm and her stage husband, Malcolm Fletcher, maintained his pace throughout, in spite of having some awkward speeches to pronounce.

Jo Winner and Adrian Burke provided splendid visual comedy in their roles as watchmen, the one Scottish and the other Welsh. Jo Winner's accent never wavered which could not be said of the would-be Welshman who remained delightfully unabashed. Full of ranting hypocrisy, Frank Martin gave a dominating



James Griffiths as Bartholomew Cokes.

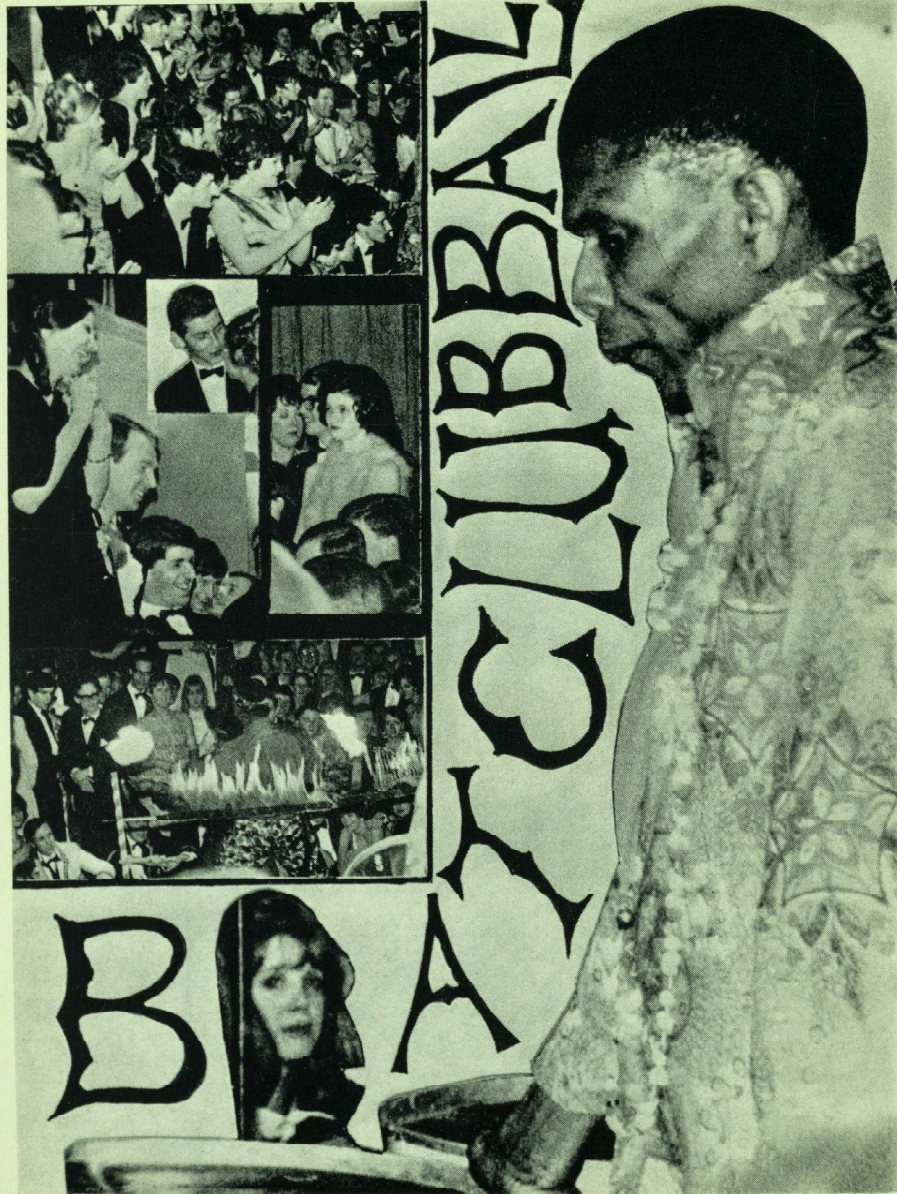
performance as the puritanical Zeal-of-the-Land Busy. Andrew Boon and Chris Jarvis came over well as two of the sly scheming tricksters of the fair and George Lodge was well in character portraying Wasp with all the cantankerousness and sly humour of Steptoe senior. However, John Shaw and Ken Ross could have given much stronger performances—lending more cynicism and satire to their observations of the various developing situations.

If Jonson's Bartholomew Fair was a challenge to the Drama Society it also made fairly rigorous demands upon the audience, who after three hours may have been forgiven for surreptitiously wondering if the end was nigh! Although the cast maintained their pace until the end, one felt that by the time the puppet scene was reached the plot itself had lost momentum through sheer long-windedness. This was unfortunate since the puppet sequence and subsequent scene are of prime importance in condensing and clarifying the ramifications of this complex plot. They also bring about the

final denouncement of Zeal-of-the-Land Busy and Justice Overdo, thus providing a vehicle through which Jonson was able to pour all his malicious wit and scorn against the pretentiousness of Puritans and the stupidity of misplaced justice. As it was, much of this was lost. With greater cutting of the text this climax could have been achieved much earlier and given the production more balance. The puppets themselves and their own small theatre were delightfully made and the "motion" well executed.

The transfer of the play to the Cripplegate appeared to work quite smoothly. Much credit is due to Paul Swain, Susan Raven, Kate Walker and the rest of the production team backstage for the enormous amount of work that they had to do. It was particularly pleasing to watch this large scale performance on the stage of the Cripplegate rather than on the confines of the Gloucester Hall stage. Whatever the financial measure of this production turns out to be it was a dramatically rewarding experience!

J.B.H.



SURGICAL TRAINING

by

Professor R. Y. Calne, M.A., M.S., F.R.C.S.

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The practice of surgery is demanding of the individual, allows of little spare time, and often little sleep. Responsible decisions have to be made daily, and a wrong decision may cost the patient his life, as may the poor execution of a surgical operation. I think it is the challenge of surgery that has always attracted man to this speciality together with the creative satisfaction in the skilful performance of an operation, which is similar to that obtained by an artist or a craftsman. There has never been a shortage of aspirants to the practice of surgery and competition to become a surgeon is probably invigorating to progress and development in the subject. Until recently however, in the United Kingdom, the path to be taken by the trainee in surgery has been not only difficult but also quite unpredictable, and the eventual attainment of consultant status has not been directly related to ability or adequate training. There was an unhappy state of affairs recognised by all young surgeons, that the best chance of becoming a consultant was to stay in a teaching hospital, be polite to one's chief and hold what are recognised to be "safe" jobs which in the past had usually led to consultant posts. Research was a dangerous practice and to obtain practical experience of surgery in a busy non-teaching hospital could be a disastrous move. One moved from job to job in a haphazard way and if at the end of many years of so-called training posts one ended with a broad background of surgical training behind one, this was the result of exceptional good fortune and certainly not in any way related to a pattern of training.

Fortunately the evils of this system are beginning to be recognised by the various bodies in authority, namely the Royal College of Surgeons, the Universities and the Ministry of Health. Changes are being suggested, aimed at improving the situation. In my opinion these moves had been too slow and too late and unless there is a radical change in the near future the momentum will not be sufficient to cope with the rather serious situation.

It is most unfortunate that many able young surgeons have left the "surgical ladder" in the United Kingdom in disgust and sought their future in other countries, particularly North America and Australia. This country, which is short of doctors already, can hardly afford the expensive pre- and post-graduate medical training on behalf of other nations already richer than the United Kingdom.

There is at present no plan of training in surgery in the United Kingdom. A man qualifying in medicine from one of the British universities who wishes to specialise in surgery has a very uncertain ten years ahead of him before he succeeds or fails in obtaining a permanent consultant post as a surgeon in his own country.

During the year following registration he will probably take time off work to study for the primary fellowship, and he may attend a course designed for this examination. This is a period of severe financial strain for a young married doctor. He may prefer to spend a year as a demonstrator in anatomy and physiology,

but a year spent away from clinical surgery at this stage is too long. When he passes the primary fellowship he then seeks junior posts in S.H.O. and registrar grades. He may be able to study during these appointments, but his chances of passing the final fellowship are increased if he attends a full-time course, which again involves considerable expense. After a minimum of two or, more likely, four years as a middle-grade registrar it is possible to seek a senior registrar appointment. The senior registrar posts that are most likely to result in an attractive consultant position are those in famous teaching hospitals. In London many of the teaching hospitals are extremely short of clinical material, so it is quite possible for a man to obtain one of these highly competitive senior registrar posts and spend most of his time doing minor surgery, supporting his chief in the clinics, and attending tedious undergraduate ward rounds. However, the alternative of a senior registrarship in a busy non-teaching hospital is considered to be professional suicide. Recently there has been a gradual awareness of this appalling state of affairs, and many teaching hospitals have now arranged rotations for their senior registrars, so that half the time as senior registrar is spent in a busy peripheral hospital. This is the beginning of a move in the right direction, but does not go nearly far enough.

"The provision so far made for postgraduate medical education in Great Britain lacks organisation and cohesion. A nation embarking on a comprehensive health service cannot afford to do without a comprehensive system of postgraduate medical education." This observation from the Goodenough Committee in 1944 still holds true in many respects today.

Objectives

Postgraduate surgical training should be closely linked to the requirements of the hospital services of the country. In less attractive areas, particularly in non-teaching hospitals, it is very difficult to get junior surgical staff of registrar status, and most of these posts are extremely busy, give little training, and are filled by graduates from overseas who have come to this country seeking, in vain, teaching in surgery.

It is necessary to formulate a plan of training to produce enough surgical specialists to fill

consultant vacancies, and at the same time to staff non-teaching hospitals at registrar grade. It is essential that a man who has decided to specialise in surgery should at the outset be aware of what this involves, and once he has been accepted into a programme of training he should be kept in that programme until the course is completed. He would thus be relieved of the dreadful recurring uncertainty and the haphazard moves all over the country which are the most unsatisfactory features of current practice.

Recommendations

A National Board of postgraduate surgical training should be set up with representatives from the Royal Colleges and the Universities. The Ministry of Health would inform this Board of the number of consultant vacancies that would occur in the course of a ten-year period. The Board would then be in a position to set up regional training programmes in surgery centred on teaching hospitals throughout the country. The professors of surgery would be responsible for co-ordination of the training in the teaching and regional hospitals.

The primary fellowship would serve as an essential prerequisite for application to a training programme. It would be desirable for a man studying for the primary fellowship to obtain a financial loan from the Government for three months' study-leave, at the end of which period he would take the examination. Having passed the examination he could then apply to whichever region he wished. The professor in charge of the training programme, aided by a surgeon from the teaching hospital and a regional board adviser, would make a selection from the applicants. The number selected for each regional programme would be decided by the National Board of Postgraduate Surgical Training, based on expected consultant vacancies in the United Kingdom and applications from overseas graduates, who would return to their own country after completion of the programme. The first two years of the programme would consist of a rotation of registrar jobs in which the trainee would spend one year in general surgery and two periods of six months in specialties of his choice, part of the time in the teaching hospital and part in designated peripheral hospitals in the region, where active postgraduate training would continue. He would then be given one

month's study-leave at the end of which he would be required to take the final fellowship. He would be permitted three attempts, but if he was unsuccessful on the third occasion he would have to leave the surgical training. This elimination at an early stage would prevent the much greater disappointment that often occurs now at the end of ten or more years of training. Once the fellowship was passed the trainee would have three possible lines of further progress during the subsequent four years.

1. Non-academic—Training in clinical surgery, with a possible year abroad.

2. Partly Academic—The trainee would spend a minimum of one year doing full-time research in the United Kingdom or abroad and would be expected to write a mastership thesis. He would not stay in pure academic surgery, but would eventually apply for a National Health Service consultant job.

3. Academic—Trainees who intend to become academic surgeons would also spend a minimum of one year full-time research either in the United Kingdom or abroad, and would be expected to do part-time research during the rest of their training period.

There would be compulsory rotation of all trainees to designated regional hospitals without any chance of falling off the "surgical ladder." This would improve the staffing of regional hospitals and be an asset in training

surgeons with abundant clinical material and operating experience. It would be necessary to provide adequate married accommodation in the regional hospitals.

Once the fellowship examination was passed the rest of the training period would not be a continual time of anxiety. Provided they worked to a reasonable standard, the surgical trainees would be ensured of a consultant appointment. Research, publications, and a mastership would not be undertaken as chores necessary for obtaining a job. They would be pursued only by those who were genuinely interested, and, if aptitude was demonstrated, part-time research could be continued for the rest of the training period and afterwards as a consultant.

The regional surgical training programme would therefore be approximately six years in all—two as a registrar after the primary fellowship examination and before passing the final fellowship, and four as a senior registrar. On completion of the programme a Health Service or academic consultant post would be guaranteed because of the limited numbers of trainees admitted to the programme. It would therefore not be necessary to change the present system of appointing consultants.

Acknowledgements

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MEDICINE IN MASSACHUSETTS

A BART'S EYE VIEW

DAVID C. LYON, F.R.C.S.

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It may of interest to present Bart's men, and especially those contemplating a "Been To America" degree, to read a first impression account of one of the foremost American teaching hospitals, written while comparative memories of traditions and practices at the Royal and Ancient are still fresh in mind.

Harvard medicine was born on the battlefields of the American revolution, and its eldest, but always independent daughter, the Massachusetts General Hospital, was chartered by public subscription in 1811 and opened its doors to its first patient in 1821. A mere seven centuries younger than Barts, the Massachusetts General Hospital is nevertheless the third oldest general hospital in the United States of America and is equally proud of its traditions and heritage. A short 35 years after its foundation, the first public demonstration of surgery under ether anaesthesia took place on 16th October, 1846 and the "Ether Dome" of the hospital has since been made a national shrine. The surgeon's comment to an incredulous audience at that time, "Gentlemen this is no humbug," is reminiscent of another well-publicised understatement of a U.S. general on hearing of the first Russian sputnik. Since that day, the distinguished roll call of medical men associated with the hospital includes such names as Bigelow, Wendell Holmes, Harvey Cushing, Reginald Fitz, Albright, Meigs, White, and two Nobel Prize winners for medicine, Minot and Lipmann. Their portraits, together with group photos of each year's residents sitting on benches in white flannels, like Victorian cricket teams adorn the many passages of the hospital. Space is also found for Hunter and Lister, but a picture of Simpson

is not immediately evident. Ether is still quite extensively used in the hospital.

Built on reclaimed land on the south bank of the Charles River in the heart of the old section of Boston city, the Massachusetts General Hospital has grown to a vast size, and although many specialty wings have metastasised to outlying areas, the main hospital now consists of 20 huge buildings with over a 1,000 bed capacity and 24 operation theatres. Every day an average of 700 out-patients are seen in 45 separate clinics, and there are, in addition, 200 daily emergency admissions. Being a non-profit voluntary hospital, the patients are housed in three different sections depending upon their wealth or medical insurance coverage, on the principle that the patients with means to pay subsidise those patients who cannot afford any or all of the cost of their treatment. The cost of a bed in the totally private section, therefore, tends to be very high, ranging up to \$200 per day, excluding any treatment costs. However, in similarity to the United Kingdom, often the technical facilities and standard of care provided for the private patients is inferior to that provided for the free or "service" patients, and it frequently happens that very large operative procedures may have to be performed in the "service" theatres. The recent introduction of the merest whiff of socialised medicine in the form of "Medicare" and "Medicaid," the stringent conditions for eligibility to which benefits only relatively few of the general population, has been accompanied by rocketing costs far exceeding State budgetary allowances and has precipitated a growing political controversy at State and

National levels.

The non-paying patients are admitted to the medical or surgical "service" wings where their management and treatment becomes entirely the responsibility of the hard-working residents and interns (registrars and housemen) under the ward direction of the chief resident (senior registrar). Advice regarding any problem with these patients is, of course, available when sought and in addition once a week, one of the 450 consultants on the active staff will do a round of these patients, and following this, a detailed report is made each week of the work of each service with particular reference to problem cases together with misdiagnoses, complications and deaths. Also once a week on each service the residents will present cases of particular interest currently in their charge at "grand rounds" in a lecture hall seating 100-250 staff members and interested persons. A discussion of each case presented will then ensue. A variation of this teaching format is the clinico-pathological conference, where a student, resident, radiologist and all interested clinical or laboratory staff members will present and discuss aspects of a single case; the pathologist will speak last and usually sheds new light on the clinical findings. These cases are chosen with great care, and the medical clinico-pathological conference proceedings are published verbatim weekly in the *New England Journal of Medicine*. Each resident and intern also assists his chief with private patient work, and it is his duty also to report any misdiagnoses, complications, deaths, or what he considers to be errors in management on the part of his chief. Once a month, therefore, at another grand round in the presence of most of the staff, the residents arraign their chiefs on these cases which are discussed publicly, and explanations are given. There is no compulsion on any particular chief to attend such a meeting, but his absence is accepted in the same spirit as an absent minister in the House of Commons at question time. In spite of this healthy tradition, relationships between staff and residents are on a favourite-uncle basis by English teaching hospital standards. Patients on the service wings are generally grossly over-investigated, partly because of the hazard of litigation, but more often because the ordering of a large number of tests appears to be regarded as part of the teaching process. Clotted bright red blood from a ward haematemesis may be scrupulously sent for guaiac testing, and a patient who might merit a haemoglobin and chest x-ray pre-operatively

at Bart's, will often have such a routine "work-up" that on discharge he will have accumulated a 5-pound x-ray folder and at least a dozen sheets of repeated and sometimes esoteric laboratory investigations. A further factor encouraging investigation is the efficiency of the Ancillary Departments, which countenance little time loss between request and result. Fairly complicated investigations, such as a radio-hippuran excretion test or a superior mesenteric arteriogram can be done quickly, and the results reported within 24 hours. Inter-departmental and interpersonal communication is likewise very rapid and efficient. Every use is made of all varieties of electronic and mechanical equipment; doors open magically without having to push. Laboratory procedures are automated wherever possible, and operation notes can be dictated into any telephone and are typed from tape and are to arrive in the notes the next morning. Notwithstanding the employment of every modern technological advance surgical complications appear to be much more frequent than at Bart's, but this impression is partly illusory since a patient often seems to require a handsome string of often bizarre postoperative misfortunes to qualify for presentation at many of the clinical meetings, and in addition there is a generally more aggressive attitude towards disease which accounts in large measure for the seemingly high morbidity and mortality. On the "service" wards, at least, inoperability is never confused with incurability; the fight is generally continued well beyond the last breath, and all in all the M.G.H. is not the place for any patient who has expectations of being left to die in peace.

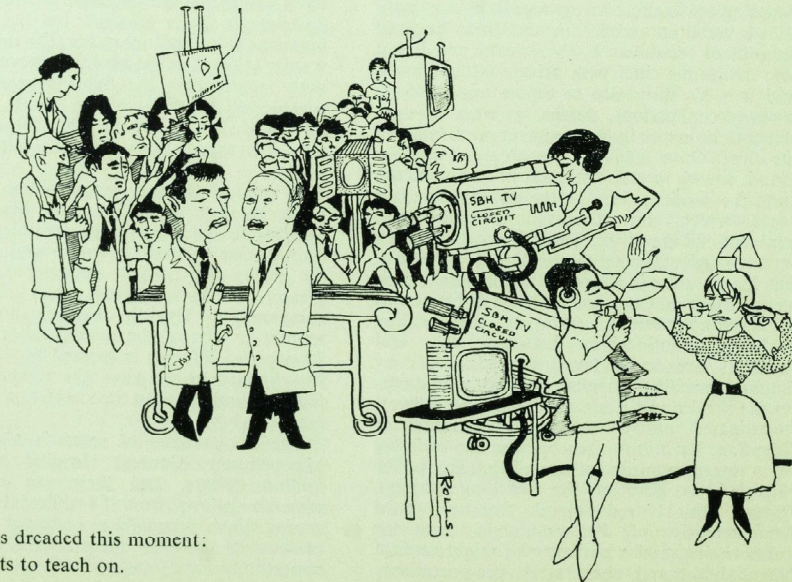
In spite of the very large volume of clinical work being conducted at the Massachusetts General Hospital, it is quite possible to explore its monolithic buildings for several days without seeing any patients because of the vastly greater emphasis placed upon research as compared to English teaching hospitals. A request to any of the animal laboratories for 50 dogs or 200 rats is greeted by a matter-of-fact inquiry as to when the animals will be required without even the suggestion of a raised eyebrow.

The annual cost of research alone at the Massachusetts General Hospital exceeds 10 million dollars, and there are nearly 300 research fellows from 58 different countries, among whom is usually to be found a transient nucleus of two or three Bart's men. The opportunity for cross-fertilisation of ideas and

projects is obviously enormous in such a situation, and in addition, the best talents of 20 other Boston teaching hospitals, including the Peter Bent Brigham and the Lahey Clinic, and six surrounding universities (Harvard, Tufts, Brandeis, Boston University, Northeastern University and the Massachusetts Institute of Technology) can be called upon to advise and assist with problems related to allied basic science disciplines. Clinical research facilities are equally impressive in as far as the record filing department can pull out, at a moment's notice, all patients' records with any combination of unlikely diseases. Library facilities are also fantastic; the newly built Harvard medical school library alone has a capacity of 750,000 books, takes more than 4,500 regular medical journals, and among its other distinctions, employs several attractive uniformed female private detectives from Pinckerton's agency to frisk outgoing members who might otherwise be tempted to use the library as a

nucleus for their own collections. In many respects the hospital resembles an air-conditioned, centrally-heated town, complete with shops, offices, restaurants, vending machines, community halls, post office, barber shop, and door-to-door transport systems laid on at fifteen-minute intervals to drive visitors to their respective car parks. It comes as a slight disappointment to the overseas visitor to find that there isn't a Playboy Club actually on the premises, but irritation from this apparent oversight is somewhat mollified on hearing that there is one such establishment not ten minutes' walk away in downtown Boston. Since most things in the United States of America are known to be bigger, and many are better, it is also a slight relief, therefore, to discover that at the famed "Boston Massacre" the British redcoats only killed five New Englanders under extreme provocation, while being pelted with stones and refuse by a large hostile and drunken crowd.

CARTOON



I've always dreaded this moment:
No patients to teach on.

The International Cancer Centre

NEYYOOR, SOUTH INDIA

ROY E. ELLIS, B.Sc., Ph.D.

Reader in Physics— St. Bartholomews Hospital Medical College

The incidence of mouth cancer is relatively low in the United Kingdom compared with that in the villages of Southern India and the cause of this much increased incidence in India is thought to be the chewing of betel nut which is used rather in the same habitual manner as smoking is in the Western world. The habit starts in the early teens and each bolus, consisting often of a mixture of tobacco, limestone and betel, is chewed for about 20-30 minutes, and many men chew, money permitting, six to ten bolus a day. The last one at night may be tucked into the cheek and left there throughout the night and hence the contact period of such carcinogenic agents may be quite high.

Most of the cancer cases are first seen by the vaidyars, the local indigenous medical practitioners, but due to their low level of education and the very slight impact of western medicine, many of the cases of cancer are misdiagnosed and given so termed treatment by a variety of balms. When the patient eventually reports to one of the hospitals the disease is generally very advanced. The hospitals in this area are mostly based on the medical mission hospitals and a typical one is at Neyyoor, in the Kanyakumari District not far from Cape Comorin, the very tip of the sub-continent. The Hospital, now run by the Church of South India, has a bed capacity of about 300 beds but usually has about 120-150 patients. It has a medical staff of twelve Indian doctors and one from the U.K. It was at this hospital that Dr. Somervell, the Himalayan explorer of the 1922 Everest Expedition, spent nearly thirty years running the hospital and treating the sick.

The only method available to treat these advanced cases of head and neck cancer was radical surgery involving extensive resections and block dissections. It was realised by Dr. Somervell's successor, Dr. Derek Jenkins, that a modern Cobalt 60 radiotherapy unit would provide the alternative and much preferred method of treatment. From this evolved the idea of the International Cancer Centre.

Neyyoor, a centre which has been built alongside the hospital, with its aim to treat all cases of cancer, to promote education in oral hygiene and the cessation of the chewing habit, the only real answer in the long run, and to carry out research in epidemiology and treatment.

To turn the idea into fact necessitated money, building, equipment and staff. Out of the deep concern of many people in many countries came donations, from Christian Aid, for staff salaries from the Catholic Trust Misereor in Western Germany, of theatre equipment and diathermy equipment from Eastern Germany, of a Siemens Cobalt 60 Unit from a West German Protestant Group, of money for the radioactive source from War on Want and the Sir Halley Stewart Trust, from the B.E.C.C. to start the Cancer Registry, from W.H.O. to help carry it on, from the Radcliffe Trust, from Oxfam to help with the buildings, from a group of Cardiff businessmen "Tenovus", to provide salaries for a nursing sister, radiographer and radiotherapist and the Indian Government provided matching grants for the buildings and a large number of individuals gave donations. So building commenced in 1966 and Fig. 1 shows the building in July 1967. The circular room on the left houses the Cobalt Unit with 4ft. 6in. walls of concrete and the main building, now two storeys high, consists on the ground floor of clinic and examination rooms, a room for diagnostic X-ray equipment and a treatment planning room and mould room. On the first floor there are rooms for biochemical, histological and pathological laboratories, the cancer registry and the administrative office. We have not yet got the modern equipment to furnish these laboratories.

To come across this modern edifice was a great surprise after a 35 mile taxi ride through numerous small rural villages with their small bare huts with thatch or tile roofs and with the children swarming around. So I arrived at the end of September last, after a day in Madras collecting out of Customs the equipment that

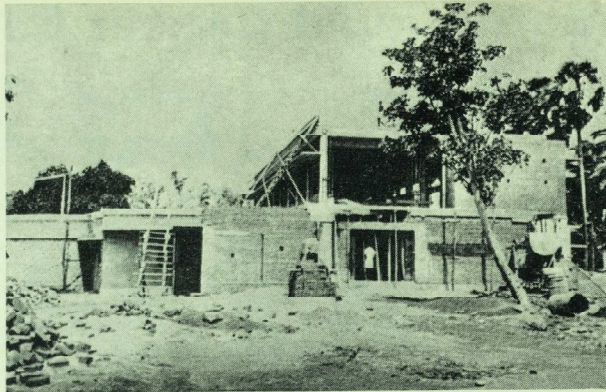


Fig. 1 The Cancer Centre in July 1967.
The cobalt unit is in the round room on the left.

had been flown out previously, some of which was made and assembled by the staff of our physics workshop in Charterhouse.

The purpose of my visit was to calibrate the cobalt unit so that it could be used for accurate radiotherapy and to help plan the treatment of the first patients. An Indian physicist had been trained in the U.K. and he had his first opportunity to assist in the calibration of a new unit. After about a week of measurements, and correcting mechanical and electrical faults, the unit was calibrated. To double check the measurements some dosimeters made of lithium fluoride were sent back to Barts for checking and the answers cabled back showing agreement in doses better than 2%.

So treatments could start—our director, Dr. Muir Grieve, a radiotherapist, had the problem of watching the mucosal reactions of the Indians undergoing treatment and keeping reactions free from infection and studying the ability of the patients to withstand the treatment, many of whom have very low haemoglobin and poor health due to endemic diseases and the long term lack of a balanced diet.

In this area a typical labourer employed on the building site earns Rs 1½ a day (about 1/6d.). The staple diet consists mainly of rice and fish. A typical measure of rice costs about Rs. 6 which would not serve many of us for four days! Nevertheless they work hard and long and the building was complete by the end of the year except for some painting and glazing on the first floor.

Now, who is at the centre besides the radio-

therapist and physicist? Cardiff hospital has given leave of absence to their Superintendent radiographer and to the sister of their cancer ward for one year and a chartered accountant has gone out as administrator. Then there is an American lay social worker who has been administering the building project on her own for about two years and organising the cancer registry which is supported by an Indian statistician and two field workers.

Can this centre cope with the cancer treatment of the million or so in the local area and, as it gets under way, the 11 million or so in the Madras State? There are in the area up to Madras seven fairly small radiotherapy units, some with only conventional X-ray units which are now fast disappearing from the U.K. scene. By comparison there are some 80 radiotherapy centres, many with Cobalt Units, for the 55 million people in the U.K. so, in the future, this radiotherapy service must increase. Now, what are the centre's future plans?

The most important task is to initiate the epidemiological investigations and the cancer prevention education. It is planned to have three medical teams housed in caravans equipped as clinics, travelling through the surrounding area inspecting as many mouths as they can to identify any pre-malignant signs and getting early cases through to the hospital for treatment. Only in this way can the education be brought to the individual attention of the villagers. It is particularly important for those in their early thirties—the cancer incidence rises about ten years earlier than in

the U.K.—for they are the principal earning members of the family and by the prevention of cancer or by the treatment at an earlier stage vitally useful man years of work in the community can be saved from being lost by sickness.

The next important task is to increase the hospital facilities and the plans for this include the building of a new operating theatre, a 150 bed ward block, the provision of two new Cobalt 60 radiotherapy units and a special suite of rooms for the treatment by needle implants, or intracavitary treatment of cancer of the cervix using radioactive isotopes. It may also be feasible to treat cancer of the cervix with the new Cathetron Units which insert high activity sources into catheters already placed in the patient and thereby permitting short treatments instead of long three day insertions. However, the radiobiological implications of these changes are only now being studied in the U.K.

How much is all this to cost and what chance does the International Cancer Centre have in raising the necessary funds? The probable capital cost of this next stage is approaching £200,000 and is to be combined with a running cost of at present about £20,000 per year and rising to about £50,000 in a few years time

when the necessary capital funds become available.

Already Trusts and organisations are being approached for assistance in these extensions of this work and international interest is being aroused. However, the very real pressing need is to get money for running during this current year and so far generous support has been given by "Tenovus" and by the Sir Samuel Scott Trust and by numerous personal donors, following articles and letters in the *Guardian* and the *Times*.

In London there is a small committee which is both fund-raising and Neyyoor promoting and as Chairman of the Committee I try to interest people in showing concern towards this very worthy cause. We require money and equipment and the support of many people to ensure that this work continues and expands. One of our London Committee members is at present touring India helping to raise funds so that this work may be part of India helping itself and the aim is that eventually the centre should be staffed and administered by Indians.

The patients are there, the need is there, the Centre is there and long may it continue to develop. Our London address is 11, Carteret Street, S.W.1 if you can help.



Fig. 2 The Cancer Centre in October 1967

LE HORLA

by Yvonne Hibbott



Occasionally a great writer uses his own illness and its symptoms in one of his works, and from a medical point of view these are often worth a second look. Such a work is the story 'Le Horla' by the French writer Guy de Maupassant, who is today best remembered for his brilliant short stories. This sad and morbid tale

gives a vivid insight into the mind of a man tormented by inexplicable fear and depression, obsessions and hallucinations. The author also foresees his own tragic end.

'Le Horla' has been called "A clinical document, a case history, which any psychiatrist might have written down", and "A faithful

picture of his own tragic future". At the time the story was written (1886), Maupassant was already suffering from the symptoms so clearly described. There is evidence of this in his own correspondence and in the writings of his contemporaries.

Maupassant died insane in 1893, at the age of forty-two. Much has been written on the subject of his illness, most writers favouring a retrospective diagnosis of general paralysis of the insane. In one of the best medical studies Borel¹ concludes:

"Maupassant's syphilitic infection was contracted about 1876. His mental illness was certainly the delayed effect of this infection to the exclusion of all other psychoses. It is impossible to say today if it was the result of general paralysis of the insane or cerebral syphilis."

'Le Horla' is written in the form of a diary from May to September it is as if Maupassant had taken his own symptoms, which spanned altogether about seventeen years, and compressed them into this four-month period. The diarist believes that a supernatural being—'Le Horla'—is gradually taking control of him. (The exact reason for the choice of the title 'Le Horla' is not known—possibly from *hors* meaning outside, and *là*, there, also the onomatopoeic association of the word *horreur*.)²

The story opens with the diarist enjoying a glorious day in the garden of his home near Rouen and observing the passing of a convoy of boats on the nearby Seine. Over the next few days he begins to feel unwell, or rather, unhappy:

May 11—"Where do these mysterious influences come from which change our happiness to dejection and our confidence to despondency? . . . I go down to the river-side; and suddenly, after a short walk, I return home feeling miserable, as if some misfortune awaited me there.—Why? . . ."

May 16—" . . . I continually feel this frightful sensation of threatened danger, this apprehension of coming disaster or approaching death. . . ."

As a young man Maupassant certainly 'lived it up', but he also suffered from periods of inexplicable dejection and depression. In his twenties he wrote to his mother: "Sitting alone at my table I often have moments of such utter distress that I don't know where to turn . . ." and to Gustave Flaubert—"I have moments of being so convinced of the uselessness of everything, of the unconscious evil of the universe, of the emptiness of the future (whatever it may be),

and there comes over me a melancholy indifference to all things, and I want simply to be quiet, quiet in a corner somewhere, without hopes or worries".

The diarist continues:

May 25—"No change. My condition is really strange. As night falls, an incomprehensible uneasiness takes hold of me, as if the night held some terrible menace. . . ."

About ten o'clock I go up to my room. As soon as I enter I double-lock and bolt the door; I am afraid . . . of what? . . . I never dreaded anything before. . . Then I lie down, and wait for sleep as if awaiting execution. I wait for it, terrified of its coming. . . ."

I sleep—for some time—two or three hours—then a dream—no a nightmare grips me. I feel that I am lying down and that I am sleeping. . . . I feel this and I know it . . . and I also feel that someone approaches me, looks at me, touches me, climbs on to the bed, kneels on my chest, and, taking my neck in his hands, squeezes . . . squeezes with all his might to strangle me.

I struggle, tied by the terrible helplessness which paralyses us in dreams: I try to cry out—I cannot;—I try to move,—I cannot;—panting, with frightful efforts, I try to turn round, to throw off this being who is crushing and suffocating me,—I cannot.

And suddenly I wake up, panic-stricken, and covered with sweat. I light a candle. I am alone".

The Italian writer M. G. Ragusa Moleti³, who knew Maupassant during his stay in Italy in 1884, recorded in a document that Maupassant was afraid of being left alone at night. For many years Maupassant suffered from insomnia, which he called "A nightly agony of the mind and body". His valet⁴ recorded that he was rarely able to sleep before three in the morning. When sleep came it was not infrequently in the form of a nightmare.

June 2—" . . . I went for a stroll in the Roumare forest. . . . A sudden shiver went through me, not a shiver of cold, but a strange shudder of anguish.

I walked more quickly, uneasy at being alone in this wood, unreasonably and foolishly afraid of the profound solitude. Suddenly I felt that I was being followed, that someone was walking on my heels, closely, close enough to touch me.

I turned round quickly, I was alone. I saw behind me only the straight, wide walk, empty, high, terrifyingly empty; and in front, extending as far as the eye could see, a

dreadful sameness. I shut my eyes. Why? And I began to spin round, very quickly, like a top. I nearly fell. . . ."

The above is a very exact description of one of Maupassant's anxieties. M. G. Ragusa Moleti² noted that Maupassant often turned round in the street to see if he was being followed.

The diarist leaves for a holiday, during which he visits Mont-Saint-Michel. Here he talks with one of the monks on the mysteries of the invisible.

Maupassant's travels to Algeria, Corsica, Switzerland, etc., were at first enjoyable holidays, but later became an attempt at escapism. He wrote—"Travel is only a kind of door leading from reality."

On his return the diarist is again troubled by nightmares, and now begins to doubt his sanity—or is it the *Horla*? Carafes of water and milk left on his bedroom table are mysteriously emptied overnight.

July 6—"I am going mad. . . . But is it I? Is it I?"

Maupassant's mental deterioration had already been observed by his friends. Anatole France³ wrote—"Long before '*Le Horla*' appeared I realised that Maupassant's mind was deranged."

The diarist experiences an hallucination:

August 6—"This time, I am not mad. I have seen . . . I have seen . . . I can no longer doubt . . . I have seen . . . I'm still frightened to death . . . I have seen . . ."

I was walking in my rose garden, in broad daylight . . . along the path between the autumn roses which are just beginning to flower.

As I stopped to look at a *géant des batailles*, which had three magnificent flowers, I saw, distinctly saw, close to me, the stem of one of these roses bend, as if an invisible hand had twisted it, and then break off, as if a hand had plucked it. Then the flower rose in the air, in a curve, as if being carried to the mouth by an invisible arm, and it remained suspended in the clear air, alone, still, a terrifying red stain three paces from my eyes.

Desperately I flung myself forward to grasp it. There was nothing there; it had disappeared. Then I was furiously angry with myself; a rational, serious man does not have such hallucinations. . . .

August 7—. . . . Certainly I would think myself mad, absolutely mad, if I were not conscious, if I did not perfectly understand my condi-

tion, if I did not probe and analyse it with complete lucidity. I am, therefore, only a sane person who experiences hallucinations. . . .

August 14—I am lost. Someone possesses my soul and governs it; someone orders all my acts, all my movements, all my thoughts. . . ."

The visual hallucinations are followed by an auditory hallucination during which the diarist hears the mysterious spirit tell him his name:

August 19—" . . . It is as if he were shouting his name, and I cannot hear it . . . the . . . yes . . . he shouts it . . . I am listening . . . again . . . the *Horla* . . . I heard . . . the *Horla* . . . it is him . . . the *Horla* . . . he has come! . . ."

Maupassant was already suffering from hallucinations when "*Le Horla*" was written. These would often be *phantom double* hallucinations during which he saw his double. Maupassant told Paul Bourget⁶—"Every other time when I return home, I see my double. I open the door and see myself sitting in the armchair. I know it is an hallucination the moment I see it. Curious! If I didn't have a little common sense I'd be afraid."

The diarist decides to kill the *Horla*. He has an iron door and iron shutters fixed in his room.

September 10—" . . . Suddenly I felt that he was there, and a joy, a mad joy seized me. I got up slowly, and walked around for some time so that he would not suspect anything; then I closed the iron shutters, and, creeping towards the door, I double-locked it. Going back to the window, I secured it with a padlock, and put the key in my pocket.

Suddenly I realised that he was prowling around me, that he was also afraid, and ordering me to open up for him. I was on the point of giving in, but I did not give way, but, leaning against the door, I opened it a little, just enough for me to get out backwards; and as I am tall my head touched the lintel. I was sure that he could not have escaped and I shut him in, all alone. At last! I had him! Then I ran downstairs; and in the drawing-room, which is under my room, I took the two lamps and poured the oil over the carpet, the furniture, everywhere; then I set it alight and escaped, after double-locking the main door.

And I went and hid myself at the bottom of the garden amongst the laurels . . .

I watched my house, and waited . . . one of the lower windows burst with the heat . . . Two more windows gave way and I saw that the lower half of my house was nothing but a terrifying furnace. But a cry, a horrible,

piercing cry, a women's cry rent the night, and two skylights opened. I had forgotten my servants. I saw their terrified faces and their wildly waving arms . . .

The diarist now suspects that the *Horla* is not dead and that there is only one solution:—

"No . . . no . . . Without any doubt . . . he is not dead . . . then . . . then . . . I must kill myself . . ."

Maupassant knew only too well what was happening to him. He wrote to Dr. Frémy—"Between madness and death, there is no question of hesitation; my choice is made." In 1892, he attempted suicide by cutting his throat, but was found in time by his valet. Five days later he was interned in the Maison de santé of Dr. Blanche at Passy. Edmond Goncourt⁷ tells us of Maupassant's delusions of grandeur—his belief that he had been made a Count, and his imaginary conversations with bankers about huge business deals. In January 1893, Dr. Blanche told Goncourt⁸ that Maupassant was "*en train de s'animaliser*". He died on July 6th, 1893.

Other symptoms of Maupassant's illness noted by those who knew him were:—Hesitation and slowness in speech (Madame Lecomte de Noüy), dilation of the pupil of the left eye (Dr. E. Landolt), and facial tremors and the inability to co-ordinate leg movements (François Tassart). In his correspondence Maupassant frequently complained of eye-trouble and almost unbearable headaches, for the relief of which he inhaled ether.

Was Maupassant's illness congenital? This is unlikely, but Maupassant certainly had a genetic predisposition to a depressive and melancholic personality and superimposed on this was his syphilitic infection. His mother was a highly intellectual, neurotic woman, who suffered from a nervous disorder, and his father was a happy-go-lucky *coureur de filles*. (Both parents lived to an advanced age.) His maternal uncle, the writer Alfred le Poittevin, had suffered from melancholia. Hervé de Maupassant, Guy's younger brother, died of

general paralysis of the insane at the age of thirty-three.

Although Maupassant achieved great success during his lifetime, was popular and much acclaimed, this was always shadowed by his illness, his own *Horla*.

Maupassant's life is best summed up in the words of Emile Zola—"Apart from his glory as a writer, Maupassant will always remain one of the happiest, and one of the unhappiest men the world has ever known."

Acknowledgements

It is a pleasure to thank Dr. J. T. Silverstone for his helpful comments, and Mr. K. McMorine for reading the manuscript.

The photograph of Maupassant is reproduced by kind permission of Roger-Viollet, Paris.

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THE PATIENTS' LIBRARY

Miss R. M. PRITCHETT, A.L.A.

There has been a Library Service for the patients at Barts much longer than nearly all the staff, and in fact most of the "regular" patients can remember. It was started at the request of the Hospital by the Red Cross in 1935, and has continued ever since.

Since the end of the Second World War the Library has ceased to be run by the Red Cross, and has been financed completely by the Hospital, and staffed with first an entirely Voluntary Staff, and then as the number of wards increased, by one Professionally trained Librarian, and one full time paid assistant, but relying too on the services of our excellent team of Volunteers.

To many, the word "voluntary" only too often conjures up an idea of someone who will come in when he or she feels inclined, and who will consider that she is the one to dictate the terms of work. How wrong this idea is—at Bart's anyway! Our Voluntary Librarians are certainly not paid, but in every other way they more than fulfil any obligations a paid Librarian would feel towards the work. The wards are visited each week, and whenever possible the same Librarian takes the trolley round each time, so that the Librarian knows the patients, and his or her reading likes and dislikes, and the patient gets to know and rely on the Librarian. Special requests are noted, and books taken up later in the day, and every effort is made to see that the patient has the book he requires.

The service of books to the wards, is of course the "backbone" of our work in the Library, but there are other ways in which we can help our patients. We now have about 100 different titles in big print—especially produced for those who have poor eyesight, or for some reason are unable to read normal print. Agatha Christie thrillers are a favourite in any print, and we have many of hers in the larger size. These special books may be borrowed from a Public Library and we often have the pleasure of introducing the idea of these books, and suggesting that the patients should get them from their local libraries when they return home.

We also have books in braille, for blind patients, and are able to borrow more from the National Library for the Blind. These may be obtained very quickly and are posted free of charge. The disabled patient is also catered for by an automatic page-turner, and there is a micro-film reader which is also used when a patient is unable, through his disability to turn the pages of a book.

There has been a recent article in the *Journal* about the "Playback" machines which are now available for disabled and blind patients. These are proving invaluable. Thanks to our many kind friends in the hospital—the Women's Guild and Rahere Association, contributions by the Sisters through their ward funds, and private gifts, we now have seven of these, and they are in constant use. They are invaluable for those who are unable to read for a physical reason or through illness are unable to concentrate on an ordinary book. The tapes are lent free by the British Library of Tape Recordings for Hospital Patients.

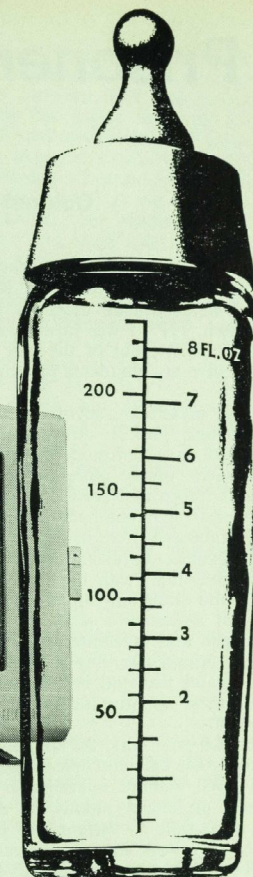
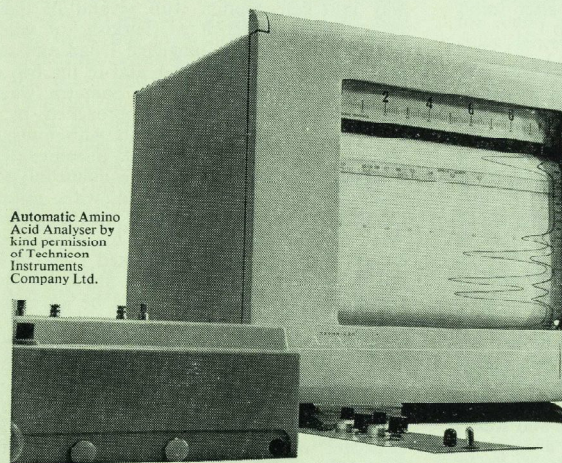
Reading tastes are very individual, and for that reason we try to have a very varied stock, covering most of the subjects found in a Public Library, and a good supply of some of the older as well as the recent novels which may be in demand. Our stock is approximately 6,000 and included in this number are books in the major European languages, and also Arabic, Hebrew, Yiddish, Turkish, Greek, Maltese, Portuguese, and the Scandinavian languages. When we find we are unable to meet a request for a book from a patient, we borrow from the Public Libraries. We are lucky in having good new Libraries in the City itself, and we meet with prompt response when we ask for their help.

Our wish is that no patient wanting a book from the Library should be without the opportunity of borrowing one. We are always pleased to know of patients who have missed the round, or who have finished their books and need some more. A phone call to the Library (Extension 602) will bring a Librarian at the run with suitable literature!

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Prisoner of War with the Turks

Colonel W. C. Spackman, I.M.S. (retd.)

Readers of the *Journal* (August 1967) will recall how, a week before the British forces under General Maude captured Baghdad on 11th March, 1917, I was hustled, a lonely and desperate P.o.W., out of the city after vainly trying to give my guardians the slip.

I found myself journeying northwards with the retreating Turkish Army amid scenes of wild chaos and confusion. Between Baghdad and Samarra, ninety miles up the Tigris, we met fresh troops and reinforcements hastening south whilst other units and large numbers of wounded and sick were being evacuated north. I was still subject to justifiable fits of depression as I realised that, with the trench warfare in France and Belgium apparently locked in permanent stalemate I seemed condemned to a prolonged and indefinite period of captivity (unlike a criminal serving a sentence of fixed duration) and that the best years of my life with all their opportunities were slipping by, past recall.

Such however was the interest inevitably aroused by the kaleidoscopic events and scenes taking place without intermission around me that any prolonged moods of depression I found impossible to sustain and I was drawn quite eagerly back into the present as I was passed on from one guardian to another and came in contact with a miscellany of Turks, Arabs, Kurds, Persians, Armenians and Jews, in fact all the various "odds and sods" who for one reason or another formed part of the Turkish Army in those regions. Under the

stresses of defeat prevailing, many of them were highly unreliable allies of the Turks and as I was so obviously British I became the centre of some interest. I was drawn in this way into conversation with several of them, using English, French or Turkish (of which simple and "regular" language I had and still have a working knowledge), and in the two or three days it took to get to Samarra where the railway ended I was approached by a number of shadowy individuals with hints of escape. One resplendent Kurd, a self-evident brigand one would say, whose colourful and voluminous waistcloth bristled with pistols, daggers and crossed bandoliers with an assortment of ammunition, offered to arrange my escape, but though much tempted I feared he might prove no more reliable than his own pistols, or that he might simply be an agent-provocateur.

As seen across the river, Samarra on the east bank looked like a real Arabian Nights city, shimmering in the mirage of midday. Towering above the warm brown walls rose the blue and gold dome of its famous mosque with its attendant minarets. Away beyond the city, dimly seen and greatly magnified by the mirage appeared vast formless mounds like those of Niniveh at Mosul, commanded by a gigantic ruined spiral tower, reputed to have been the Tower of Babel!

By now I had made friends with an Arab doctor of the Turkish Army whose home was far down the Tigris below Baghdad at the British-held town of Amara. He confided in

THE PATIENTS' LIBRARY continued:-

patients who are up and about and able to visit the Library. We have found that many of the patients enjoy this—it makes a welcome break from the ward atmosphere, and even if they don't actually wish to borrow a book, they may enjoy a browse round the shelves, and a chat with the Librarians!

Space just doesn't allow me to go into the fascinating subject of what people read, and ask for, but a classic request which has always amused us was from a Smithfield porter who asked for a book on butchery, and when told we would try and borrow one, happily said a book on ball-room dancing would do just as well—this we were able to supply!

me that he was most anxious to get back to the other side of the war-line and thought he could do so as he had a local contact who would provide him with a horse and a guide. He also left me to infer that it would much strengthen his chances and improve his standing the other end if he could turn up bringing a British Officer whom he had helped to escape. I professed only a casual interest in the project, but went round with my custodian to see him again in his billet near the east gate of the town. Beyond this gate, in the desert about a mile away were some old tombs and the ruins I have mentioned. He told me that the horses were to be brought to these tombs after dark. It was also apparent that the wall of the town was in a dilapidated state, with several wide breeches and almost unguarded. In the face of all this I could no longer conceal my interest in the proposal that he should smuggle me out in Arab bedouin dress and that with our guide we should make our way by desert tracks till in three or four days we reached ("Inshallah!") the British lines. I arranged to come and see him again that night "for coffee" and that he would send off my posta on some errand.

Alas! at the very beginning of the enterprise I was arrested and thrown into a particularly foul cell in the local jail where I found a bunch of miserable types some of whom as deserters were to be executed by a firing squad at dawn next day. Not being anxious to be included, in the darkness and confusion, with this lot, I bribed a jailor to convey a chit to a Turkish officer I knew and most fortunately he got me released. Even so, I could not restrain a shudder when in the half-light next morning I heard a muffled volley, recalling seeing similar dreadful scenes I had witnessed near my billet in Mosul the previous summer. As it was, I was severely threatened and sent packing off across the river to join the desert march northwards to Mosul. I was refused any transport for my kit, so selected just what I could carry and dumped it in my old sleeping bag, including my precious Oxford Book of Victorian Verse that had belonged to the heroic Riddell killed beside me at Ctesiphon (*Sr. B.J. March*, 1966), slung it over my shoulder and set off up the desert road—sol, sagh, sol (left right, left) with a group of cheerful Turkish soldiers. I never again saw the rest of my kit.

With me, bad luck never lasts long, otherwise I would not have been one of the very few survivors of that campaign, and at the next

halt there was a river steamer tied up on which I was allowed to embark. Here I camped down on the open crowded deck and so spent an uncomfortable but highly diverting few days till we finally and conclusively ran aground on a sand-bank near the ancient town of Shergat and its archaeological excavations. I remember leaning on the taff-rail as we chugged slowly up the patriarchal river, reading from time to time from my old book and laughing at the predicament which found me alone in such a strange and wild company. There was one especially picturesque character, an old Arab with a scraggy henna-ed beard and a few discoloured teeth who sat cross-legged on deck, the centre of a small crowd, a famous storyteller. Hour after hour he held forth in that harsh Arab speech, with many gestures, to an accompaniment of exclamations of "Wallah!" indicating amazement and delight as the more telling points of his endless narrative emerged. With his glittering eye he reminded me of the Ancient Mariner just as most of the types on deck made me think, as I carefully guarded my few possessions, of Autolykus, that snapper up of unconsidered (and unguarded) trifles!

Occasionally we were sniped, more as a matter of routine, by Arabs on the banks and returned their fire with a regular museum of firearms more dangerous to the users than to the quarry, no one was ever hit, the marksmanship being more joyous than hostile. Once a sounder of wild pig was crossing the river above us and, getting frightened, drifted right by the ship in the strong current. This was the signal for everyone on board to rush to the side and let off his pistol or rifle at them in the water. A lot of noise and splashing and great mirth. Wallah!

We tied up nightly to the river bank and collected brushwood to eke out our dwindling supply of coal and one night an armed party boarded us from the only other steamer and forcibly removed most of our precious fuel. I thought our captain would get a stroke in his impotent fury and rage.

From Shergat to Mosul it was necessary to march again, but by now delightful spring-like weather had set in and the whole desert was carpeted with small flowers. I happened to pick one or two, whereupon my good friends and sympathisers embarrassed me by picking great bunches and presenting them to me as we marched along. I found it difficult to remain despondent.

I was attached, with my guard, to a brigade of Turkish heavy artillery on their way to join

von Falkenhayn's force, known as the Yilderim, at Aleppo. (They, poor devils, were no doubt overwhelmed and destroyed the next summer on the Syrian front by Allenby's successful campaign). The two batteries were entirely Turkish and with their officers I fed and could converse but the brigade staff were German, and I had great fun playing off one against the other, for they hated each other. The Germans one day made me join their orderlies for mess. These young Germans were a cheerful gang and quite ready to treat me well, but I found that a complete lack of knowledge of each other's language placed too much of a strain for either side, and I was allowed to return to my Turkish battery friends who received me with undisguised joy when I told them I preferred their company to that of the Germans who treated them as being of an inferior race in spite of their seniority and great experience. I also reminded them of the former relationship between our nations and especially between the navies of the two countries.

One day one of these officers gave me a ride on his charger while he took a turn marching beside me. Just then, the German colonel came cantering by accompanied by his staff. Seeing me on the horse, he reined back all-standing and roared at the Turk and made me dismount instantly. I realised how suitable the German

tongue is for such occasions, like Hitler's tirades!

And so, to the tune of the old Turkish marching song I marched back, sol, sagh, sol, into the barracks at Mosul once again, weary and dejected by the change in my fortunes since the happy day when I had sailed away south on my kelek (raft) four months earlier (St. B.J. March, 1965). Here I learnt that Baghdad had fallen to the British a few days earlier.

Other brief memories of that march occur to me—the shallow pools near Hammam Ali covered with a thick scum of crude oil which was already, since many years, being skimmed off as a commercial product for local use; a visit with Turkish officers to a tumbledown building at the same place for a dip in the hot sulphurous springs arising there and credited with therapeutic virtues.

And finally, one night, the little band of Germans, including a Nursing Sister, gathered together singing nostalgically their "Deutschland uber Alles" to its glorious Haydn melody, under the bright desert stars, the dim outline of their parked field batteries and transport wagons just discernible around them in the flickering light of their camp fires.

W. C. Spackman.



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MISSIONARY MEDICINE

In writing the following accounts we have tried to illustrate the opportunities available in

1 HOLY CROSS HOSPITAL visited by J. Brooker

Holy Cross hospital is situated in the northern part of the Transkei, the first self-governing African native reserve. The size of Wales, this area is one of great natural beauty; the coast line is reminiscent of Cornwall, and the land border is formed by the wild Drakensburg mountains. Beautiful undulations stretch as far as the eye can see, and in summer everything is covered with an emerald green blanket of grass.

It is a custom of the local Pondo—a subgroup of the Bantu people to live in scattered family groups, making provision of a medical service very difficult. The hospital usually has three or four doctors, who also have responsibility over a 300 bed leper colony nearby. Although there are only 220 hospital beds, there are usually about 300 patients, there being more than one baby to many of the cots, and several adults having to sleep on ward floors. The nearest large hospital is six hours away by dirt road, so all emergencies must be coped with. Hence many different diseases are seen, making the hospital ideal for the training of African nurses.

The diseases treated are mostly those seen in British hospitals, but in very different proportions. Certain diseases are uncommon, coronary thrombosis and acute appendicitis for example, and when these do occur it is almost always in patients accustomed to a European diet and not the African diet, which consists mainly of coarse vegetables.

In contrast tuberculosis is an example of a very common disease in Podoland; Pulmonary tuberculosis is rampant. Half the patients in the hospital have T.B., and yet only the most severe cases are admitted. Out-patient treatment of the disease is not successful as a patient may have to walk 10 miles to the nearest clinic, and there are few facilities for defaulters. Skeletal, especially spinal T.B., is common, occupying beds for long periods. Anti-tuberculosis drugs

Mission hospitals and to relate the attitudes of missionary doctors to their work.

are now relied upon to an extent that allows plaster of Paris shells to be discarded for less rigorous forms of immobilisation. Surgery is confined to the evacuation of Psoas abscesses and decompression of cases of Pott's paraplegia by corto-transversectomy.

The second overwhelming problem is malnutrition. There is no room for discussion as to the relative merits of breast and artificial feeding: almost all bottle fed babies suffer from marasmus and recurrent gastro-enteritis, but breast fed babies are for the most part much healthier, and breast feeding may continue for up to two years after birth. However after this many develop kwashiokor, and such children fill most of the children's ward.

Malnutrition also contributes to the illnesses of many adults. Classical vitamin deficiencies: beri-beri, rickets, scurvy, and especially pellegra, are seen. A curious disease, that may have a nutritional origin is cryptogenic endomyocardiopathy, the commonest heart disease in the South African Bantu: the patient presents with heart failure and an enlarged heart, but no cause for this can be found. Other common diseases are rheumatic heart disease, tuberculosis pericarditis and peritonitis, cirrhosis, nephrosis and pneumonia.

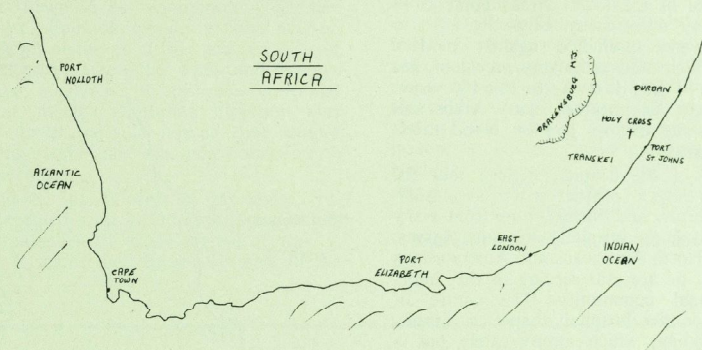
The full obstetric potential of the hospital is as yet unrealised, because the Pondo women prefer a home delivery. This leads to many admissions of women in abnormal labour, and a steady flow of ruptured uteri and vesico-vaginal fistulae. However the number of booked maternity cases is rising.

There is a well equipped operating theatre which is kept fairly busy. A great variety of procedures is performed, including: craniotomies, cataract extractions, mastoidectomies, pelvic floor repairs, athrodesis of knees and hips, partial thyroidectomies, radical mastectomies and skin grafts.

HOSPITAL STATISTICS 1966

Outpatients (hospital and outlying clinics)	44,134
In-Patients	3,807
Maternity: ante natal	1,360
confinements	485
Operations (major and minor)	1,447
X-ray investigations	9,212

As in other mission hospitals, the doctor must be a "Jack of all trades"; the variety of the work is one of the chief fascinations. The medical missionary may be compared with the



2 E.M.M.S. HOSPITAL, NAZARETH visited by P. A. Dieppe

Nazareth is situated in the Galilean hills of northern Israel. To the south lies the plain of Esdraelon: battle-field of the Old Testament; to the east is the Sea of Galilee: where Christ began His ministry on earth, healing the sick and proclaiming the Kingdom of God, a ministry which the hospital hopes to continue.

The town, with a population of 30,000, lies within a girdle of cyprus covered hills, 1,600 feet above sea level. On the northern slopes, overlooking the centre of Nazareth, one finds what the Arabs call the "English Hospital". In fact it is a Scottish Hospital, founded in 1861 and supported by the Edinburgh Medical Missionary Society. The present hospital superintendent explained that the two main aims of the mission are: first and foremost to spread the Gospel of Jesus Christ; secondly to provide a medical service.

How are these aims achieved?

The patients are exclusively Israeli Arabs. They are the people who elected to stay in

old-style G.P. who had to treat all cases that came to him. The advantages brought by the advances in drugs and intravenous therapy make the opportunities in such a hospital enormous. This is true not only in South Africa but in all countries where there is a shortage of qualified staff.

To work in this type of hospital a doctor must be competent, well-balanced and able to live away from the bright lights. He does not of necessity have to be a Christian, but Holy Cross is a mission hospital, and all the work there is done in Christ's name.

Galilee when the State of Israel was founded in 1948. Although their standard of living has risen under Jewish government, many Arabs still live in very poor conditions, and lack access to State hospitals. The mission hospitals thus provide a very necessary medical service in Arab areas of Israel, such as Nazareth.

About half of the 120 beds are occupied by maternity cases; the 3,000 births which take place in the delivery room each year reflect on one of the major activities in an Arab home! The Moslem women are delighted with the treatment given—an analgesic seems to be more effective than a prayer to Allah; and they are also given a financial stimulus by the Israeli government to spend their confinements in a hospital.

In the other wards one might find almost anything. However the urological system is the most often diseased in Nazareth: urinary infections and calculi are extremely common. Heart disease, ulcers and appendicitis are all

rare by English standards; perhaps because of nutritional differences in the two countries. Squints—for some unknown reason—are found in nearly all the local Arabs.

In the children's ward cases of pneumonia, gastro-enteritis and multiple burns are often seen. The mothers, anxious for the care of their children are allowed to stay in the ward as much as they like, and blankets are provided for those who choose to curl up on the ward floor for the night.

Outpatient clinics are held three times a week in the hospital, and there is also a clinic in the centre of the town. Arabs come from villages many miles away, often by foot, to attend. Adverse prejudice against modern medicine, which used to be very prevalent, has largely been broken down in the last 100 years; but it has not disappeared; many Arabs still believe that the doctors live on blood taken from their patients.

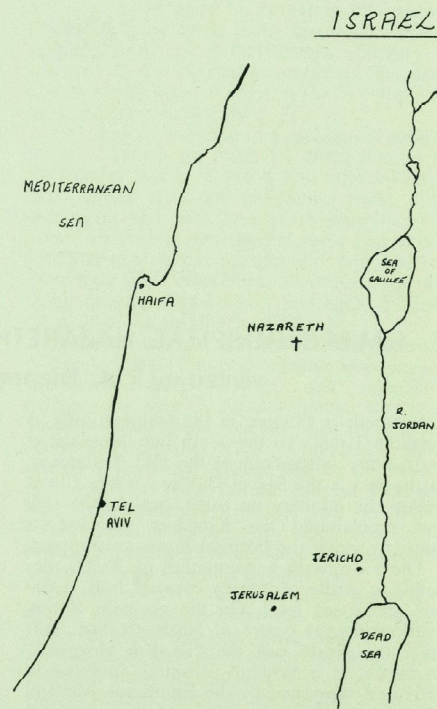
The staff of the hospital believe that the local people have a spiritual as well as a medical need. Doctors and Nurses come from many lands to work in the hospital: Africans, Asians, Europeans, North Americans and Australasians have served, or are still serving in this inter-denominational community. The centre of their work is the hospital chapel, a simple, modern building, which appropriately has a carpenter's bench for an altar. Daily services are held for the nursing staff, the majority of whom are Arabs from Moslem homes; many have come to believe in the saving power of the risen Christ in these services. While one of the doctors leads the chapel service, others are conducting short prayer and Bible Study sessions in the wards. Similar services are often held in the out-patients waiting room, for non-medical workers on the site, and for anxious relatives prior to an operation.

An attempt is also being made to preach the gospel outside the hospital walls. Parties of Christians make regular visits to nearby villages and homes, the initial contact having been made through an ex-patient or one of the Arab nurses. The training that is provided for the nurses and midwives is an important aspect of the work; in this way the hospital can act as a focus for the spread of healing in body, mind and spirit, of the Israeli Arabs. Training is also provided for young doctors who spend a short time in Nazareth before entering missionary service in other lands.

Missionary work brings many problems: the language barrier, superstition, an unusual

climate, and the children's education are but a few that affect these in Nazareth.

But doctors and nurses continue to apply for work there, believing that it is their duty to God to heal the sick and preach the gospel of Jesus Christ, to a people who might otherwise be deprived of these ministries.



ARS LONGA

THE ROYAL ACADEMY WINTER EXHIBITION ON 18th CENTURY FRENCH ART

Dianas, pheasants, cupids, ample bosomed ladies of aristocracy, classical ruins and dogs, these form the great part of the subject matter of the current exhibition at the Royal Academy.

The impression left is that the 18th century in France must have been a good one to live in were one an aristocrat. Art and the aristocracy are shewn to be synonymous. The idea of the artist's function appears to have been to project scenes of the good life, and portraits of worthy ancestors upon the walls and ceilings of country mansions, to produce congenial degrees of nicety. Doubtless digestion was thereby bettered and such joie de vivre around the drawing room walls was most conducive to after-dinner ease.

As a whole, this flourish of gay levity, frequently executed with an admirable technique, is hardly balanced by any elements of gravity, one feels. It seems that the involvement of the

artist is only skin deep thereby appealing to too sparse a spectrum of the onlookers' faculties for an holding interest. Perhaps this is the result of the obviously well set taste of the day, and the financial obligation of the artist to fulfill that taste. One learns for example, that Oudry was "Painter of animals and hunts", to Louis XVI. Possibly his heron bearing an extraordinarily aristocratic air of dignity, would have turned out a more wide-swept, substantial and less courtly a bird in different circumstances.

Having said this, it is unlikely that the visitor will not find a good number of the thousand or so pictures on show to his interest. Of special interest, I think, are Watteau's drawings which achieve great expression with a refreshing simplicity of line, as his splendid "seated figure of and old Savoyard", a wary old peasant, contemplating the scene. To be mentioned are Boucher's Nudes, sensuous par excellence, Herbert Roberts's delightful architectural scenes and De Troy's classical landscapes abounding in "nymphs of the Stream".

The entry fee is 5s. for students, otherwise 10s.

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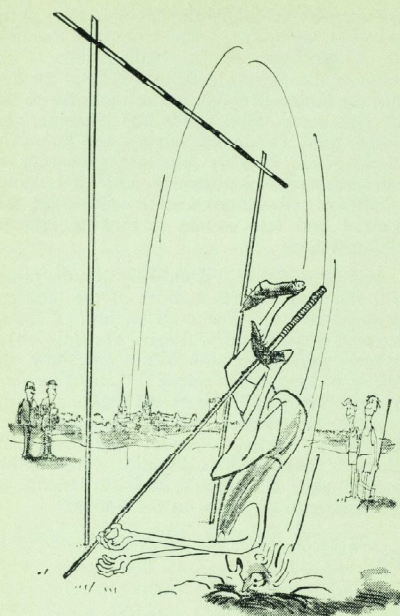
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St. B.H.J., April, 1968

ROY LICHTENSTEIN, TATE GALLERY. 6th January to 4th February.

The chasm which for so long has split the commercial from the pure in art is fast disappearing. Enmity, it seems, is fading as hatchets become buried by the current wave of Pop Art. To some, the Pop Art movement is yet one more despicable development along the path towards anti-art while others see it as a welcome return towards outward observation of our environment when so much of art has become introspective and unrealistic. The work of Roy Lichtenstein, recently on view at the Tate Gallery might for these reasons have either filled you with wild enthusiasm or sent you rushing to take refuge in the apparent sanctity of the National Gallery.

Lichtenstein, like many artists, remained creatively stagnant until his late thirties when he made a complete break with his previous imagery and adopted a style that has undoubtedly been responsible for his rise to fame. Since 1961, Lichtenstein has turned out a steady stream of strip-comic imagery which dominates his style. Restricted use of colour, thick black outlines and dotted halftones are all utilised in graphics for reasons of economy but have provided Lichtenstein with the essentials of his art form. More recently, he has turned towards three-dimensional forms which are also represented in the present exhibition. One such work, "Standing Explosion", perhaps gives the clearest expression of Lichtenstein's interest in giving a static form to something of which in its original state is in constant flux. His most recent paintings and modern sculpture seem to reflect decorative motifs associated with the 1930s and, although more original than the comic-strip imagery, somehow lack the excitement and expressiveness of the earlier works. But throughout the exhibition one could not help wondering if, after the present frenzy has died down, these works will be received with rather more whimsical regard.

Roger Rolls

CAMEO-POLY . . . Dr. Faustus

Richard Burton had much to do with the making of Marlowe's "Dr. Faustus" and naturally enough or unnaturally, Burton monopolises the film. In conjunction with "you know who", and the Oxford University Dramatic Society, he sets out to portray how Faustus sells his soul to Lucifer, and the trials and temptations that he experiences. The film is in colour, and despite Burton's acting capabilities, lacks conviction.

The Oxford students spend much of their time acting out the seven deadly sins, and though their disguises are elaborate, it would have been better if the greater part of Hell's attractions were left to our imaginations. Elizabeth Taylor appears monotonously as the form taken by those legendary beauties of whom Faustus has read and desires. A convincing performance of Mephistopheles is one of the few redeeming features of this film, which ends with Faustus succumbing to Hell's torture and the caresses of Miss Taylor.

EDGWARE ROAD ABC . . . Poor Cow

While the impact of "Seventeen" is being felt, we have another film which freely expresses the sex, the life and the sex of a lower-class girl who is unhappily married to a "lay-about". Carol White and Terence Stamp are the two principal leads of the film, but well supported by several equally competent actors, and the film is great fun. Carol White, as the girl who married at eighteen " 'cause she 'ad to", finds herself badly treated by her husband, who after only a few minutes' introduction is "nicked" for thieving and subsequently "jugged". One of the family's friends (Terence Stamp) strikes up a semi-successful relationship with Carol White—and kid—and amid some kitchen-sink filming there are some very amusing scenes. These include an insight into the frustrations of a post-menopausal (quote) aunt in whose house part of the production takes place. However, in his determination to please his new-found love, Terence Stamp gets "put away" for twelve years and so his lady-love has more than one night in which to remain alone! The film goes on to show how impossible it is for this girl to remain unsatisfied, and in an effort to find company, she resorts to modelling, being a barmaid, and in general having affairs with anyone she meets, and with whom she shares a mutual desire! This part of the film drags slightly probably because the dialogue is weaker here than elsewhere. The film ending is inconclusive, but not unnatural. I would recommend anyone going to see it, if only to see a baby horn!

ACADEMY 2 . . . Dutchman

This film has had much publicity with the controversy of the colour problem in the States. Adapted from Lee Ray Tape's novel, it depicts the white attitude toward the negro.

The whole film takes place in the carriage of one of New York's subway trains travelling across Manhattan. A young negro businessman is mildly surprised to find himself being picked up by the only other passenger in his carriage—

a mini-skirted girl of about 25. Unused to being seduced by any white girl he is initially resistant, but through persistence on the girl's behalf he admits to his good fortune and prepares himself.

As the film proceeds, it becomes apparent that this is not a simple seduction and the relationship is, at times, extremely strained. Unknown to the Negro this girl has an abhorrence of his race.

The carriage is still empty, as the web which

this girl is spinning becomes more clear. Encouraging her companion in every way she leads him unsuspectingly to his fate. As the train fills with other passengers she begins, for the first time, to taunt him with his colour. At first amused he tries to cover his loss of pride, but as her taunting increases he becomes increasingly irritated. The way in which this film ends and the final outcome of these two people is very moving indeed (!)

Chris Nixon



From Yalta to Vietnam, by David Horowitz.
Penguin Special. Price 10s. 6d.

"In front of us a curious figure was standing . . . no longer covered in skin, but with a crust-like crackling which broke easily."

Thus David Horowitz describes the gruesome reality of the heating up of the cold war, this time with napalm in Vietnam.

The book is in three sections, part one contains an account of the formative period of the cold war in Europe. It examines the adequacy of the consensus view that sees U.S. Policy as primarily a response to the thrust of remorseless Soviet Expansion. Part two traces the principal actions of the U.S. cold war programme from Korea to Cuba, underscoring the failure of U.S. policy to conform to its generally supposed intentions. Finally part three reviews the major influences of policy on these events and on the present phase of the cold war, namely the evolution of U.S. approaches to the Soviet Union and to the problem of a divided Europe in the post-war world.

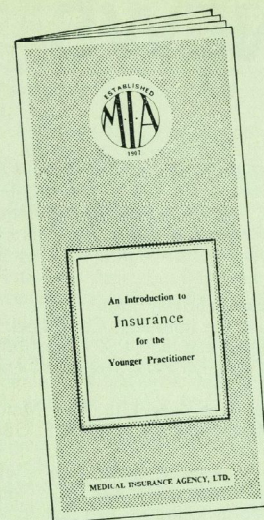
Mr. Horowitz's book, written in a crisp, pithy style, in an eye-opener which should not be missed by anyone interested in recent history or modern politics.

Ian Crabbe

The Penguin Car Handbook, by Robert Ireson.
Revised Ed. 1967. Price 8s. 6d.

There are two extremes of car owner: one uses his car for driving from place to place entirely ignorant of the whining wonders beneath the bonnet; the other, whose fingernails are never quite free of marginal discoloration, lives only to grapple with gaskets and gudgeon pins and to whom the sound of big-ends knocking is as challenging as a heart murmur to a cardiac surgeon. The PENGUIN CAR HANDBOOK can find a place in the hands of either. This new edition has a full account of motor car anatomy and physiology which on the one hand provides the uninitiated with a powerful weapon against the boredom of car conversations and, on the other, against scrupulous garages.

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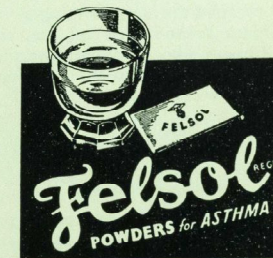


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SPORTS NEWS

RUGBY CLUB

Our record has suffered somewhat since the beginning of the year and now stands at:

P. 26, W. 12, D. 4, L. 10. Points: For 273, Against 240.

(Despite the persistence of *The Times* in attributing us with an additional win). Now that we have no interests left in either of the Hospitals Cup Competitions we must look forward to improving our Record and to achieving success in the various Seven-a-Side competitions which we hope to enter.

Saturday, January 27th:

Old Whitgiftians 17; Bart's 3.

Saturday, February 3rd:

Old Merchant Taylors 14; Bart's 3.

Tuesday, February 6th: Cup Match.

St. Bartholomew's Hospital 9; St. Thomas's Hospital 3.

This Second Round victory by a penalty goal, a dropped goal, and a try against a try heralded yet another Cup win on the 'near sacred' soil of Teddington.

Our prominent weakness against St. Georges was the lack of a kicker. The inclusion of Barry Cassidy, who was judged fit after a finger injury, and came into the team in place of the injured Dave Jefferson remedied this failing more than adequately.

Bart's made a bad start with the St. Thomas's right winger scoring after only three minutes, due to a mis-tackle in the centre. However, moments later Cassidy seized his opportunity and landed a penalty goal from far out on the left. Inspired by this Bart's launched into attack. Possession was unlimited due to the fast striking front row and the good jumping of John Carroll and Mark Britton good use was made of this with Cassidy's boot gaining huge slices of territory. St. Thomas's ardent covering and hard tackling prevented any scoring.

Half-way through the second half with a replay looming up Elwyn Lloyd won yet another scrum and Cassidy had sufficient time to drop a goal from the twenty-five.

Finally Nick Fairhurst, who gave a magnificent display in controlling Howard Steer in the tight scrummages, caught the ball from a 25-

yard drop-out and exercised a neat kick over the heads of the opposition. Graham Hopkins was in support to pick up the ball, only to be tackled one yard from the line; John Carroll was not far behind in order to score in the corner.

Saturday, February 10th.

Due to the imminent Cup Match the 1st XV were rested and the 'A' XV substituted for them against Rosslyn Park Stags. Unfortunately they lost by 42-0.

Tuesday, February 13th. Cup Match.

St. Bartholomew's Hospital 3; Guy's Hospital 9.

'Bart's provided Guy's with a searching test of their capabilities, and were somewhat unfortunate in losing by two penalty goals and a try to a penalty goal'.

The Hospital were blessed with the conditions they must have all been praying for. The slow drizzle and the wet ball kept play away from the fast running Guy's threequarters, and so the battle was up front where Bart's thought they might match the successful Guy's XV.

The ferocity with which the Bart's forwards started off, combined with Cassidy's boot, soon disrupted any cohesion Guy's might have had and reduced their possession to a minimum. Rees, Lloyd and Fairhurst were striking successfully, Carroll's and Britton's jumping and weight were superior. The back row, Fenton, McIntyre and Mason, were defending well and tackling hard, and they were always in support of any threequarter movement which got underway. In a similar vein to last year's Cup match against the Westminster, Bart's failed to score despite this forward superiority.

The one failure of the Bart's team was the reluctance to fall on the ball, with the possible exception of Nick Packer whose actions relieved several potentially dangerous situations. This failing led to the Guy's try when Rowlands, the Fly-half, grubber-kicked through the opposition and Thorburn was swiftly up to help continue the rush to the goal-line.

Cassidy converted his second attempt at goal, thus the scores at half-time were level 3-3. Two

penalties in the second half gave Guy's their nine points, the latter penalty disheartened the Bart's team—until this doubtful decision a win seemed possible. In the last few minutes of the game hard won possession was wasted by senseless kicking.

Wednesday, February 14th. Junior Cup Match.

Bart's 'A' XV 0; St. Thomas's 'A' XV 5.

Within two days any hopes of Cup success in 1968 were shattered.

St. Thomas's scored late in the first half. In the second half, having had the advantage of wind and slope, they fought off several attacks upon their line, thus depriving Bart's an opportunity of revenge against Guy's for the previous day's defeat of the 1st XV.

The forwards were fairly evenly matched with neither side obtaining an excess of possession, however Tommy's rucked back the ball from a loose maul near the Bart's line, a forward grasping the ball charged round the blind side and was helped over the line by the weight of several forwards in support.

Several dangerous attacking moves by St. Thomas's threequarters were soon thwarted by excellent hard tackling by the centres Simon Smith and Duncan Jefferson. Andy Garety had

SOCCER CLUB REPORT

7th February v. Royal Holloway College (Away). Lost 1-3.

Playing with an understrength team on a pitch ankle deep in thick mud, Bart's found the going very tough. In the early stages of the game Bart's were often caught in possession and the defence was in great trouble. Quinn in goal brought off a couple of spectacular saves and the rest of the defence booted its way out of trouble. However, after hitting the post, R.H.C. went ahead just before half-time. Bart's started the second half with a lot of determination and Woodrow was unlucky with a fierce shot that hit the bar. The equalising goal came shortly after; Leech was pulled down on the edge of the box and from the free-kick Ellis lobbed the ball through for Knight to head home. A draw looked the likely result until the last five minutes when R.H.C. attacked resolutely and Bart's defence cracked twice.

10th February v. Westminster Hospital (Away). Lost 0-3.

This was one of the poorest team displays that Bart's have produced all season. The attack never showed any sign of being able to penetrate a moderate opposition defence and the defence was like a sieve! Quinn in goal had another fine game and was unlucky not to save

a good game at hooker gaining enough possession to allow Clive Grafton to give an adequate service to the threes. Guy Baker showed dexterity in catching the one or two balls which went astray.

Saturday, February 17th:

Old Millhillians 31; Bart's 6.

It is hard to believe the half-time score 3-3, especially as there was no wind or slope to be taken into account. Perhaps 'post cup lethargy' and exhaustion would be a kind explanation of the dismal and quite uncharacteristic performance given in the second-half. In the first twenty minutes of the game the Bart's play was full of confidence, but yet again they were unable to finish this spell with more than three points to their credit.

Saturday, February 24th:

Kenilworth 11; Bart's 3.

Bart's won the toss and chose to fight against a fairly strong wind. Kenilworth were able to score their eleven points by half-time from two tries and a drop-goal. They held Bart's to three points in the second half, a try by a second row forward.

Saturday, March 2nd:

Streatham 14; Bart's 6.

a penalty following hands; that he only let in three goals is in itself a tribute to his ability.

Much more fight and determination is needed from all players if the team is to get back to its winning form.

14th February v. St. George's Hospital (Home). Drew 1-1.

This was a hard fought match with good football coming from both teams. In the first half, Bart's pressed strongly and the attack had a number of chances to capitalise on the mistakes of the George's defence. Bart's defence had a number of narrow shaves and the ball was scrambled away on a number of occasions. Bart's scored from what was probably the best move of the match; Skanderowicz collected the ball in his own half and beat his full-back before putting over a fine centre which was trapped by Woodrow, who neatly lobbed the ball forward for Knight to head strongly into the net. The second half saw George's come out attacking strongly and anxious to preserve their two-month unbeaten record. This they duly did ten minutes before the finish after meeting the Bart's defence in resolute mood. In the closing minutes Bart's caught the George's defence flat-footed and in a breakaway nearly smashed the winner.

GOLF CLUB

Bart's v. College of Estate Management. 14th February at Chislehurst Golf Club. Lost 1½-2½.

This was our first fixture of 1968. Playing at Chislehurst in cold wintry conditions, we fielded a side that was somewhat depleted. Despite this the matches were very close and the day ended enjoyably at the 19th.

The highlight of the day was without doubt Jake Macinnons hole-in-one at the 203-yard 8th. Unfortunately, the conditions of the day

prevented him from having the great pleasure of seeing the ball drop into the hole.

Results:

- A. Hoppe, Won, 1 hole.
- J. Macinnon, Lost, 3 and 2.
- J. Sadler, Halved.
- B. Tingey, Lost, 2 and 1.
- A. Edwards, Lost, 2 and 1.

A. D. L. Hoppe

HOCKEY CLUB REPORT

Interest in the Hockey Club fixtures of the months December and January, was naturally focussed upon the team's progress in the two cup series: United Hospital's Cup and the University of London Cup. Successful progress in the latter developed as follows:—

U.L.U. Cup (Quarter Final)

Wednesday, 29th November, 1967. Friendly rehearsal v. Imperial College (away). Won 5—1.

A well co-ordinated Bart's (but not our strongest cup side) dominated 'I.C.' throughout the game, goals coming from S. Thomas, N. Houghton, R. Barclay, G. Benke and P. Curry.

This appeared a promising pointer since it was this team which was to oppose us in the quarter final of the U.L.U. Cup.

Wednesday, 13th December, 1967. Cup match v. Imperial College. Drawn 0—0.

No score even after 15 minutes extra time in failing light on our own ground.

Wednesday, 17th January, 1968. U.L.U. Cup Replay v. 'I.C.' Won 1—0 (away).

The afternoon held the tension of an International match at Twickenham echoed in the determination, secretly simmering in the minds of all players that victory would be theirs: in the presence of the personal support of President and Vice-President of the club and, even in the streamered toilet roll adorning the pitch (however, that was the secretary's personal cultural problem—Salmonella***).

Our deciding goal came from R. Barclay ruthlessly defeating their goalkeeper in a per-

sonal battle for the loose ball in the first half. This lead was not convincingly challenged in the second half. (Semi-final, March—support sincerely appreciated).

United Hospitals Cup (Replay) v. St. Mary's Hospital. 15th December, 1967. (Home). Lost 2—1.

Hopes of a double-cup dashed!

We wouldn't have minded, but if there's one Hospital we begrudge being "lucky", it's . . . Good goal from St. Thomas.

Other Matches:

v. Rochester and Gillingham, 1st December, 1967, at Crystal Palace. Won 2—1.

The style of our play is such that on this occasion the smooth, hard (ill-floodlit) surface favoured our performance. D. Edmondson 1, A. Barclay—short corner rebound 1.

v. National Provincial Bank, 2nd December, 1967. (Home). Won 3—2.

Goals: D. Edmondson 2, Short corner 1.

v. Tulse Hill Wanderers, 16th December, 1967. (Home). Won 2—1.

Goals: D. Edmondson 2, Short corner 1.

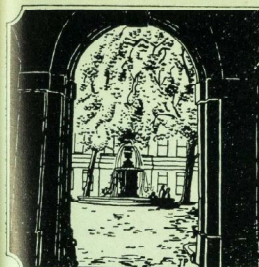
v. Britannic House, 6th January, 1968. Lost 4—3. Xmas rust???

Goals: R. Barclay, P. Curry, Short corner 1.

v. Belvedere H.C., 20th January, 1968. (Home). Lost 2—0.

An excellent game evoking hard play. Welcome victors.

P. V. L. Curry



Saint Bartholomew's Hospital

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