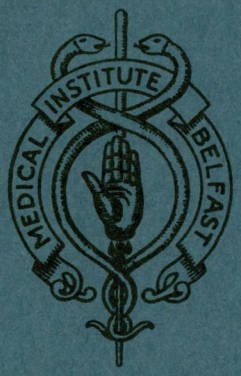
SEPTEMBER 1965

THE ULSTER MEDICAL JOURNAL



PUBLISHED BY
THE ULSTER MEDICAL SOCIETY

HOSPITAL SERVICES

Sole Northern Ireland Distributors for

A. E. DEAN X-Ray Equipment

EXAL Electronic & X-Ray Applications Ltd.

GENITO Urinary Manufacturing Co. Ltd. for Urology and Cardio-Vascular and Thoracic Surgery Instrumentations

CARDIAC RECORDERS LTD. for Cardiac Rescuscitation Equipment

E. D. L. INDUSTRIES LTD. for White Star Hospital Lighting

All types of Medical Electronic Equipment

Backed by Competent After-sales Service

Phones 20345 and 29977

OFFICES AND SHOWROOMS:

169 UNIVERSITY STREET

BELFAST 7

.....19.....

To DR. W. BINGHAM,
7 STRANGFORD AVENUE,
BELFAST, 9.

Dear Sir,

We nominate for $\frac{\textit{Fellowship}}{\textit{Membership}}$ *of the Ulster Medical Society—*

Name of Candidate .....

Postal Address

Year of Qualification and Degrees .....

.....

Signature of Proposer .....

Signature of Seconder .....

BANKER'S ORDER

(ULSTER MEDICAL JOURNAL)

.....19.....

Name of Bank .....

Address of Bank or Branch .....

Please pay to the account of the Ulster Medical Society (Northern Bank, Shaftesbury Square, Belfast), ULSTER MEDICAL JOURNAL *Account, the sum of fifteen shillings, and continue to pay this amount on the 1st November each year until further notice.*

SIGNATURE..... 2d. STAMP .....

ADDRESS..... .....

This should be sent to the Honorary Treasurer, DR. W. BINGHAM,
7 Strangford Avenue, Belfast, 9, for registration.

ACUTE SINUSITIS/BOILS/CARBUNCLES/INFECTED ACNE/OTITIS MEDIA/PHARYNGITIS/
SCARLET FEVER/FOLLICULAR TONSILLITIS/SEPTIC THROAT/ACUTE STREPTOCOCCAL
THROAT/INFECTED WOUNDS/BREAST ABSCESS/TOOTH ABSCESS/SUBCUTANEOUS
ABSCESSES/FURUNCULOSIS/HIDRADENITIS SUPPURATIVA/PYODERMA/IMPETIGO/
ACUTE SINUSITIS/BOILS/CARBUNCLES/INFECTED ACNE/OTITIS MEDIA/PHARYNGITIS/
SCARLET FEVER/FOLLICULAR TONSILLITIS/SEPTIC THROAT/ACUTE STREPTOCOCCAL
THROAT/INFECTED WOUNDS/BREAST ABSCESS/TOOTH ABSCESS/SUBCUTANEOUS
ABSCESSES/FURUNCULOSIS/HIDRADENITIS SUPPURATIVA/PYODERMA/IMPETIGO/
ACUTE SINUSITIS/BOILS/CARBUNCLES/INFECTED ACNE/OTITIS MEDIA/PHARYNGITIS/
SCARLET
THROAT/
ABSCESS
ACUTE SI
SCARLET
THROAT/
ABSCESS
ACUTE SI
SCARLET
THROAT/
ABSCESS
ACUTE SI
SCARLET
THROAT/
ABSCESS
ACUTE SI
SCARLET
THROAT/
ABSCESS
ACUTE SI
SCARLET
THROAT/
ABSCESS
ACUTE SI
SCARLET
THROAT/
ABSCESS
ACUTE SINUSITIS/BOILS/CARBUNCLES/INFECTED ACNE/OTITIS MEDIA/PHARYNGITIS/
SCARLET FEVER/FOLLICULAR TONSILLITIS/SEPTIC THROAT/ACUTE STREPTOCOCCAL
THROAT/INFECTED WOUNDS/BREAST ABSCESS/TOOTH ABSCESS/SUBCUTANEOUS
ABSCESSES/FURUNCULOSIS/HIDRADENITIS SUPPURATIVA/PYODERMA/IMPETIGO/
ACUTE SINUSITIS/BOILS/CARBUNCLES/INFECTED ACNE/OTITIS MEDIA/PHARYNGITIS/
SCARLET FEVER/FOLLICULAR TONSILLITIS/SEPTIC THROAT/ACUTE STREPTOCOCCAL
THROAT/INFECTED WOUNDS/BREAST ABSCESS/TOOTH ABSCESS/SUBCUTANEOUS
ABSCESSES/FURUNCULOSIS/HIDRADENITIS SUPPURATIVA/PYODERMA/IMPETIGO/
ACUTE SINUSITIS/BOILS/CARBUNCLES/INFECTED ACNE/OTITIS MEDIA/PHARYNGITIS/

a chemically distinct antibiotic

Lincocin

outstanding in common Gram-positive infections

available:

Lincocin Capsules – Each capsule contains 500 mg. lincomycin (as lincomycin hydrochloride monohydrate) in bottles of 12 and 100.

Lincocin Sterile Solution – Ampoules (2 ml.) 600 mg. Each 2 ml. ampoule contains 600 mg. lincomycin (as lincomycin hydrochloride monohydrate).

New raspberry-flavoured syrup

Lincocin Syrup – Each 5 ml. contains 125 mg. lincomycin (as lincomycin hydrochloride monohydrate) in bottles of 60 ml.

TRADEMARK: LINCOCIN GB 3305.1

UPJOHN LIMITED **Upjohn** CRAWLEY • SUSSEX

CONTENTS

Editorial Board

PROF. J. H. BIGGART, C.B.E., M.D., D.SC., F.R.C.P.(LON.), F.C.PATH.
PROF. C. H. C. MACAFEE, C.B.E., D.SC.(HON.), M.B., F.R.C.S.(E. AND I.), F.R.C.O.G.
PROF. H. W. RODGERS, O.B.E., M.D., F.R.C.S. (ENG.).
PROF. G. M. BULL, M.D., F.R.C.P.(LON.).
DR. ROBERT MARSHALL.

Hon. Treasurer

W. BINGHAM, M.D., F.F.A.R.C.S.

Hon. Editor

J. E. MORISON, M.D., D.SC., F.C.PATH., The Laboratory, Belfast City Hospital, Lisburn Road, Belfast.

Fellows and Members of the Ulster Medical Society receive the Journal Free. Subscriptions to non-members, fifteen shillings annually.

CONTENTS

Editorial Board

PROF. J. H. BIGGART, C.B.E., M.D., D.SC., F.R.C.P.(LON.), F.C.PATH.
PROF. C. H. C. MACAFEE, C.B.E., D.SC.(HON.), M.B., F.R.C.S.(E. AND I.), F.R.C.O.G.
PROF. H. W. RODGERS, O.B.E., M.D., F.R.C.S. (ENG.).
PROF. G. M. BULL, M.D., F.R.C.P.(LON.).
DR. ROBERT MARSHALL.

Hon. Treasurer

W. BINGHAM, M.D., F.F.A.R.C.S.

Hon. Editor

J. E. MORISON, M.D., D.SC., F.C.PATH., The Laboratory, Belfast City Hospital, Lisburn Road, Belfast.

Fellows and Members of the Ulster Medical Society receive the Journal Free. Subscriptions to non-members, fifteen shillings annually.

THE ULSTER MEDICAL JOURNAL

NOTICE TO CONTRIBUTORS

1. Authors are reminded that concise and clearly expressed papers are those most welcomed by readers and by the Editorial Board.

2. Manuscripts should be typewritten with double spacing and with wide margins. They should be fully corrected, and contributors will be responsible for the payment of any sum charged for alteration in printer's proof in excess of ten shillings per sheet (16 pages).

3. References should be given as in the publications of the British Medical Association and in most other modern British journals. If contributors are uncertain of the correct abbreviation for the title of any journal, as given in the World List of Scientific Periodicals, they should give the full title.

4. Tables and illustrations should be reduced to a minimum, and should be sent detached from the typescript of the paper. Line drawings should be used whenever possible. All illustrations must be in a finished form ready for reproduction. Authors will be charged for all blocks at cost price. Half-tone blocks require to be printed on special art paper. Authors will be responsible for the cost.

5. Orders for reprints must be given when the author returns the printer's proof. The cost of these may be obtained from the printers in advance.

6. Editorial communications should be sent direct to the Editor, Dr. J. E. Morison, D.SC., M.D., The Laboratory, Belfast City Hospital. The Editor will be glad to advise authors on the preparation of their manuscripts.

ADVERTISEMENTS

First advertising forms go to press thirty days in advance of the date of issue. In forwarding copy, time must be allowed for setting up and submitting proof. All communications for space must be sent to:

H. A. CRICK, 6a Victoria Avenue, Whitehead, Co. Antrim.
Telephone: Belfast 24807.

Mr. Crick has been appointed the sole representative of The Ulster Medical Journal.

DATES OF PUBLICATION

It is hoped to issue two numbers each year: in September and in January.

THE ULSTER MEDICAL JOURNAL

Dear Sir (or Madam),

If you are not a member of the Ulster Medical Society, we would appeal to you to give the question of joining your consideration. The Society has been in existence since 1862, and has always been active in keeping its members interested in the advances in medical science. Meetings are held at intervals of a fortnight during the winter months, and papers are contributed by members and distinguished guests. Facilities are provided for doctors to meet informally afterwards and have a cup of tea. *The Ulster Medical Journal, the official organ of the Society, is issued to all Fellows and Members free of charge.*

May we, therefore, appeal to you to join the Ulster Medical Society, and so enable us to widen its influence and sphere of usefulness still further? A proposal form is appended: your proposer and seconded must be Fellows of the Society.

If you do not wish to become a member of the Society, will you consider entering your name as a subscriber to THE ULSTER MEDICAL JOURNAL? The subscription is fifteen shillings per annum, payable in advance to the Honorary Treasurer.

We remain,

Yours faithfully,

KATHLEEN M. CATHCART, *President.*
D. MILLAR BELL, *Hon. Secretary.*
W. BINGHAM, *Hon. Treasurer.*

MEMBERS **£1. 1s.** (A Member is one who is less than seven years qualified. He or she will automatically become a Fellow seven years after qualification and be liable to the higher subscription rate.)

FELLOWS.—1 (a) Annual subscription of Fellows resident, practising or holding an appointment within ten miles of Belfast, **£3. 3s.**; (b) husbands and wives in the above category who are both Fellows will be entitled to pay a combined subscription of **£4. 4s.**; 2 (a) annual subscription of Fellows resident, practising or holding an appointment outside the above area, **£2. 2s.**; (b) husbands and wives in the above category who are both Fellows will be entitled to pay a combined subscription of **£3. 3s.**; 3, annual subscription of retired Fellows, provided that any Fellow who, by reason of retirement either through age or illness, is no longer engaged either in private practice or in salaried employment, shall be entitled, *on application,* to pay an annual subscription of **£1. 1s.** only, and provided always that such Fellow has previously paid to the Society a subscription at the current rate for an uninterrupted period of at least ten years, or during such time has been in practice or service abroad.

LIFE MEMBERSHIP.—Fellows and Members shall be eligible to become Life Members,

.....19.....

To DR. W. BINGHAM,
7 STRANGFORD AVENUE,
BELFAST, 9.

Dear Sir,

We nominate for $\frac{\textit{Fellowship}}{\textit{Membership}}$ *of the Ulster Medical Society—*

Name of Candidate .....

Postal Address

Year of Qualification and Degrees .....

.....

Signature of Proposer .....

Signature of Seconder .....

BANKER'S ORDER

(ULSTER MEDICAL JOURNAL)

.....19.....

Name of Bank .....

Address of Bank or Branch .....

Please pay to the account of the Ulster Medical Society (Northern Bank, Shaftesbury Square, Belfast), ULSTER MEDICAL JOURNAL *Account, the sum of fifteen shillings, and continue to pay this amount on the 1st November each year until further notice.*

SIGNATURE..... 2d. STAMP .....

ADDRESS..... .....

This should be sent to the Honorary Treasurer, DR. W. BINGHAM,
7 Strangford Avenue, Belfast, 9, for registration.

THE
ULSTER MEDICAL JOURNAL

PUBLISHED ON BEHALF OF THE ULSTER MEDICAL SOCIETY

Vol. XXXIV 1st SEPTEMBER, 1965 No. 1

SOME ASPECTS OF HOSPITAL PLANNING

By M. R. NEELY, M.B., F.R.C.S.(Ed.), F.R.C.O.G.
Ulster Hospital, Dundonald, Belfast

PRESIDENTIAL ADDRESS
to the Ulster Obstetrical Society

HOSPITAL PLANNING as the subject of a presidential address is presently not such an exotic topic as it might have been prior to the publication in 1962 of the Government's ten-year plan for hospital expansion. To-day, consequent on the appearance of the Ministry's voluminous notes on hospital building and equipment, much of the sense of adventure is missing. No longer should plans be shaped by the dogmatism, persistence, rigidity and perseverance of those chiefly involved. Future planning should depend not on the stubborness or strength of personality of the clinician, administrator or architect concerned, but upon scientific fact and estimate. The Ministry tells us what is required and how it is best achieved. When one realises, as Sir Edmund Comptom, the Controller and Auditor General has pointed out, that a non specialised hospital bed can cost anything from £16 to £50, a ward locker from £8 to £34, and that a new district hospital costs £8,000 per bed, the need for some guidance, if not control from the top is obvious. This stereotyped building may lead to a certain amount of conformity, but better plenty of simple, sound, utility type hospitals than some of the medical slums with which we are still saddled.

Design in Use

Additional assistance to hospital planners is now available in the critical appraisals of newly designed hospitals recently brought into use. Among the first of these was the locally produced survey of the Nuffield Wards in Musgrave Park. Other more recent publications are concerned with the Vale of Leven Hospital and New Guy's House. For instance, the report on the pneumatic tube communication system in New Guy's House shows that, while in America this system proved highly effective, chiefly for carrying charge chits and patients' bills between the treatment areas and the central accounts section, in this country it has only a limited use in transporting items other than paper, such as pathological specimens

and drugs. The annual running costs of £1,290 per annum would employ two porters who could perform more efficiently a much wider service than that supplied by the pneumatic tube, and whose employment could be economically much more easily justified, than the installation of a pneumatic conveyor at a cost of £21,000. One wonders if our local planners here in Northern Ireland had been aware of this adverse criticism when they incorporated pneumatic tube communication in the design for the new Belfast City Hospital?

A perusal of the Vale of Leven report highlights, amongst other things, the necessity for adequate accommodation for part-time employees, the need for storage space for patients' clothes, the importance of noise prevention in wards. the limited functional value of otherwise good cupboards wrongly sited, the uselessness of some types of bedpan cleaners, and a host of other items thought adequate in design but found to be wanting when in use.

The Current Phase of Flexibility in Planning

With all these sources of guidance now available one might anticipate that hospital planning in the future will become effortless and efficient. A great deal depends on the accuracy of the Ministry's calculations and the logic of their conclusions. That the Ministry's prophets are not infallible is shown by the sorry mess they made of estimating to-day's birth rate, and doubt is cast on the validity of their deductions by their current attitude to bed allocation.

The Ministry, one feels, has been unduly influenced by the dramatic changes that have occurred in the face of medicine over the last 20 years, especially by the upheaval that has occurred in the hospitalization of tuberculous, fever, and mental patients. The result is that they tend to over accentuate the need for flexibility in planning. Dr. Winner, Deputy Chief Medical Officer puts it—"change is likely to be continuous and accelerating and it is impossible to predict even ten years ahead how beds will be used and what services will be required," or to quote Enoch Powell, the late Minister—"the old hospital was built to last; the new hospital must be built to change. That means it must be so designed as to give the utmost freedom to regroup and modify the layout." It is perhaps pertinent here to quote from the Vale of Leven survey already mentioned—"when the hospital was planned, the importance of flexibility in design was stressed and changes in the number and disposition of the standard units was anticipated—yet no advantage has been taken of the possible variability of the accommodation." In one's own experience it is difficult to recall even one instance in any of the three main acute branches of medicine where a ward has been used for a different speciality, except as a very temporary and unusual expedient. This Ministerial mania for flexibility, if enforced, may well diminish the usefulness of ward blocks now being planned. All are made to a standard pattern, and all have exactly the same number of baths and water closets. An acute female surgical ward mirrors a chronic male medical ward and neither is adequate for its own particular purpose. We must resist this standardization of wards. We must impress on the Authorities that parthenogenesis is still only for the amoebae, and that for the foreseeable future, at least, the human female will be every bit as liable to impregnation as she has been in the past. The new morality might have her even more so. The Ministry must realize that the sequelae of parturition will be permanently with

us, and that our gynaecological wards will in time to come be required for gynaecology and not for some future hypothetical asexual illness conjured up by official dreamers.

Baths, bidets and ablutions play such a vital part in obstetrical and gynaecological practice that we should not accept standards thought to be adequate in other spheres—in the Nuffield Unit at Musgrave Park, for instance, 1 bath for 20 patients was considered quite satisfactory. A survey at the Ulster Hospital, Dundonald, shows that the minimum standard should be 1 bath for 6 patients, and preferably 1 for 4 exclusive of any facilities attached to single rooms.

In gynaecology the increased need for toilet facilities, occasioned by the difficulties in micturition subsequent to the trauma inherent in gynaecological surgery ought to be obvious. It seems, however, we must also underline this requirement for the planners and re-emphasise its particular necessity and claim a minimum of one water closet for every 4 patients. If the powers that be are not moved by the needs of the patient, they might be swayed by the saving of time by nurses relieved of unnecessary bedpan rounds.

Ward Shape

Ministry policy is contradictory with regard to the actual shape of the ward of the future, perhaps because of the impossibility, as yet, in equating the opposing factors involved in running costs. In the past, wards were designed on a few simple precepts regarding sanitation and hygiene. They functioned only because of a readily available supply of female labour, which although relatively cheap, nevertheless, accounted for about two-thirds of hospital running costs. The supply is drying up. Dr. Porter pointed out in the Lancet last year that where 100 nurses were available in 1957, there were only 96 in 1960, simply because of a reduction of working hours and longer holidays. Gradually also, nurses will have to be paid a wage commensurate with their ability and responsibility, so undoubtedly staffing costs will rise even higher. The design of wards, therefore, should achieve economy of nurses' time and movements.

The Yale index of ward efficiency is a method of analysis of ward traffic. This shows that wards with a simple circulation, with a straight Y, or T shaped corridor, are less efficient in this respect than wards with a compound circulation, that is with a round, square, race track or double corridor. In Hospital Building Note 17, the Ministry's attitude to this type of ward is summed up as follows: "There are certain operational advantages to semi-deep and some deep plan ward layouts, nevertheless, given their higher capital and running costs, specially engineering costs, these advantages do not constitute a case for the widespread adoption of deep plan wards in this country." It is difficult to reconcile this attitude with a statement by Enoch Powell, who said, "The achievements of the modern world have been won by putting more and more mechanical power at the command of more and more refined and specialised skill. The new hospital must be built around the central nervous system of the engineering services." Curiously enough the Scottish Home and Health Department are less conservative and much more adventurous, and are at present pioneering a deep rectangular experimental ward unit. This is the type of ward envisaged for the new Belfast City Hospital.

Day Space

A feature of the Scottish ward plan to be highly recommended is the breaking up of the day space into smaller units. The modern ward day-room is a tremendous advance, but it is not really adequate. It is a combined living, eating, writing, televiewing and visitors' room, suited to none of these activities, and not very popular with the patients of even to-day. It will certainly not come up to the standards they will expect in 10 years' time. In the Ulster Hospital spot checks taken at various times showed that only about 50% of those allowed up made use of the day space. A similar check in Musgrave Park a few years ago showed even a smaller percentage using the day-room. It would seem to be much more desirable to adopt the Scottish type plan, with dining facilities in each 4-bedded bay, a separate television room, and a room for reading and writing and other such silent activities. In this way nurses, who are taught the virtues of early ambulation, might have somewhere to ambulate their patients apart from the bathroom and back, and patients, of whom in obstetrics and gynaecology over 75 per cent. are mobile, would have some choice in the disposal of their leisure.

Factors Neglected in Current Planning

No building should be contemplated without considering the staff that will run it and the equipment that will go into it. The design of a building and its equipment are not separate operations—they go hand in hand and should be done by the same people. Too often the equipping of a building is not considered until after its design is completed, with most unhappy and expensive results.

Disposables.

As a generalization, in a time of difficult recruitment, reducing hours, and rising salaries, the widespread use of disposables, where these are competitive in price, will improve efficiency. Their cost must be balanced against the saving of staff time. The range, already wide, is expanding continuously. Each new item offered merits serious consideration, since no manufacturer can afford to market a product without high hopes of its success. The latest additions are disposable crockery, gowns, sheets and what the Americans call "chuck away nurses togs"—disposable theatre uniforms. Provision should be made for the increased storage space necessitated by the increasing use of disposable goods, and for their most economical collection and distribution.

Ward inventories, and the counting of linens to and from the laundry ought to be abolished. Each ward should have a standard issue stored on a mobile standard issue rack on which the various items are listed. Each day this quantity of linen is placed on the rack in the laundry, which is then despatched to the ward to replace the previous day's rack, which is returned together with any unused linen. This system should be extended to all ward requirements. These should be issued automatically to established levels, thus avoiding much of the time wasting requisitioning and counting which goes on to-day, and probably incidentally creating insufferable anguish in the heart of many a hospital auditor.

Midwives.

With reference to nursing staff and especially midwives, there will have to be some radical rethinking, or else the national maternity services will grind to a halt. No one can be happy that in 1962 of 81,442 certified midwives only 17,950

notified intention to practice. The time is running out, if it has not done so already, when a sense of satisfaction from a worthwhile job well done, can be relied on to compensate our midwives for their Cinderella existence. In the meanwhile, what can be done to utilize to the maximum those midwives still available? In the first place, more use must be made of part-time people, who must receive much more consideration than they do at present. They must be accepted as clinical equals, not only by matrons, but also by their colleagues on the ward floor. They must have a rest room, and adequate changing and laundry facilities. If necessary, a crêche should be provided for their pre-schoolage children.

Secondly, the midwives we have must be diluted with other staff and their special skills used to the utmost. What are these special skills? In essence they are the ability to deliver babies and the capacity to discriminate between normal and abnormal foetal heart sounds, skills used chiefly in the antenatal and labour wards. There are very few post natal procedures, which could not be satisfactorily performed by a nurse with general training only, therefore, remove midwives from post natal wards, and employ them only where their practical obstetrical mastery is of the greatest benefit. From this point of view the Ministry's designers should take a second look at Hospital Building Note 21 on Maternity planning. Here they illustrate three methods of deploying obstetric nursing teams, but with no thought of midwife economy. The labour and antenatal wards ought to be adjacent and supervised by the one team containing the highest percentage of midwives, who can be deployed where the need is greatest.

Medical Staffing.

Before ward planning is started, it is essential to know not only the number of beds in the hospital and the number of different departments, but also the number of consultants' units in each department. It is unsatisfactory for the patient, confusing for the nurses, perplexing for the junior medical staff and irritating for the consultants themselves, if two or more, are required to use one ward.

The average work load of a hospital doctor has been, until recently, not only a very varying, but also a very nebulous entity. Apart from the well known fact that registrars are used as sweated labour and consultants, especially part-time consultants, do nothing, very little concrete has been laid down. The Platt report somewhat rectifices this, as does the publication by Her Majesty's Stationary Office in Edinburgh, called "Medical Staffing Structure in Scottish Hospitals." Where Scotland leads Northern Ireland usually follows. Briefly, in gynaecology the size of the recommended unit is 50 obstetric and 30 gynaecological beds. The exact formula of the supervisory team varies with the type of hospital. In a non-teaching hospital it is to be 2 consultants and 3 supporting staff. For the following reasons we in Northern Ireland should not accept this recommendation.

First of all, on the obstetric side, fifty obstetric beds are not enough to merit a separate operating theatre, nor are they sufficient to run an economic midwifery training school. Secondly, the overall nursing establishment for 50 beds is so tight that it makes a premature baby nursery dangerously difficult to staff. No unit is, however, complete without either a sick nursery, a training school or a Caesarean theatre. From the gynaecological viewpoint, speaking from personal experience, one feels 30 beds are insufficient to provide an adequate district service.

At Dundonald there are 27 gynaecological beds, but if a complete emergency service were provided in this area, and if all the abortions offered were accepted, there would be insufficient beds left to deal with the waiting list. Finally, from the common sense point of view, how can one equitably divide three supporting staff between two consultant units? A more logical staffing structure in non-teaching hospitals, and the one we should fight for here, would be 2 consultants and 4 other staff to care for 60 obstetric and 40 gynaecological beds. This would provide a better balanced and much more economic unit than that suggested by Platt.

Some Defective Details in Modern Maternity Units

There is much to praise and little to criticize in the Ministry's very comprehensive building notes. A consideration of these and other modern plans taken in conjunction with experience at the Ulster Hospital prompts the following random suggestions.

In general, Maternity Units should be sited separately, chiefly on account of the amount of Out-Patients' accommodation they require. It must be remembered, however, that adequate arrangements, which may be expensive, ought to be made to have the entrance manned or monitored continuously for 24 hours each day.

Labour Ward.

An interesting modern development is the situation of the labour suite together with the sick nursery on the ground floor. Such a labour ward could be readily extended if, for instance, the Cardiff experiment of discharging patients within 24 hourse of delivery became generally accepted policy.

Doctor's Duty Room.

A penthouse duty suite for non-resident junior medical staff is not an immoderate demand in the light of the increasing tendency towards earlier marriage amongst young doctors.

Nursery.

One is abashed by the recurrent lack of utility working space in ward nurseries, and by the lack of their light and sound insulation. All sick baby nurseries should have an adequate number of mother and child rooms.

Out-Patients' Department.

It seems that there is never sufficient space designated for medical records. The current vogue of two changing cubicles per examination couch in Out-patients departments is insufficient for both obstetrics and gynaecology. Three cubicles for each couch are absolutely essential. One wonders whether a separate X-ray set-up in a maternity unit adjacent to a general hospital is not an unwarranted extravagance. The precious ground floor space it occupies might well be otherwise more gainfully employed. It depends on how a clinic is organised, but one feels there is no necessity in an Out-Patients' Department to allocate a room solely for blood sampling.

Wards.

One is certain the size of 4-bedded bay at present recommended by the Ministry —21 ft. square is not large enough to provide room for 4 beds, 4 cots and a dining space. Nurses' stations in an obstetrical ward seldom seem to be used as nurses' stations. They appear to be so much wasted space. One finds great confusion concerning the function of a sluice room, of a dirty utility room and of a

clinical side room and often, wrongly, one room is provided to act as all three. Similarly there is a tendency in the most modern design to do away with the ward treatment room, which one feels is a retrograde step. Finally, any women's ward, be it obstetrical or gynaecological, in a hospital planned with vision, should contain a patient's utility room where they may dry their hair, do their ironing or otherwise busy themselves with those seemingly unending, peculiarly feminine, personal chores.

Summary

An attempt has been made to highlight what, to the author, appear to be some of the more erroneous official deductions employed in the formulation of designs for future hospital building.

Mention is made of factors apparently neglected, or given insufficient consideration in current hospital planning.

Some defects and defficiencies in recently constructed obstetrical departments are indicated.

Address at Special Graduation Ceremony in Queen's University for the British Dental Association Meeting on 23rd June, 1965

By PROFESSOR J. H. BIGGART, C.B.E., D.Sc., M.D., F.R.C.P.
Dean of the Faculty of Medicine

IT is a great pleasure to welcome the members of the British Dental Association to the University, especially on the occasion of the opening of our new Dental School. We feel that at last our Dental School has been afforded the opportunities it has so long desired, and that its new home will serve as a stimulus to the improvement of dental education and as an inspiration to dental research.

It must be, at least unusual for a medical man to have the opportunity to address such a vast body of dentists without any danger of contradiction. Of this I propose to take full advantage.

We have much in common. Our ideals are the same. We strive by all means in our power to maintain the psychological and organic health of the members of the community which we serve. Our traditions are well established, and even as early as in the Edwin Smith papyrus, doctor and dentist exist side by side. We suffer from the same continuing optimism that the medicine or dentistry of to-day is so much better than before—so much better indeed that all our problems appear about to be solved.

Such optimism is not new. In the sixth century B.C. in the works of the Ancient Doctor—who may well be Alcmaeon of Croton—we read of the great scientific advances of the age. The eye had been dissected, the optic nerves discovered, the optic tracts traced back into the brain. It might indeed appear that medical science was complete.

In the eighteenth century Boerhaave in Leyden extols the world shaking and revolutionary innovations which during his life time had completely changed the aspect of medical science. In almost similar words Charcot in France repeats the sentiment. At the opening of the Medical School in Philadelphia in 1765, Morgan stated that "The Industry of many centuries has already been employed to bring Physic to that degree of perfection at which it has now arrived." A century and more later (1902) Osler was to write "Never has the outlook of the profession been brighter. Everywhere the physician is better trained and better equipped than he was 25 years ago. Disease is understood more thoroughly, studied more carefully, and treated more skilfully. The average sum of human suffering has been reduced in a way to made the angels rejoice. Diseases familiar to our fathers and grandfathers have disappeared, the death rate from others is falling to vanishing point, and public health measures have lessened the sorrows and brightened the lives of millions."

How often have we heard similar paeans of praise during our own life time as sulphonamides have been followed by penicillin, and penicillin by the tetracyclines and all the battery of modern antibiotics. Modern doctors and dentists might

well be tempted into thinking that the achievements in our time are too momentous to be compared with the progress of medicine in any previous age.

Indeed all the great professional leaders praise the revolutionary innovations which during their life-time have, in their eyes, completely changed the foundations of medical science. This is our continuing optimism, for if all the recorded revolutions had been so successful medicine and dentistry would by now have emerged as complete sciences, whereas all of us really know that much has still to be done. There is still a future for disease which will engage our minds and our efforts for many generations to come.

Yet it is in the spirit of this continuing optimism that I dare to mention—for have we not the President of the General Dental Council before us—the question of dental education. One of the great problems of the modern university has been the absorption into its structure of what I would call vocational training. This is not a new problem—for Medicine and Law are now counted among the older faculties in most universities. Their absorption is now so complete that they are rarely mentioned in any discussion of the subject. Yet less than 100 years ago the medical graduate was by statute to be produced fully competent in the practice of medicine, surgery and obstetrics. Gradually with the increase in knowledge this has become impossible, so that more and more of the knowledge of techniques and, indeed, much of the art itself, has to be gained in post-graduate years. The primary medical qualification is more and more a qualification in the basic medical sciences, and so assumes increasingly a purely university quality. In the Law School, the adaptation to the University has always been more realistic, and the vocational techniques of the profession have been gained after the University course. However, there still remain difficulties in medicine in making such a clear division.

In dentistry, however, the graduate is graduated fully equipped in technique, able to practice from the date of his leaving University. Such a state can only be arrived at if much less time is devoted to the basic sciences than is occupied by the medical student. In other words the training is less geared to a university curriculum than to the acquisition of techniques. Both medicine and dentistry have as their aims the psychological and organic health of man. Is it too much to ask, indeed is it not essential, that their basic scientific training should be the same?

In medicine we philosophically regard surgery as a failure of medicine. We look forward to the time when surgery shall be no more—apart from traumatic surgery —and when the diseases that it presently treats shall be either prevented or rectified by medical means. Yet too often one confuses dentistry with dental surgery. Surely there is a dental medicine as a fruitful field for research and training.

As medicine delegates her techniques more and more to the post-graduate period it does not seem impossible to develop an undergraduate course which could be common to both our professions—nor beyond the wit of man to devise a technical which would be competent for the dental needs of the community. Such a course would not only give the student a more basic training, but would allow him to pursue his studies in depth so that he could better appreciate those advances which science will surely bring during his years of practice as a dentist. For the

function of the University is not to produce the dentist for to-day but the dentist of the end of the century. His training in technique will make him proficient in his art, but it is his university training which will give him adeptness in his science, the mind trained to think, the ability to apply his thinking to the problem at hand, as well as that embellishment of culture which every professional man should possess.

I, too, may be guilty of the continuing optimism of our profession, but I would end by quoting Mian Azfal Hussain: "If a scientific man has not learned heresy, he has learnt nothing." It is because our honorary graduates have not only been leaders in their profession, but also somewhat of heretics to it that we take pleasure in welcoming them to-day.

FARMER'S LUNG

A New Industrial Disease

By HELEN E. CAIRNS, B.Sc. *
Department of Microbiology, Queen's University, Belfast

FARMER'S LUNG, as its name suggests, is essentially a rural disease which results from the inhalation of dust from mouldy hay by persons who have become hypersensitive to antigens in that dust. It was first described by Campbell, in 1932, in five patients who developed "acute symptoms following work with hay." Subsequently many similar conditions were reported from different parts of the United Kingdom (Fawcitt, 1936, 1938; Studdert, 1953; Williams and Mulhall, 1956), from the United States of America (Dickie and Rankin, 1958), Norway (Törnell, 1946), Switzerland (Hoffmann, 1946), Sweden (Zettergren, 1950), France (Raton, 1951) and Eire (Joyce and Kneafsey, 1955).

The main features of typical acute attacks are dyspnoea, cough and perhaps haemoptysis, malaise, chills and fever a few hours after exposure to the dust. The criteria of diagnosis adopted by Staines and Forman (1961) in a widespread survey of the disease in the United Kingdom were as follows :—

1. A history of recent or continuing exposure to vegetable dust which is believed to be fungus-contaminated.
2. Dyspnoea and/or cough.
3. Abnormal physical signs in the chest.
4. The absence of "positive and certain" findings diagnostic of other pulmonary diseases, in particular, pulmonary tuberculosis, mineral pneumoconiosis or neoplasm.
5. The absence of a clinical course characteristic of "conventional" acute bacterial infections.

With the realisation that farmer's lung was a widespread and debilitating disease, the Medical Research Council established units at Rothamsted Experimental Station, Harpenden, and at the Institute of Diseases of the Chest, Brompton, At Rothamsted, factors involved in the moulding of hay were studied in great detail and analyses of the microbial content under different conditions were carried out. At Brompton, a systematic search was made for antibodies in the sera of patients with farmer's lung which would precipitate with antigens extracted from the mouldy hay and/or particular organisms found in the hay.

At various stages in the course of these investigations several fungi were thought to be responsible for the disease. *Aspergillus* spp. for example, were thought to be implicated as they are always abundant in mouldy hay (Gregory and Lacey, 1963) and known to cause similar symptoms. *Candida albicans* was also thought to be involved (Zettergren, 1950). Further investigations, however, showed that neither of these groups was directly involved and eventually it was reported that thermophilic actinomycetes had a prominent role in causing farmer's lung. Recent data

*Experimental Officer appointed under the N.I.H.A. Grant (M.E. & R.) December, 1964.

(Pepys and Jenkins, 1965) show that the sera of 89 per cent. of patients with farmer's lung give a positive reaction to antigens produced by the thermophilic actinomycetes, *Thermopolyspora polyspora* and/or *Micromonospora vulgaris*. However, apparently 15-21 per cent. of individuals with no obvious clinical symptoms of farmer's lung also show a positive reaction to these antigens. From these findings it has been possible to devise and apply serological diagnostic tests with a moderate degree of specificity. These involve both immunodiffusion and immunoelectrophoresis in which sera are tested against standardised antigen produced from the thermophilic actinomycetes.

Staines and Forman (1961) have concluded that farmer's lung is an industrial disease and recently the Industrial Injuries Advisory Council to the Minister of Pensions and National Insurance has recommended that it be prescribed as such under the National Insurance (Industrial Injuries) Act, 1946.

Regulations were made by the Ministry to amend the consolidated Prescribed Diseases Regulations to include the disease referred to as "Farmer's Lung" in the First Schedule of the latter regulation. The effective date of the operation of the amendment to the main regulations is Monday 21st June 1965, and the description in the Schedule is:

Description of disease or injury	*Nature of occupation*
43. Pulmonary disease due to the inhalation of the dust of mouldy hay or of other mouldy vegetable produce, and characterised by symptoms and signs attributable to a reaction in the peripheral part of the broncho-pulmonary system, and giving rise to a defect in gas exchange (Farmer's Lung).	Any occupation involving exposure to the dust of mouldy hay or other mouldy vegetable produce by reason of employment: (a) in agriculture, horticulture or forestry; or (b) loading or unloading or handling in storage such hay or other vegetable produce; or (c) handling bagasse.

In England and Wales a diagnostic service is now provided by the Public Health Laboratory Service. A similar service is available in Scotland and also in Northern Ireland in the Mycology Laboratory, Department of Microbiology, the Queen's University of Belfast. It is suggested that blood samples (5 ml. of clotted blood) should be submitted to the Mycological Diagnostic Laboratory either direct or through the clinical pathologist of the regional hospital laboratory. Between 1st March—30th June positive serological tests were obtained in 43 (50%) of 87 patients tested.

References

Campbell, J. M. (1932). *Brit. med. J.*, **2**, 1143.
Dickie, Helen A., and Rankin, J. (1958). *J. Amer. med. Ass.*, **9**, 1069.
Fawcitt, R. (1936). *Brit. J. Radiol.*, **9**, 354; *Ibid* (1938), **11**, 378.
Gregory, P. H., and Lacey, Maureen E. (1963). *J. gen. Microbiol.*, **30**, 75.
Hoffmann, W. (1946). *Schweiz med. Wschr.*, **76**, 988.
Joyce, J. C., and Kneafsey, D. (1955). *J. Irish med. Ass.*, **37**, 313.
Pepys, J., and Jenkins, P. A. (1965). *Thorax*, **20**, 21.
Raton, D. (1951). *J. franç. Med. Chir. thor.*, **5**, 430.
Staines, F. H., and Forman, J. A. S. (1961). *J. Coll. gen. Practit*, **4**, 351.
Studdert, T. C. (1953). *Brit. med. J.*, **1**, 1305.
Tornell, E. (1946). *Acta med. Scand.*, **125**, 191.
Williams, D. I., and Mulhall, P. P. (1956). *Brit. med. J.* **2**, 1216.
Zettergren, L. (1950). *Acta Soc. Med. Upsalien*, **55**, 257.

THE HAEMOLYTIC-URAEMIC SYNDROME

A Report of Two Cases

By C. M. B. FIELD, M.D., D.C.H., F.R.C.P.(E).
Consultant Paediatrician, Belfast City Hospital

and C. COTTON KENNEDY, D.M. (Oxon.), M.C.Path.
Consultant Clinical Pathologist, Belfast City Hospital.

IN SWITZERLAND Gasser et al. (1955) described in detail an acute fatal illness occurring in five children. Four were between 2 months and 14 months whilst the fifth was 7 years old. The four chief clinical findings were acquired haemolytic anaemia, acute renal failure, a haemorrhagic diathesis and cerebral symptoms. They considered that the accompanying thrombocytopenic purpura was similar to the thrombotic thrombocytopenic purpura of Moschcowitz (1925), Singer et al. (1947), the thrombotic microangiopathy of Symmers (1952) and the syndrome described by Evans et al. (1951) as "thrombocytopenic purpura with acquired haemolytic anaemia." At autopsy in the Swiss cases bilateral renal cortical necrosis appeared to be the cause of the renal insufficiency, and in one the basic lesion was similar to the thrombotic microangiopathy of Symmers. In three cases marked fragmentation of the erythrocytes was noticed in the blood films.

Allison (1957) described nine children who suffered from acute haemolytic anaemia associated with contraction, distortion and fragmentation of the circulating erythrocytes and stated that this picture appeared to be the result of three distinct pathological processes. In two of these there was a Heinz-body anaemia of which one type occurred only in premature infants whilst the other was due to an inborn error of erythrocyte metabolism. In the third syndrome, which was found in older children, Heinz bodies (Heinz, 1890) could not be demonstrated. Distortion of the red cells and haemolysis were associated with thrombocytopenia and proteinuria, and in some cases uraemia and haematuria. Two of Allison's cases died with multiple platelet thrombi in the kidneys and other organs, and four recovered spontaneously. He regarded the condition as a type of thrombotic thrombocytopenia, differing from the thrombotic thrombocytopenic purpura of adults in the absence of purpura, in the distortion of the circulating red cells and in the spontaneous recovery of some of the patients.

Case Reports

Case I. N.E.B. was the third child born to healthy unrelated parents of local ancestry. The eldest sibling was alive and well, but the second had died in infancy from interstitial pneumonia. Following a normal birth and neonatal period the infant remained well until two days before admission, when he started to vomit and have loose motions. He was admitted to the Belfast City Hospital on the 11th March, 1964, because he had developed haematuria and jaundice.

He was a three-month old infant weighing 13 lbs. 7 ozs. The temperature was 100°F, he was slightly jaundiced, the blood pressure was 150/100 mm. Hg., but apart from this, clinical examination revealed no abnormalities. The urine was scanty and contained blood and albumin. The haemoglobin was 6.9 gm. % and many "burr" cells and other fragmented erythrocytes were seen in the peripheral blood. (Fig. 1).

The total white cell count was 22,660 per c.mm. (Neutrophils 24%, lymphocytes 67%, monocytes 5%, meta-myelocytes 3%, myelocytes 1%, with 1 late normoblast per 100 leucocytes). Re-examination of the film in retrospect revealed very few platelets.

Fig. 1. Drawing of a peripheral blood film showing poikilocytes and several "burr" cells. (Case I).

The alkali reserve was 11 m. eq./litre, and the blood urea was 390 mg.% on the third day of illness and rose to a maximum of 500 mg.% on the fifth day. Type specific *E. coli* 026 was present in the faeces. The infant was treated with intravenous blood and the acidosis corrected with an infusion of 1/6 molar lactate. The subsequent course to complete recovery was uneventful and can be followed in the diagram. (Fig. 2).

Other investigations were carried out as follows: The direct anti-human globulin test (Coomb's) was negative. The antistreptolysin O titre was 20 units/ml. "L.E." latex and Jones Precipitation tests were negative and no "L.E. cells" were found in the peripheral blood. Total bilirubin level was 0.5 mg.% (direct 0.3). The red cell osmotic fragility at room temperature was normal, while at 37°C for 24 hours it was slightly increased. Autohaemolysis showed the increased level of 9% lysis at 48 hours. Erythrocyte glucose-6-phosphate dehydrogenase activity was normal, and no Heinz bodies were seen. Spectroscopic examination revealed no abnormal haemoglobin bands and Schumm's test (1912) for intravascular haemolysis was negative. No foetal haemoglobin was detected.

Case II. P.S. was the fifth child of healthy unrelated parents, of local stock, whose other children were alive and well. His birth and neonatal course were normal, and he remained well until the 1st July, 1964, when his motions became loose and contained a few spots of blood. On the following day he vomited, there was blood in his urine and faeces, and he was admitted to hospital.

On admission he was a very large fat nine months old infant weighing 28 lbs. He was pale, apathetic and listless, the blood pressure was 140/99 mm. Hg., but there were no other clinical abnormalities. The urine contained albumin and blood. On the fourth day of illness the blood urea level was 110 mg.%; it fell to 68 mg.% on the sixth day, but then gradually rose to a maximum of 142 mg.% on the ninth day.

The haemoglobin level was 5.7 gms. (38%) and the total white cell count rose to 31,000 per c.mm. The film showed an increase in granulocytes, but the striking feature was again the marked distortion and fragmentation of the erythrocytes. Late normoblasts numbered 15 per 100 leucocytes. The reticulocyte count was 22 per cent. and a thrombocytopenia was present (platelets 46,000 per c.mm.). Total bilirubin was 1.1 mg.% (direct 0.2). Red cell osmotic fragility was slightly increased, probably due to the presence of microspherocytes. Again the direct Coomb's test was negative and no Heinz bodies were seen. The alkali reserve was 16.1 m.eq./litre and he was given a transfusion of 300 ml. of whole blood, but the haemoglobin continued to fall rapidly, and three further transfusions of semi-packed cells were required. (Fig. 3).

This infant remained listless, apathetic and febrile for three weeks; the temperature then became normal, the blood urea and blood pressure fell to normal levels, the child became

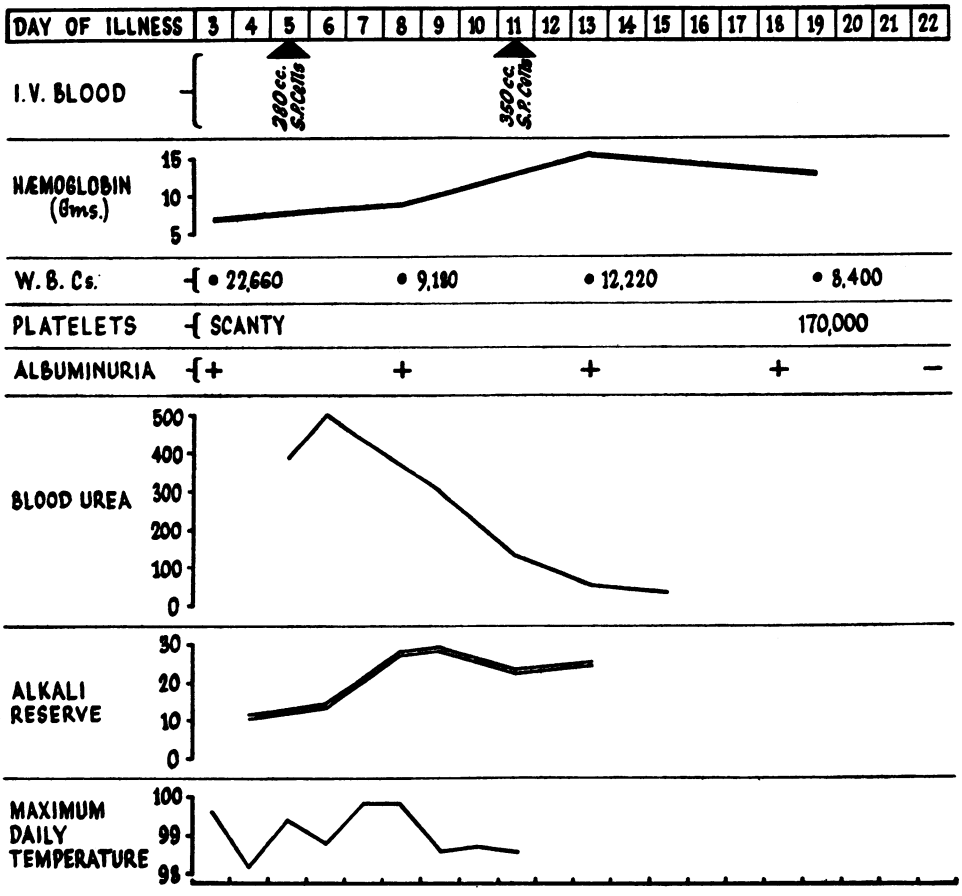


Fig. 2. Progress chart of Case I.

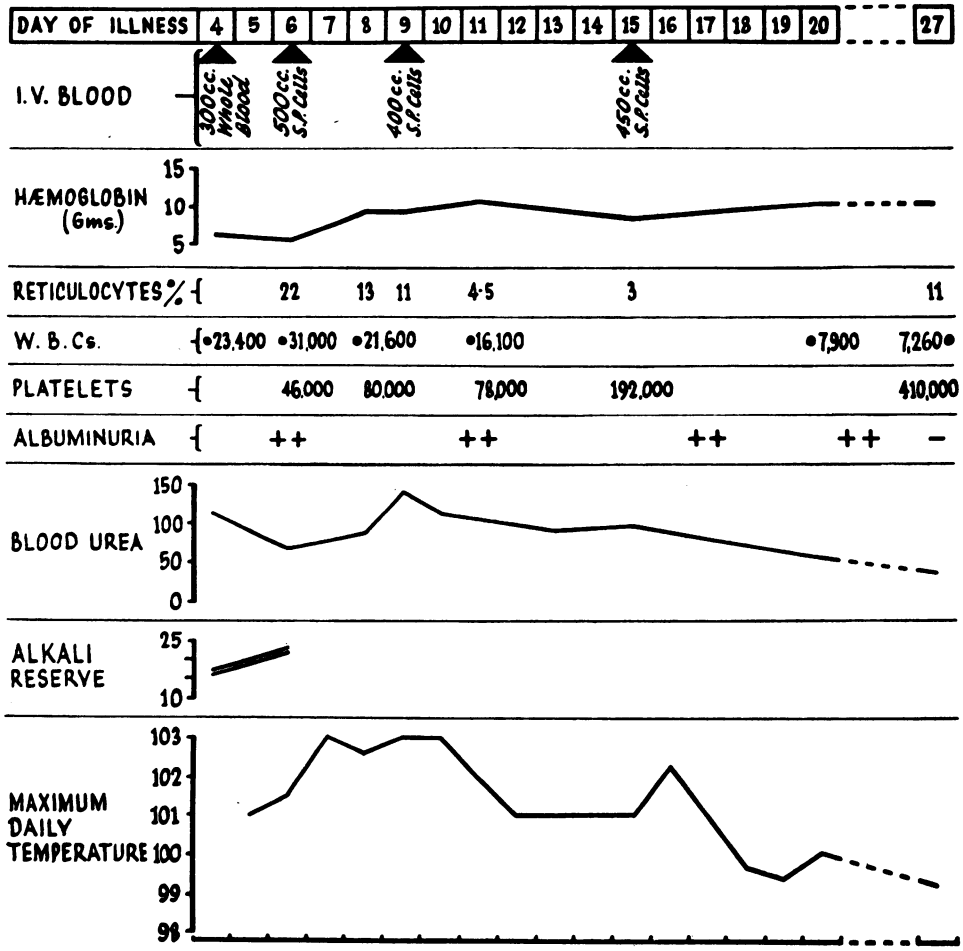


Fig. 3. Progress chart of Case II.

happy and playful and regained his normal large appetite.

At subsequent follow-up examinations he has remained well with no abnormalities in his blood or in the renal tract.

Virus Studies

Fresh blood in dipotassium sequestrene from Case II, taken thirty days after the onset of illness, was injected intra-cerebrally and intra-peritoneally, into ten newborn mice. No virus was recovered, all mice developed a runting syndrome and no deaths occurred. On the fourteenth day two were sacrificed, and the ground-up suspension of one was inoculated into a further litter of seven newborn mice. One of the original litter showed no obvious lesions histologically, while the passaged suspension of the other produced no abnormality.

The blood serum from Case II was also tested against antigens for the Junin (Argentinian haemorrhagic fever), Tacaribe and lymphocytic choriomeningitis

viruses. The complement fixation test was negative, the serum in increasing twofold dilutions, beginning at 1 in 4, failed to fix complement with any of the antigens.

Both these children lived in rural surroundings, and visits were later paid to both homes. Case II's mother had a herpes labialis infection at the time of the visit. In Case II there was fairly close contact with chickens which had stopped laying two months before the onset of his illness. These hens were subsequently seen by Veterinary Surgeons of the Veterinary Research Department of the Ministry of Agriculture, Northern Ireland, who thought it extremely unlikely that Newcastle Virus Disease was involved. However, one of us (C.C.K.) developed a conjunctivitis three days after visiting Case II's home and shortly afterwards there was an outbreak of fowl pest (Newcastle Disease) in this district and other parts of Northern Ireland, something that had not occurred for 15 years. No antibodies against Newcastle Disease were detected in the sera of either the infant, the mother or C.C.K.

In both cases rats might have had access to the infants' clothing.

Treatment

Neither of these cases had any treatment apart from blood transfusions and correction of their acidosis. Neither had been receiving medicine at home and no raw milk had been drunk.

Many forms of treatment, including splenectomy, have been tried in this condition, but the results generally have been disappointing. Steroids have been used by Griffiths and Irving (1961), Lock and Dormandy (1961), Javett and Senior (1962) and others, but there is no convincing evidence that they are of any value. Both Künzer and Aalam (1964), and Kibel and Barnard (1964) have suggested using heparin. On theoretical grounds this might prevent some of the thrombosis which is probably responsible for the renal cortical necrosis. However, suppression of thrombus formation may depend on the dosage of heparin, low doses having no beneficial effect (Mustard et al., 1965). Moorehead et al. (1965) employed haemodialysis in their treatment of four severely ill children, three of whom died. They emphasised the necessity for slow haemodialysis. Allison (1957) considered blood transfusions the only effective treatment.

Comment

Distorted erythrocytes have been described by Schwartz and Motto (1949), who named a peculiar poikilocyte with one or more spiny projections a "burr" cell. They observed that this occurred most frequently in uraemia, carcinoma of the stomach and bleeding peptic ulcer. Aherne (1957) investigated the clinical significance of the "burr" cell and he found it most characteristically in terminal uraemia, although it was seen occasionally in reversible anaemia. A similar cell may occur in a "treatable haemolytic anaemia of childhood," which, he noted, may be the syndrome described by Gasser et al. in 1955. Dacie (1960) distinguished three types of distorted erythrocytes which are probably distinct; "irregularly contracted erythrocytes" which are not uncommonly seen in certain types of haemolytic anaemia, the "burr" cell referred to above and the "triangular" cell (Dacie et al., 1953). The last was found in a child with atypical congenital haemolytic anaemia.

Gasser et. al. (1955) were of the opinion that the haemolytic-uraemic syndrome arose in most cases in association with a mild or severe infection. Shumway and

Miller (1957) described a case of the haemolytic-uraemic syndrome in a child, 6 years 9 months of age, who had had several recurrences of haemolytic anaemia, thrombocytopenia and renal disease over the previous five years. They considered that the sydrome represented a form of "hypersensitivity" and might be related to thrombotic thrombocytopenic purpura. Lock and Dormandy (1961) named the condition "red cell fragmentation syndrome" in their description of five cases in infants; and they suggested that it is better regarded as an occasional manifestation of primary renal failure (from whatever cause) in young children than as a disease entity. In South Africa Javett and Senior (1962) reported five cases of the haemolytic-uraemic syndrome in infancy, where circumstances pointed strongly to infection, but bacterial cultures of stools, blood and urine were negative, and all attempts to recover a virus proved abortive. They suggested that the disease mechanism might be an allergic response to a viral infection. Moolten et al. (1953) wrote of three cases in which acute haemolytic anaemia and certain autohaemagglutinative phenomena were associated with a Newcastle Disease viraemia. In two of these there was contact with fowl. In man, however, Newcastle Virus Disease usually manifests itself as an acute transient conjunctivitis, with or without malaise, preauricular adenitis, fever and chills (Hanson and Brandly, 1958). Betke et al. (1953) reported acute acquired haemolytic anaemia in a 3 year old child who ten days earlier had had a Coxsackie A virus infection. Todd and O'Donohoe (1958) recorded the case of a child with acute acquired haemolytic anaemia associated with herpes simplex infection. More recently Mettler et al. (1963) reported from Argentina virus studies on fifteen infants and young children (aged 4 to 30 months) in their series of 58 children with the haemolytic-uraemic syndrome. A complement fixation system was obtained with one of the isolated strains and a significant titre of antibodies was demonstrated. The virus is antigenically related by complement fixation test to the Junin virus and Tacaribe group. Later, Gianantonio et al. (1964) reported on the same fifty-eight cases, where a virus was isolated from the blood of 5 patients and significant viral antibody titres were demonstrated in 15 others during convalescence. The overall mortality was 29%.

Attention has been drawn to the "patchy" incidence of the haemolytic uraemic syndrome by Kibel and Barnard (1964). They point out that it is common in Johannesburg, but is seldom seen in Durban or Cape Town; and while eleven cases have been recognised in Bulawayo, Southern Rhodesia, no case has been seen in the larger city of Salisbury. At a recent paediatric conference McLean (1964) reported on ten cases in a single district in North Wales, where the condition reached near-epidemic proportions in a few weeks. In England Miller et al. (1964) recognised three cases of the disorder in infants in a period of three months. Shinton et al. (1964), in Warwickshire, reviewed in retrospect 9 cases of haemolytic anaemia in children with acute renal disease in the period 1953 to 1961, and 6 may well have had the haemolytic-uraemic syndrome.

This disorder was unknown in the British Isles until 1957 when Allison reported six cases. Recently cases have occurred in Liverpool, Derby, Coventry, Ipswich, Greenwich and Newcastle (Miller, 1964), so it would seem important that all cases of this disorder be investigated as fully as possible, as a common finding might provide a clue to the aetiology. While a virus aetiology is likely the pattern of the

disease suggests that this is not the full explanation. The recent recognition of this syndrome as a separate entity may mean either a true increase of the incidence or increased awareness and better diagnostic facilities.

Summary

Two cases of the haemolytic-uraemic syndrome in infants have been described. Both presented with bloody diarrhoea, vomiting and listlessness, and the characteristic morphological changes in the red cells were associated with proteinuria, hypertension and uraemia.

Both patients were treated with blood transfusions and correction of acidosis, and both made a full recovery.

The literature of the condition has been reviewed.

We thank Dr. J. H. Connolly, Department of Microbiology, the Queen's University of Belfast, and Dr. Jordi Casals, Rockefeller Foundation Virus Laboratories, New York, for virus studies. We are also grateful to Mr. G. H. K. Lawson and Dr. J. B. McFerran, Veterinary Research Division, Ministry of Agriculture, Northern Ireland, for their help.

References

AHERNE, W. A. (1957). *J. clin. Path.*, **10**, 252.

ALLISON, A. C. (1957). *Brit. J. Haemat.*, **3**, 1.

BETKE, K., RICHARZ, H., SCHUBOTHE, H. and VIVELL, O. (1953). *Klin. Wschr.*, **31**, 373.

DACIE, J. V. (1960). *The Haemolytic Anaemias*, part 1, 2nd ed., J. & A. Churchill, Ltd., London.

DACIE, J. V., MOLLISON, P.L., RICHARDSON, N., SELWYN, J. G. and SHAPIRO, L. (1953). *Quart. J. Med.*, **22**, 79.

EVANS, R. S., TAKAHASHI, K., DUANE, R. T., PAYNE, R. and LIU, C-K. (1951). *Arch. intern. Med.*, **87**, 48.

GASSER, C., GAUTIER, E., STECK, A., SIEBENMANN, R. E. and OECHSLIN, R. (1955). *Schweiz. med. Wschr.*, **85**., 905.

GIANANTONIO, C., VITACCO, M., MENDILAHARZU, F., RUTTY, A. and MENDILAHARZU, J. (1964). *J. Pediat.*, **64**., 478.

GRIFFITHS, J. and IRVING, K. G. (1961). *Arch. Dis. Childh.*, **36**, 500.

HANSON, R. P. and BRANDLY, C. A. (1958). *Ann. N.Y. Acad. Sci.*, **70**, 585.

HEINZ, R. (1890). *Virchows Arch.*, **122**, 112.

JAVETT, S. N. and SENIOR, B. (1962). *Pediatrics*, **29**, 209.

KIBEL, M. A. and BARNARD, P. J. (1964). *Lancet*, **2**, 259.

KUNZER, W. and AALAM, F. (1964). *Lancet*, **1**, 1106.

LOCK, S. P. and DORMANDY, K. M. (1961). *Lancet*, **1**, 1020.

MCLEAN, M. M. (1964). *Arch. Dis. Childh.*, **39**, 420.

METTLER, N. E., GIANANTONIO, C. A. and PARODI, A. S. (1963). *Medicina, B. Aires*, **23**, 139.

MILLER, F. J. W. (1964). *Personal communication.*

MILLER, F. J. W., COURT, S. D. M. and JACKSON, R. H. (1964). *Brit. med. J.*, **2**, 511.

MOOLTEN, S. E., CLARK, E., GLASSER, B. F., KATZ, E. and MILLER, B. S. (1953). *Amer. J. Med.*, **14**, 294.

MOOREHEAD, J. F., EDWARDS, E. C. and GOLDSMITH, H. J. (1965). *Lancet*, **1**, 570.

MOSCHCOWITZ, E. (1925). *Arch. intern. Med.*, **36**, 89.

MUSTARD, J. F., GILBERT, J. B. and MURPHY, E. A. (1965). *Lancet*, **1**, 575.

SCHUMM, O. (1912). *Hoppe-Seyl. Z.*, **80**, 1.

SCHWARTZ, S. O. and MOTTO, S. A. (1949). *Amer. J. med. Sci.*, **218**, 563.

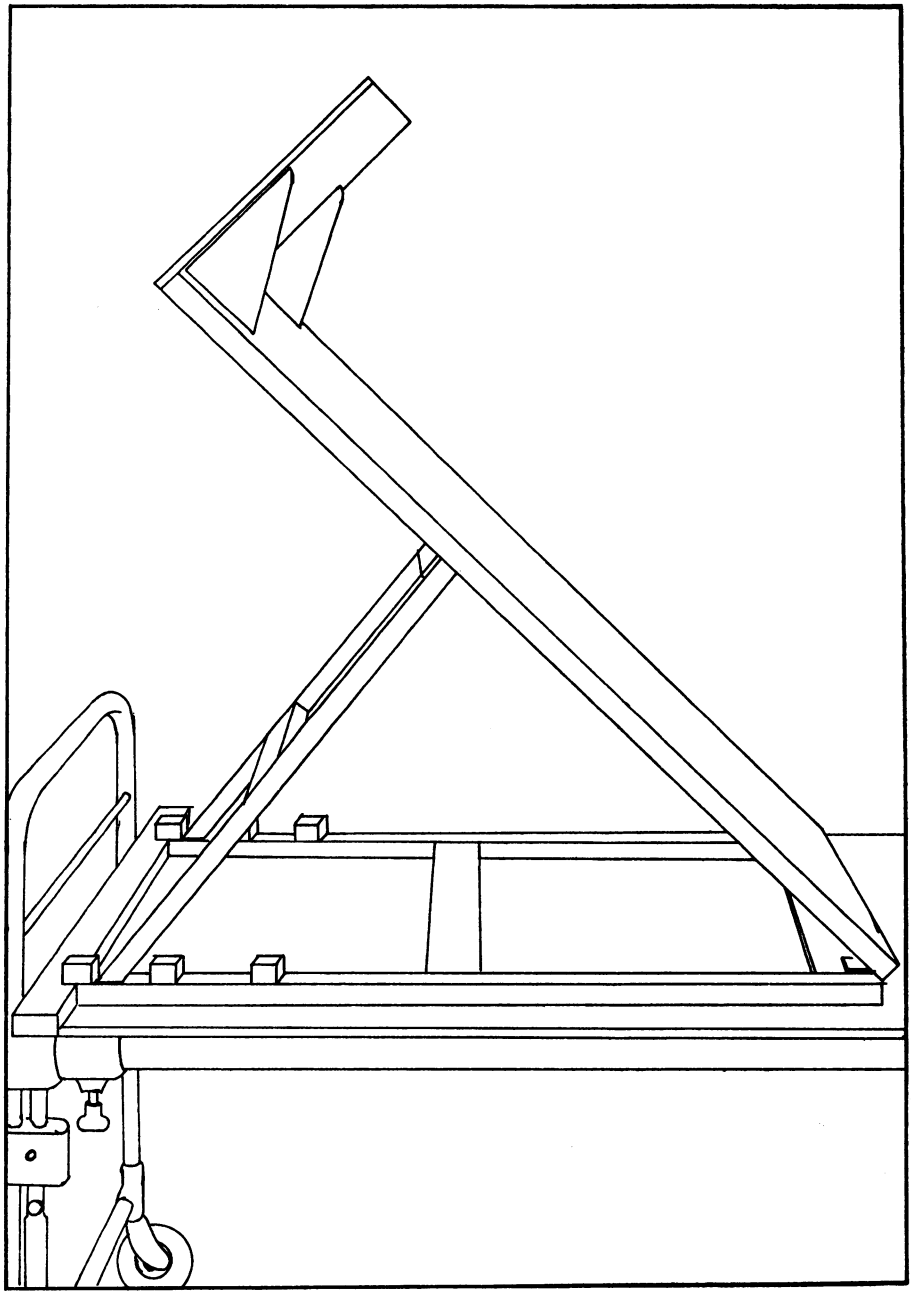
SHINTON, N. K., GALPINE, J. F., KENDALL, A. C. and WILLIAMS, H. PARRY (1964). *Arch. Dis. Childh.*, **39**, 455.

SHUMWAY, C. N. and MILLER, G. (1957). *Blood*, **12**, 1045.

SINGER, K., BORNSTEIN, F. P. and WILE, S. (1947). *Blood*, **2**, 542.

SYMMERS, W. ST. C. (1952). *Brit. med. J.*, **2**, 897.

TODD, R. McL. and O'DONOHOE, N. V. (1958). *Arch. Dis. Childh.*, **33**, 524.



LEG ELEVATOR FOR CHRONIC OEDEMA

By H. C. DALES, M.Ch., F.R.C.S. and SR. E. E. STEVENSON, S.R.N., S.C.M,
Musgrave Park Hospital, Belfast

FOR a number of years we have been treating chronic oedema by leg elevation in bed to about 60° and because of the great difficulty in maintaining this position with comfort for the patient we designed a special apparatus. This apparatus is a modification of the ordinary hospital bed rest and, as can be seen from the diagram, is easily constructed from wood which would normally be available in any hospital. The apparatus is tailored to fit a hospital bed and goes underneath the mattress. It can be elevated to either 45° or 60°. An end piece is helpful to keep the bed clothes off the feet but not essential.

This apparatus has been used at Musgrave Park Hospital for about four years and has, in this time, spread to other hospitals in Belfast. While it was originally used for treatment of chronic oedema following deep venous thrombosis, it is also very useful for the treatment of acute oedema following injury or venous thrombosis.

CATALOGUE OF LEWIS'S MEDICAL, SCIENTIFIC AND TECHNICAL LENDING LIBRARY. New Edition. Revised to December 31st, 1963. Part I: Authors and Titles. (Pp. xii+1056). London: H. K. Lewis, 1965.

LEWIS'S lending library was established in 1848 mainly for the medical profession. It has now grown to meet the demands of scientists in every branch and has been extended to include a wide range of technical subjects. It is widely used by hospitals, universities and research institutes, both public and private. It includes all works of any importance—English, American and Foreign (where translated). The price of books but not the city of publication or the publisher is given in this catalogue.

This catalogue has become a work of reference for librarians as well as for readers. Though the increasing number of books included makes it difficult to locate works when the name of the author is imperfectly recollected, and the listing under the first named author only is sometimes a disadvantage, the work is most valuable. Part II is a classified index of subjects with names of authors and will be published later. Together these form a most useful reference source.

LEG ELEVATOR FOR CHRONIC OEDEMA

By H. C. DALES, M.Ch., F.R.C.S. and SR. E. E. STEVENSON, S.R.N., S.C.M,
Musgrave Park Hospital, Belfast

FOR a number of years we have been treating chronic oedema by leg elevation in bed to about 60° and because of the great difficulty in maintaining this position with comfort for the patient we designed a special apparatus. This apparatus is a modification of the ordinary hospital bed rest and, as can be seen from the diagram, is easily constructed from wood which would normally be available in any hospital. The apparatus is tailored to fit a hospital bed and goes underneath the mattress. It can be elevated to either 45° or 60°. An end piece is helpful to keep the bed clothes off the feet but not essential.

This apparatus has been used at Musgrave Park Hospital for about four years and has, in this time, spread to other hospitals in Belfast. While it was originally used for treatment of chronic oedema following deep venous thrombosis, it is also very useful for the treatment of acute oedema following injury or venous thrombosis.

CATALOGUE OF LEWIS'S MEDICAL, SCIENTIFIC AND TECHNICAL LENDING LIBRARY. New Edition. Revised to December 31st, 1963. Part I: Authors and Titles. (Pp. xii+1056). London: H. K. Lewis, 1965.

LEWIS'S lending library was established in 1848 mainly for the medical profession. It has now grown to meet the demands of scientists in every branch and has been extended to include a wide range of technical subjects. It is widely used by hospitals, universities and research institutes, both public and private. It includes all works of any importance—English, American and Foreign (where translated). The price of books but not the city of publication or the publisher is given in this catalogue.

This catalogue has become a work of reference for librarians as well as for readers. Though the increasing number of books included makes it difficult to locate works when the name of the author is imperfectly recollected, and the listing under the first named author only is sometimes a disadvantage, the work is most valuable. Part II is a classified index of subjects with names of authors and will be published later. Together these form a most useful reference source.

A CASE OF SMALL BOWEL PERFORATION

By J. STRAHAN, M.B., D.R.C.O.G., F.R.C.S.
Senior Surgical Registrar

and P. J. SWEENEY, M.D., F.R.C.P.I., M.R.C.P.
Consultant Physician, Erne Hospital, Enniskillen, Co. Fermanagh

RECENTLY attention has been drawn to the possible association of small bowel ulceration and oral administration of thiazide combined with enteric coated potassium chloride (Brit. med. J., 1964). Baker and his colleagues (1964) were recorded to have encountered twelve cases of small bowel ulceration, eleven of which were under treatment with the above combination of drugs. The following case was encountered recently at the Erne Hospital and is of interest.

CASE REPORT

The patient, P.B., aged 10 years, was put on Salupres (hydrochlorothiazide, reserpine and potassium chloride) and Aldomet (methyldopa) in December, 1964, when she was found to have malignant hypertension due to chronic bilateral pyelonephritis. The blood pressure when first seen was 260/170, and was controlled about 140/100 with the above drugs. In January, 1965, the patient complained of intermittent colicky abdominal pain. A barium meal then showed no abnormality.

The hypotensive drugs were continued until April, 1965, when she was readmitted as an acute surgical emergency; she complained of severe abdominal pain of sudden onset, right and left shoulder tip pain and vomiting. There were signs of shock and generalised peritonitis. A straight X-ray of the abdomen showed no abnormality apart from two radio-opaque tablets in the stomach. Laparotomy was undertaken.

FINDINGS

There were free intestinal contents in the peritoneal cavity. A solitary localised lesion was present about midway along the small bowel. The bowel wall was thickened for 3-4 cm. and coated with fibrinous exudate; the bowel lumen was narrowed, but the proximal bowel was not dilated. There was a free performation on the antimesenteric border about 0.5 cf. in diameter with omentum adherent to its margin. Nothing more than simple closure of the perforation with peritoneal drainage was performed, owing to the very poor general condition of the patient.

The post-operative course was uneventful. The patient's blood pressure is now controlled with Aldomet alone.

This case is reported in view of its rarity and possible direct association of small bowel ulceration and oral administration over a period of four months of thiazide and enteric coated potassium chloride.

Our thanks are due to Mr. H. T. Fleming, F.R.C.S., for his permission to publish this case.

REFERENCES

BAKER, D. R., SCHRADER, W. H. and HITCHOCK, C. R. (1964). *J. Amer. med. Ass.*, **190**, 586.
Editorial (1964). *Brit. med. J.*, **2**, 1611.

Bleeding Oesopageal Varices in the Absence of Intrahepatic or Extrahepatic Obstruction of the Portal System and without Portal Hypertension

By GEORGE W. JOHNSTON, M.B., F.R.C.S.
Department of Surgery, Queen's University, Belfast

OESOPHAGEAL VARICES are generally secondary to portal hypertension and are therefore usually associated with obstruction to the portal circulation within the liver as in cirrhosis or in the portal vein itself. Thus, according to the site of obstruction, portal hypertension is usually classified as intrahepatic or extrahepatic in type (Whipple, 1945). However, an increasing number of cases of portal hypertension with extensive collateral circulation in the absence of any demonstrable organic obstruction, are being reported (Osler 1900; Rousselot 1940; Pemberton and Kiernon 1945; Whipple 1945; Hallenbeck and Shocket 1957; Tisdale et al 1959; Leather 1961; Imanaga et al 1952; Polish et al 1962; Siderys and Vellios 1964; Turnberg 1964). Varices have also been noted in patients with liver disease but without demonstrable elevation of portal pressure (Morton et al 1954; Homer et al 1964). There have been few reports, however, of varices in the absence of either liver disease or portal hypertension. The following case is an example of this unusual and interesting condition.

CASE REPORT

E.T., a female aged 58, first presented at hospital in April 1963, with a history of three episodes of vomiting clots of blood during the previous three months. All investigations at that time including barium studies, liver function tests, and occult bloods were negative.

She was next seen in September 1964 complaining of vomiting clots of blood about once per month for the previous 1½ years. There was no history of indigestion, heartburn, jaundice or alcoholism. Repeat barium studies were negative but oesophagoscopy revealed the presence of varices and full investigation was initiated. Clinical examination revealed only obesity and mild anaemia. Liver and spleen were not palable and there were no signs of liver disease. Haemoglobin was 10.2 gm. per 100 ml. and the anaemia was of the microcytic hypochromic type. Bleeding time, clotting time and prothrombin time were all normal. Electrophoresis showed a marked reduction in albumin with a slight increase in alpha-2-globulin (total protein 5.9; albumin 2.84; alpha-2-globulin 0.86 gm. per 100 ml.).

Liver biopsy obtained using a Terry needle was normal. X-ray chest was normal apart from slight general cardiac enlargement. Splenic venogram showed a normal portal vein and normal intrahepatic pattern without evidence of abnormal collateral circulation (Fig. 1). The intrasplenic pulp pressure was 140 mm. of saline. Azygos venography revealed no obstruction of the azygos system (Fig. 2).

On repeat oesophagoscopy in November 1964 the presence of moderately large varices on the post oesophageal wall, extending from 30 to 34 cms., was confirmed. These were injected with "Varistab" by the method previously described (Johnston

and Rodgers, 1964). She has complained of vomiting a few clots on one occasion since discharge but occult bloods have remained negative.

Discussion

Palmer and Brick (1955) classified oesophageal varices as follows:

1. Those associated with portal hypertension for obvious intrahepatic or extrahepatic causes.
2. Those associated with portal hypertension but without any clinical or anatomical explanation for the hypertension.
3. Those associated with rise in the superior vena caval pressure.
4. True primary varices limited to uppermost part of the oesophagus.
5. Idiopathic varices without either portal or superior vena caval hypertension.

Of the 350 patients with oesophageal varices reviewed by Palmer and Brick (1955), 13 appeared to be of this last variety, but the portal pressure was measured in only 4 of these cases. Previous reports of idiopathic varices were based on anatomical and biochemical findings without measurement of portal pressure and thus can not be considered proven (Nochimowski 1932; Friedman 1934; Shafer and Kittle 1950; Garrett and Gall 1953; Mithoefer 1953). Schaefer and colleagues (1964) reported 2 patients with varices in the absence of portal hypertension or cirrhosis

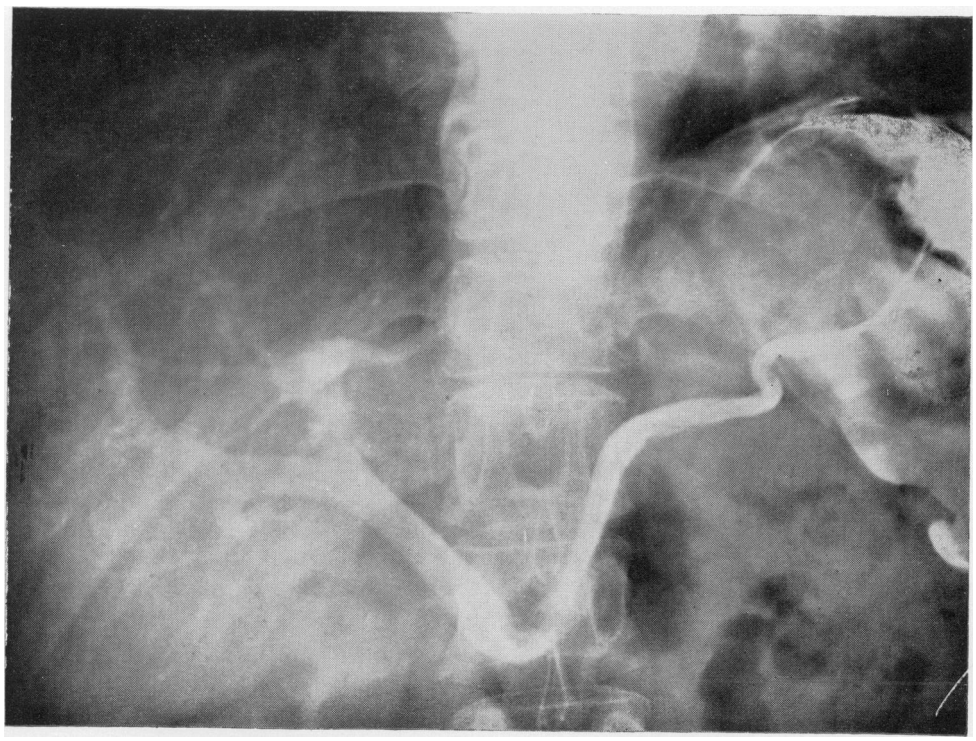


Fig. 1. Splenic venogram showing normal intrahepatic and extrahepatic portal vascular pattern.

of the liver. However, in both cases there was a history of alcoholism and the presence on biopsy of fatty metamorphosis of the liver. Rack and colleagues (1952) reported a similar case of bleeding oesophageal varices associated with slight fatty metamorphosis of the liver but without portal hypertension. In none of the cases previously reported was obstruction of the azygos system excluded. In the case reported there was no evidence of obstruction of the portal or azygos systems, the liver architecture was normal and there was no elevation of portal pressure.

Although she has had no catastrophic haemorrhages, the persistent blood loss has resulted in an iron deficiency anaemia. It is considered that injection of the varices with sclerosant, repeated if necessary, will control the condition without resort to more radical surgery.

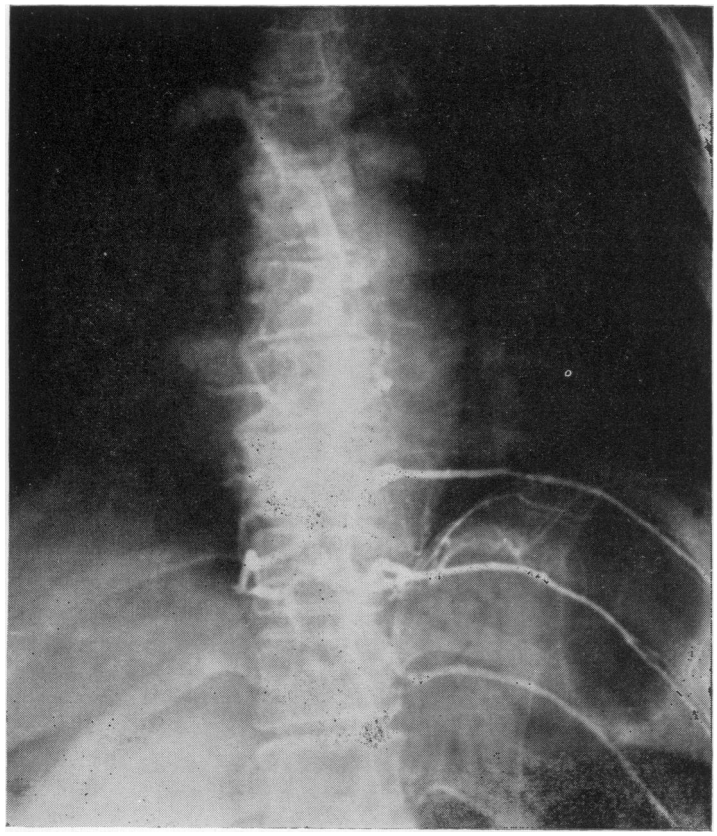


Fig. 2. Azygos venogram showing normal vascular pattern.

Summary

The finding of idiopathic oesophageal varices in a 58 year old female is reported. Liver function studies, liver biopsy, intrasplenic pressure, and the splenic and azygos venograms have all been normal. Injection of the varices is considered the treatment of choice in this case.

I wish to thank Professor H. W. Rodgers and Mr. R. H. Livingston for permission to publish this case.

I also wish to thank Mr. R. Wood for the illustrations.

References

FRIEDMAN, E. (1934). *J. Paediat.* **4**, 641.
GARRETT, N., and GALL, E., (1953). *A. M. A. Arch, Path.*, **55**, 196.
HALLENBECK, G. A. and SHOCKET, E. (1957). *Surg., Gynec. ,Obstet.*, **105**, 49.
HOMER, S., YANOFF, M., BROOKS, F. P. (1964). *Amer. J. Dig. Dis.*, **9**, 406.
IMANAGA, H., YAMAMOTO, S., KUROYANGI, Y. (1962). *Ann. Surg.*, **155**, 42.
JOHNSTION, G. W., and RODGERS, H. W. (1964. *Ulster Med. J.*, **33**, 110.
LEATHER, H. M. (1961). *Brit. med. J.*, **1**, 15.
MITHOEFER, J. (1953). *J. Amer. med. Ass.*, **153**, 1097.
MORTON J. H., WHELAN, T. J. (1954). *Surgery*, **36**, 1138.
NOCHIMOWSKI, J. (1932). *Frankfurt Z. Path.*, **43**, 463.
OSLER, W. (1900). *Amer. J. med. Sci.*, **119**, 54.
PALMER, E. and BRICK, I. (1955). *Amer. J. med. Sci.*, **230**, 515.
PEMBERTON, J. de J. and KIERNON, P. (1945). *Surg. Clin. N. Amer.*, **25**, 880.
POLISH, E., CHRISTIE, J., COHEN, C. A. and SULLIVAN, B. (1962). *Ann. intern. Med.*, **56**, 624.
RACK, F. J., MINCKS, J. R. and SIMEONE, F. A. (1952). *A. M. A. Arch. Surg.*, **65**, 422.
ROUSSELOT, L. M. (1940). *Surgery*, **8**, 34.
SCHAEFER, J., BRAMSCHREIBER, J., MISTILIS, S. and SCHIFF, L. (1964). *Gastroenterol*, **46**, 583.
SCHAFER, P. W. and KITTLE, F. C. (1950). *Arch. Surg.*, **61**, 235.
SIDERYS, H. and VELLIOS, J. (1964). *Amer. J. Surg.*, **108**, 785.
TISDALE, W. A., KLATSKIN, G. and GLENN, W. W. L. (1959). *New Engl. J. Med.*, **261**, 209.
TURNBERG, L. (1964). *Postgrad. Med. J.*, **40**, 39.
WHIPPLE, A. O. (1945). *Ann. Surg.* **122**, 449.

OSTEOMALACIA FOLLOWING GASTRECTOMY

By J. PIGGOT, M.B., F.R.C.S.E.
Orthopaedic Unit, Musgrave Park Hospital, Belfast

THERE has recently been considerable interest in osteomalacia occurring after partial gastrectomy. In 1956 Pyrah and Smith reported one case, Baird and Oleesky (1957) reported four cases, while Harvald and Krogsgaard (1962) described three cases. Dellar and Begley (1963) reviewed 100 cases after partial gastrectomy, 18

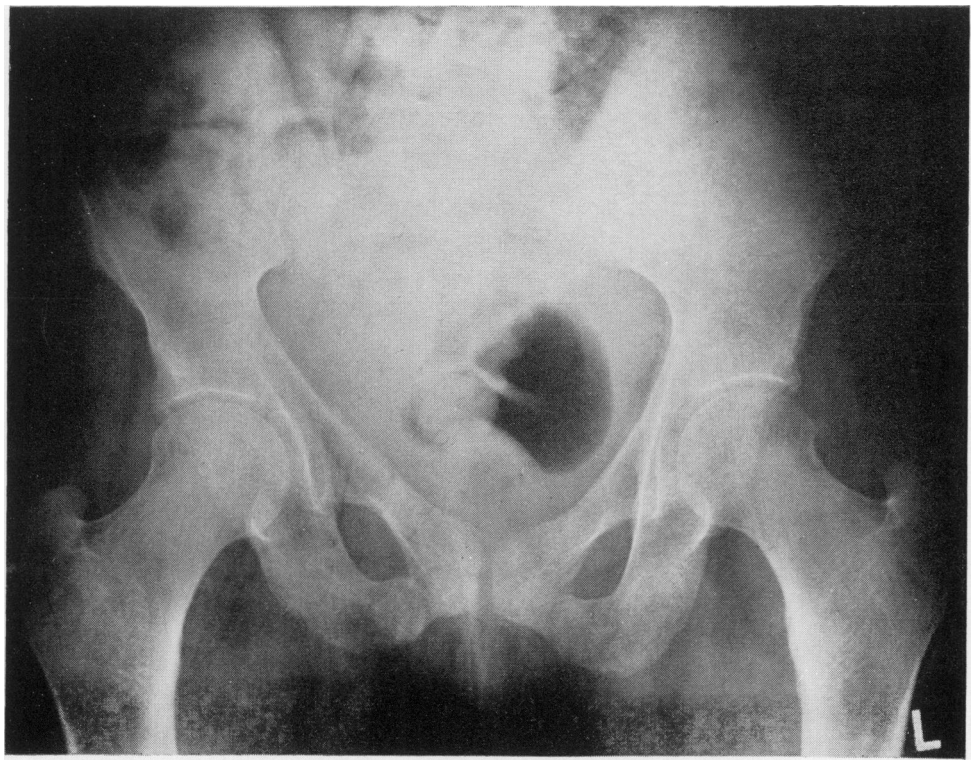


FIG. I. *Generalised decalcification with pseudo fracture of the right superior ramus of pubis.*

patients had a syndrome resembling osteomalacia, 4 patients had vertebral crush fractures, while one patient had pseudo-fractures (Looser's zones).

Chalmers (1965) recently described to the British Orthopaedic Association 25 cases, including the 2 reported below, which he had collected within the past 3 years. He feels that the condition is much commoner than is generally suspected.

CASE REPORTS

Case I

History:

Miss E. H. Date of Birth: 6-5-1918. Occupation: Stitcher.

22-10-57—Polya gastrectomy was performed for haematemesis.

1959—Patient developed backache.

1961—Backache became more troublesome and she was treated by bed rest in her local hospital followed by a plaster of Paris jacket.

October 1961—She first attended the orthopaedic clinic complaining of pains in her feet. These were relieved by supports.

July 1962—Patient re-attended the orthopaedic clinic complaining of pain in the right groin and difficulty in walking, with a tendency to waddle.

On examination she walked with a waddle. She had a full range of hip movement and no neurological signs and she was supplied with a new lumbo-sacral support. As her symptoms did not settle she was placed on the waiting list for hospital. She failed to attend when first called.

March 1963—Patient was admitted to Musgrave Park Hospital. On admission she was complaining of pain in both groins when walking and on weight bearing. There was also stiffness of her back, but no localised pain.

Examination:

On examination she walked badly with a marked waddle. There was no spinal tenderness. All attempts at active or passive movements of her hips caused pain in her groins. There were no neurological signs.

X-rays taken of her pelvis (Fig. 1) showed pseudo fractures in the superior rami of both pubic bones. There was generalised decalcification of the pelvis and upper ends of both femora. X-rays of her hands (Fig. 2) showed a pseudo fracture of the second

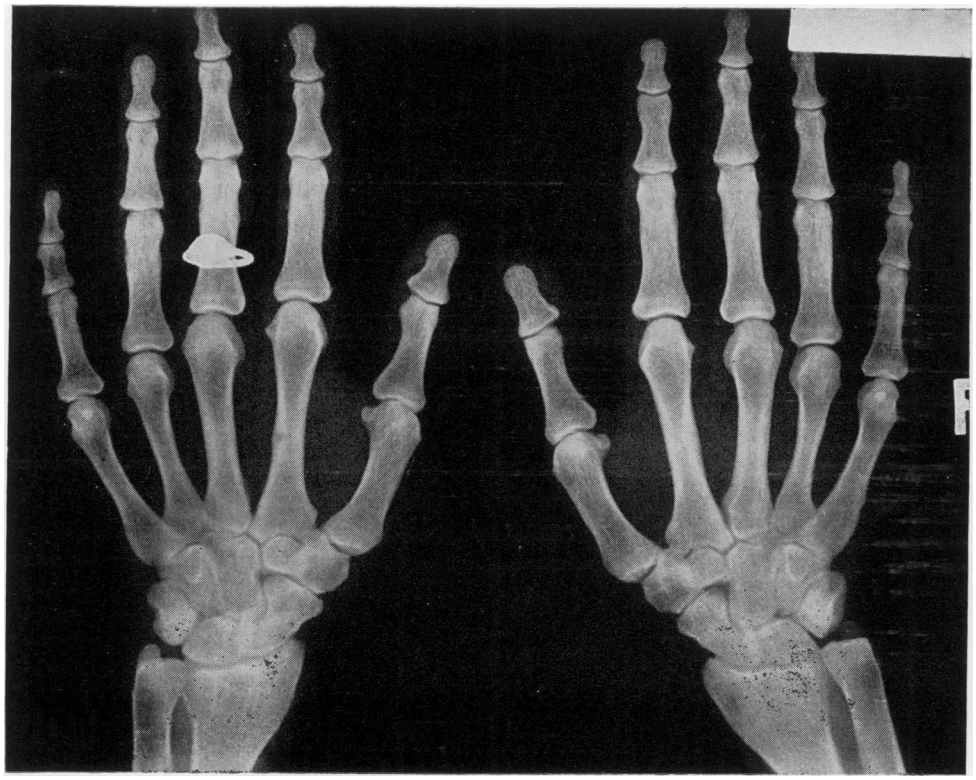


FIG. II. *Pseudo fracture of the 2nd left metacarpal.*

left metacarpal. There was sub-periosteal cortical resorption of some of the phalanges indicating secondary hyper-parathyroidism. In view of the X-ray changes it was felt that she had osteomalacia secondary to malabsorption caused by her gastrectomy.

The following confirmatory tests were performed:

Serum calcium 9.4 mg. % (normal 9-11).
Serum phosphorus 2 mg. % (normal 2-6).
(inorganic phosphate)
Alkaline phosphatase 18 K-A units/100 ml. (normal 3-13)
Haemoglobin 51% (7.4 g. %).
Bone marrow examination showed a megaloblastic picture.
Serum iron 40 micro-g./100 ml. (normal 60 to 160).
Serum vitamin B_{12} 100 micro-micro-g./ml. (normal 140 to 1000).
A small amount of FIGLU was detected in the urine.
6 day collection of faeces—total fat=94 g.

These tests confirmed the presence of steatorrhoea, osteomalacia, and anaemia due to the malabsorption syndrome. Treatment was commenced with a high protein diet, vitamin B_{12}, folic acid, calciferol, N/10 hydrochloric acid, calcium Sandoz, and a course of Imferon.

Progress:

There was a steady improvement in her condition and by the end of May her haemoglobin had risen to 75% (10.9 g.%). X-ray of her pelvis showed that her pseudo-fractures had healed. Her symptoms had settled and she was walking well. She was discharged home on the 2nd June. She continued on her high protein diet with calciferol 50,000 units orally twice weekly. She was also taking N/10 HCl. ½ oz. before meals, calcium Sandoz 1 tablet t.i.d., Plesmets 1 capsule t.i.d. and folic acid 10 mg. bi.d. She had no recurrence of her osteomalacia up to the time of her death in September 1964 from breast carcinoma

Case II

History:

Mrs. R.McD. Date of Birth: 25-3-07. Occupation: Housewife.

July 1953—Polya partial gastrectomy was performed as she had been having stomach trouble for 15 years with pain after meals and vomiting.

June 1959—Patient was in hospital suffering from bronchitis and mild congestive failure.

May 1962—She re-attended hospital with a 2-year history of stabbing pains all over her body, neck, back and legs with difficulty in walking. She also complained of loss of weight and anorexia. Her haemoglobin was 85% (12.5 g. %).

15th May 1962—Laparotomy, liver biopsy and cholecystectomy. The gastrectomy was considered satisfactory. At this time her serum calcium was noted to be 10 mgms. % and her alkaline phosphatase 32 K-A units/100 ml.

July 1963—Patient was re-admitted to hospital. For the previous 6 months she had been in bed suffering from "arthritis" of her knees, ankles and feet. She had had a fall.

Examination:

X-rays showed a supracondylar fracture of the left femur (Fig. 3), and fractures of both tibiae above the malleoli with anterolateral angulation. There were several pseudo-fractures of her ribs and she had a marked dorsal kyphosis. Fractures of the left superior and inferior pubic rami were present with marked loss of bone density throughout the skeleton.

Further investigations were as follows:

Haemoglobin 66% (9.6 g./%).
Serum vitamin B_{12} 130 micro-micro-g./ml.
Faecal fat 21.3 g. in a 3-day collection (over 18-g. is considered to indicate steatorrhoea).
Serum calcium—10 mg. %.
Urinary calcium was 36 mg. per 24 hours (normal being 200).

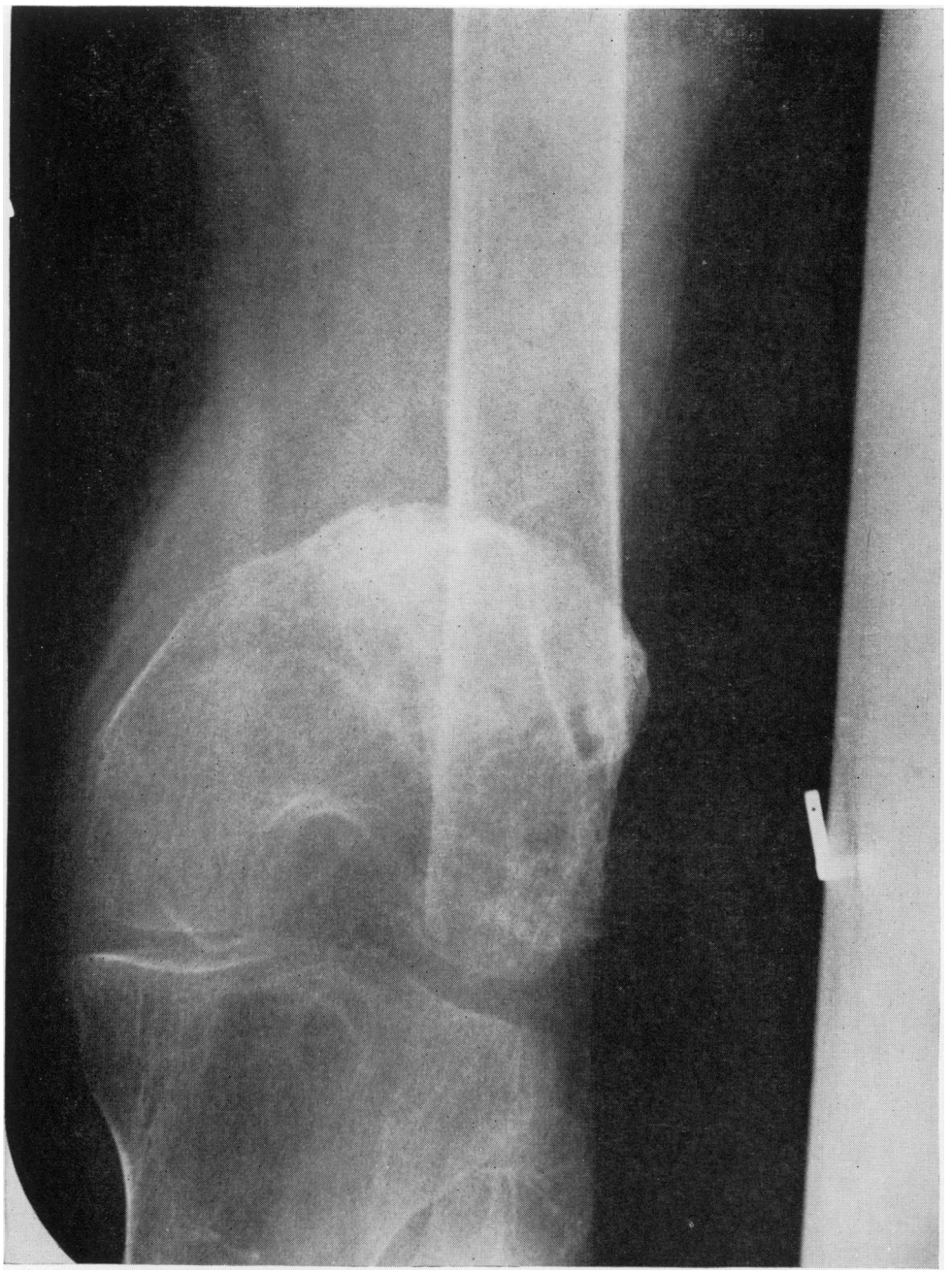


FIG. III. *Marked decalcification with supracondylar fracture of the left femur.*

Progress:

September 1963—When first seen at an orthopaedic clinic she had been under treatment for her osteomalacia and the fracture of her left femur had united with shortening. She had marked bowing of both tibiae with varus deformity of her feet. She declined transfer to Musgrave Park Hospital for rehabilitation.

September 1964—She agreed to the transfer and was admitted to Musgrave Park.

September 1964—A bone biopsy and osteotomy was performed on the right tibia. At the same time manipulative correction of the deformity of the left tibia was performed. Long leg plasters were applied with the feet in the plantigrade position.

January 1965—A left Keller arthroplasty was performed as she had a painful left hallux rigidus. Her bone pain gradually subsided on a regime consisting of a high protein diet, vitamin B_{12}, folic acid, vitamin D and Decadurabolin. With a raise on her shoe to compensate for the shortening she was gradually mobilised and was discharged from hospital on the 17th May, 1965.

Discussion

Miss E. H. Developed backache 2 years after gastrectomy, while Mrs. McD. developed pains in her neck, back and legs 7 years after gastric surgery. The former patient had to wait 4 years before the condition was diagnosed and treatment commenced. The latter was treated for 6 months as a case of rheumatoid arthritis. When she developed an obvious fracture of her femur the diagnosis was made, 3 years after the onset of symptoms. Both were rather difficult pyschologically in the early stages of treatment. This pyschological disturbance was also commented upon by Dellar and Begley.

As well as rheumatoid arthritis the condition may be confused with senile osteoporosis. In this condition there is a progressive thinning of bone trabeculae which maintain a constant organic and mineral structure. The spaces between the trabeculae become larger and the cortex is converted to spongy bone. Serum calcium, serum phosphorus and the alkaline phosphatase tests are all normal. In osteomalacia, decalcification of bone occurs. Histologically there is an abundance of osteoid tissue. The serum calcium and serum phosphorus are lowered or normal, the alkaline phosphatase is raised. There is hypo-calcuria.

Another differential diagnosis which must be considered is osteitis fibrosa cystica. In this condition there is resorption of bone with medullary fibrosis. The serum calcium is raised or normal, the serum phosphorus is lowered and the alkaline phosphatase is raised. There is hyper-calcuria and hyper-phosphaturia.

Chalmers states that the most helpful X-rays are a film of the pelvis, including the upper femorae, and a film of the ribs. In these the decalcification and pseudo fractures are most frequently seen. Of the various investigations, he feels that bone biopsy, when interpreted by pathologists who have a considerable knowledge of the techniques involved, is the most sensitive test.

Summary

Two cases of osteomalacia due to malabsorption following partial gastrectomy are described.

There was a delay of several years in both cases before the correct diagnosis was made.

Both patients responded well to treatment.

Any patient with multiple aches and pains after gastrectomy should be fully investigated for osteomalacia.

I wish to acknowledge the very considerable assistance in the diagnosis and treatment of these patients which I have had from Drs. R. S. Crone, J. A. Fisher and E. S. Mitchell of Musgrave Park Hospital.

References

BAIRD, J. McL. and OLEESKY, S. (1957). *Gastro-enterol.*, **33**, 184.
CHALMERS, J. (1965). *Paper read to British Orthopaedic Association in Bristol, April* 1965.
DELLAR, D. J. and BEGLEY, M. D. (1963). *Austral. Ann. Med.*, **12**, 282.
HARVALD, B. KROGSGAARD, A. R. and LOUS, P. (1962) *Acta Med. Scand.*, **172**, 497.
PYRAH, L. N. and SMITH, I. B. (1956). *Lancet*, **1**, 935.

BOOKS 1965. (Pp. 96). Edinburgh: E. & S. Livingstone, 1965.

THIS lists a large number of works published by Messrs. Livingstone. A generous proportion of these have been made available for review in this journal, but readers may like to have this list free from the publishers. It is interesting to note the large number of books on historical aspects of medicine which Messrs. Livingstone have been able to publish as well as their extensive coverage of all branches of medicine.

CANCER OF THE BREAST

Results of Treatment in Northern Ireland, 1955-1959

By A. R. LYONS, M.D., M.R.C.P., F.F.R.R.C.S.I.
Northern Ireland Radiotherapy Centre, Montgomery House, Purdysburn, Belfast, 8

THE RESULTS of treatment presented in this paper are those obtained in Northern Ireland in certain cases of breast cancer during the years 1955 to 1959. The year 1955 was chosen for the start of the study, as in that year for the first time a sufficient number of simple mastectomies for comparison with radical mastectomies was carried out. For various reasons it was not possible to initiate a random trial though it is fully recognised that such a trial would have been the proper way to investigate the value of each treatment method.

The study, therefore, is a retrospective one, and contains within it a group of cases in which thyroid hormone was used as a prophylactic agent against metastases. This group of cases was contrasted by random selection against a similar group receiving no thyroid hormone, and there is no difference in the results of treatment between the two groups at the period chosen for assessment. A full report of this investigation will be published elsewhere. It is not considered that the presence of these groups can influence the conclusions which can be drawn from the overall results in this paper.

MATERIAL AND METHODS

A total of 947 cases of breast cancer were referred to the Radiotherapy Department during the years 1955 to 1959. Of these 213 cases, including those with bilateral tumours, or those with disease which had extended beyond the axilla, either to the supraclavicular region or to distant sites were excluded. Three cases of cancer in the male breast were also excluded.

The remaining 731 cases having had surgery were treated by radiation. All had histological confirmation of the disease. They had had no treatment previously which could have influenced breast cancer, either in the affected breast or in the opposite breast. There were ten cases of pregnancy carcinoma. None of the patients had previous chemotherapy. The small number of patients who had oophorectomy were statistically distributed equally between the groups who had different forms of surgery.

Because of problems of geography and shortage of staff in the Radiotherapy Department it was not possible to see more than a small fraction of the cases pre-operatively, but great care has been taken to obtain full pre-operative findings, though this has not been possible in every case.

686 cases were suitable for final analysis, as shown in the following table. It seemed a little illogical to discuss five year survival in those aged 75 or over.

TABLE 1.

NUMBER OF CASES IN 5 YEAR SURVIVAL FOR ANALYSIS.

Total - -	751	
Not Analysed -	45	
Follow-up inadequate - - -		6
No surgery or biopsy only - - -		10
Biopsy/Excision - - - -		10
Over 75 years - - - -		19
Available for Analysis - - -		686

Staging:

The cases were divided into three stages, as follows:

Stage I—These were cases whose tumours were either unattached to skin or pectoral fascia, or who showed only slight attachment to these structures. Patients were placed in this category with the above criteria even when their tumours were very large, provided no lymph nodes were palpabla in the axilla, and no distant metastases were present. A minor degree of skin ulceration did not exclude patients from this stage, but patients with more than one tumour palpable in the breast were excluded.

Stage II—Clinical findings were the same as for Stage I, but in addition the patient had palpable mobile glands in the axilla on the same side as the tumour.

Stage III—In this group of patients the tumour was locally advanced, either fixed to the skin, or fixed to pectoral fascia. Patients with fixation of the tumour to the chest wall were excluded. Matting of the axillary nodes without fixation to the chest wall did not exclude the patients from this stage.

In all cases staging was decided on the basis of pre-operative findings, and was not altered subsequently on histological or other evidence.

Types of Surgery:

The type of mastectomy carried out was varied, and this mostly by individual surgeons. Only a small number of surgeons restricted themselves to one type of operation.

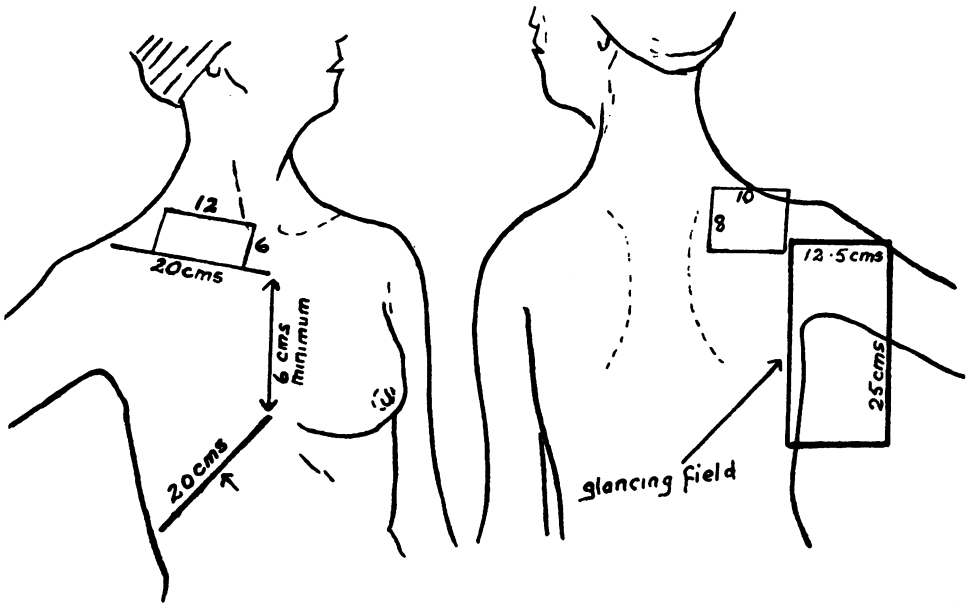
On many occasions, an operation which was not a full radical mastectomy was carried out, the axilla was opened, and there was a partial resection of lymph nodes. This procedure has been named modified radical mastectomy. For this reason the surgical treatment has been divided into three groups:

1. *Radical Mastectomy* in which the surgeon has reported a complete clearance of the axilla and a removal of the whole breast.
2. *Modified Radical Mastectomy* as defined above.
3. *Simple Mastectomy* in which either the breast alone was removed, or the breast plus lymph nodes in the subpectoral group on the antero-lateral chest wall outside the axilla.

Radiotherapy:

Two methods of treatment have been employed:

1. In those cases who had had simple mastectomy the radiation treatment plan consisted of two large opposed fields to include the axilla, and the supraclavicular region on the affected side, and two tangential fields to the chest wall. This is substantially the treatment plan advocated by McWhirter in Edinburgh, and the maximum tissue dose was about 4,000 rads in three weeks. The plan of treatment is shown in the line diagram below.



2. In those patients who had radical mastectomy, because the scar was longer the area was not suitable for treatment with the above method, and in those cases a type of treatment using three tangential fields to the chest wall, plus a supraclavicular field in many cases, was employed. It is well recognised that radiation combined with radical mastectomy leads to an increased incidence of oedema of the arm, and because of this, dosage to the axilla was reduced by about 12 per cent to 3,700 rads. Even with this dosage severe oedema of the arm occurred, and the number of cases developing this will be shown. The plan of treatment is shown in the following line diagram.

Results

On the basis of the devision of the cases into groups with three different types of surgery, and using staging in the way described, the results of the study can be expressed in Table II.

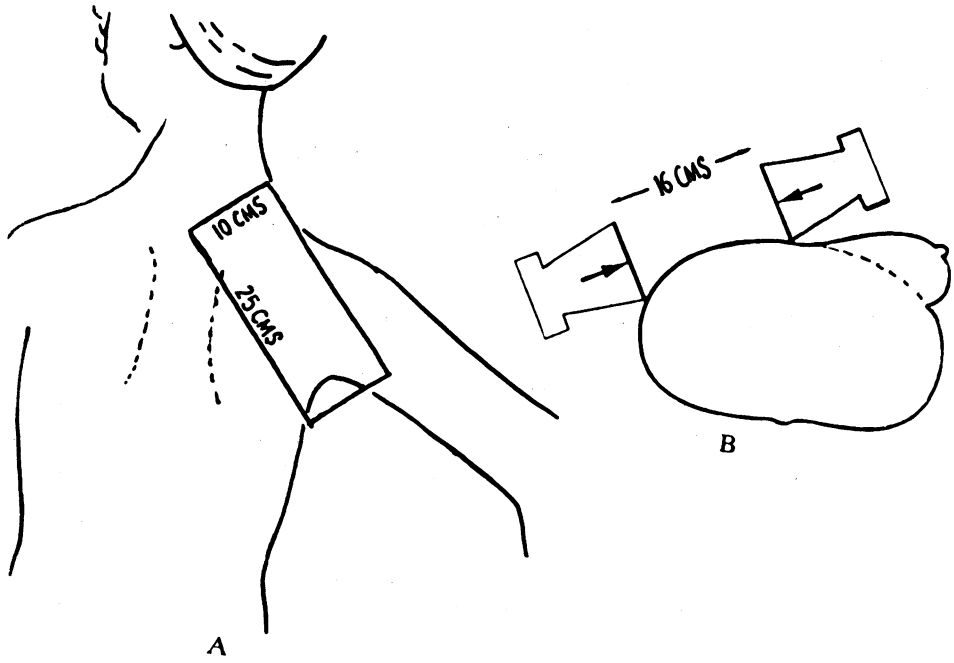
The better results in Stage II with simple mastectomy in comparison with the other forms of surgery are statistically significant. Elsewhere in the results there is no statistical difference.

TABLE II.

RESULTS OF TREATMENT OF BREAST CANCER EXPRESSED AS 5 YEAR SURVIVALS USING DIFFERENT TYPES OF SURGERY

ALL CASES HAD POST-OPERATIVE RADIATION

	Type of Mastectomy		
	Radical Mastectomy	*Modified Radical Mastectomy*	*Simple Mastectomy*
Stage I	42/54 (82.3%)	15/22 (68.2%)	138/188 (73.4%)
Stage II	71/137 (51.8%)	31/59 (52.5%)	84/132 (63.6%)
Stage III	11/27 (40.7%)	3/14 (21.4%)	19/53 (35.8%)



A. The posterior shoulder field used after simple mastectomy to irradiate the supraclavicular and axillary nodes in continuity. The position of the glancing fields in transverse section is shown in B.

To allow for differences of age in the groups, the results were shown corrected for age in Table III.

TABLE III.

COMPARISON OF RELATIVE PROBABILITIES (PER CENT.)+, OF SURVIVAL TO FIFTH ANNIVERSARY OF DATE OF FIRST TREATMENT, BETWEEN STAGES AND BETWEEN TREATMENTS

	Type of Mastectomy		
	Radical Mastectomy	*Modified Radical Mastectomy*	*Simple Mastectomy*
STAGE I	85.3± 5.7%	73.3±12.0%	77.2±4.5%
STAGE II	54.6± 4.8%	41.2± 6.8%	70.2±5.0%
STAGE III	42.0±11.2%	22.0±12.3%	35.3±7.6%

The better results in Stage II with simple mastectomy in comparison with the other forms of surgery are statistically significant. Elsewhere in the results there is no statistical difference.

Table IV indicates the percentage 5 year survival in "operable" cases (Stages I and II):

TABLE IV.

PERCENTAGE 5 YEAR SURVIVAL IN OPERABLE CASES (STAGES I AND II)

Radical Mastectomy	-	191 cases—67%
Modified Mastectomy	-	81 cases—60.3%
Simple Mastectomy	-	320 cases—68.5%

The results in the above table are of interest because of their remarkable similarity.

The tendency for surgeons to carry out more conservative surgery in the Stage I cases might lead to the belief that smaller tumours could be present in those patients who had conservative surgery in all the cases operated on, that this was not so in fact, is shown in Table V, which expresses the mean tumour size, and the various stages with both treatment methods.

TABLE V.

FIVE YEAR GROUP—MEAN TUMOUR SIZE

Type of Operation	*Simple Mastectomy*	*Mastectomy Modified Radical Mastectomy*	*Radical*
Stage I	3.4 cms.	3.0 cms.	3.7 cms.
Stage II	3.7 cms.	3.8 cms.	3.7 cms.
Stage 111	5.0 cms.	5.4 cms.	5.2 cms.

The siting of the tumours in each stage and with each treatment method could well be of importance, but as Table VI shows the only significant difference is in the percentage of tumours in Stage I which were situated in the inner half of the breast when simple mastectomy was carried out.

TABLE VI.

PERCENTAGE DISTRIBUTION—SITE OF TUMOUR

Type of Operation	*Inner Half*	*Outer Half*	*Centre*
STAGE I			
Radical Mastectomy	9	72	19
Simple Mastectomy	41	46	13
STAGE II			
Radical Mastectomy	24.2	59.3	16.5
Simple Mastectomy	24.5	52.6	23
STAGE III			
Radical Mastectomy	25	37.5	37.5
Simple Mastectomy	31	45	24

The only point to note here is the figure of 9 per cent, being the number of tumours in the inner half of the breast in the cases who had radical mastectomy in Stage I.

As has already been stated the incidence of severe oedema of the arm after radical mastectomy gives cause for concern, and the number of cass who develop such severe oedema is shown in Table VII.

TABLE VII.

INCIDENCE OF OEDEMA OF ARM

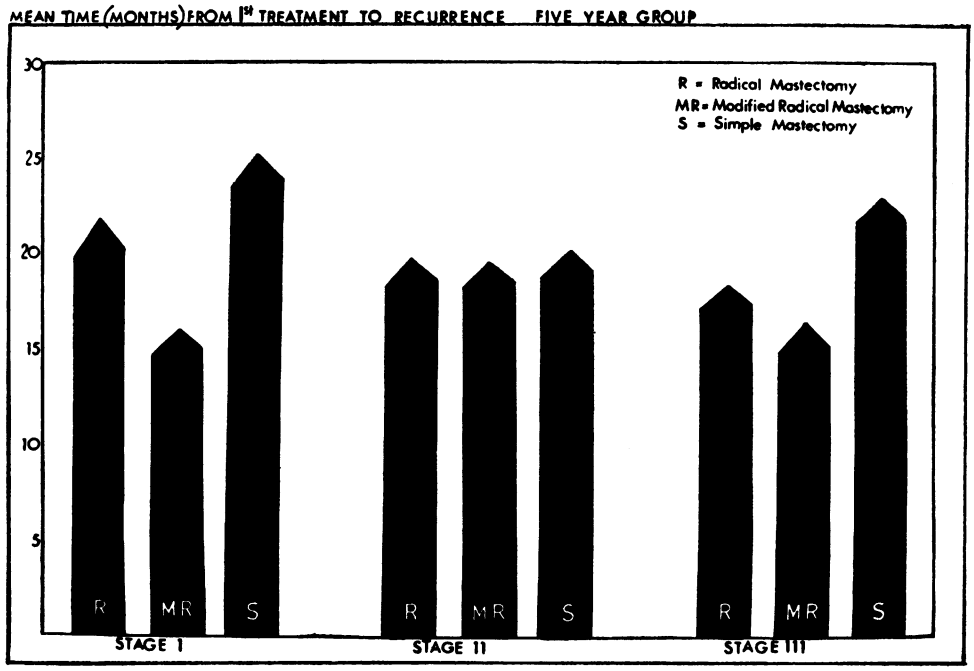
Number of Cases	41
Radical Surgery	33/313=10.5%
Simple Surgery	8/373= 2.2%

Perhaps of equal interest to the 5 year survival rate resulting from the various treatments are the times of initial recurrence after first treatment, when the different treatment methods in each stage are studied. The findings in the figure below will be discussed later.

DISCUSSION

An assessment of the outcome of the treatment methods for breast cancer considered in this paper lends support to the belief that the extent of surgery carried out for this disease has little effect on the 5 year survival rate. Unfortunately, it is not possible to state any conclusions about the value of radiotherapy. However, if the concept of residual disease giving rise to distant matastases, and

so killing the patient is accepted, it would be logical to apply radiation after conservative surgery to those areas where nodes are known to become involved, and to the parasternal node areas after radical surgery, particularly in inner half tumours. It could not be desirable to leave patients who have had conservative surgery without radiation, as if this were accepted there would be no logical reason for doing a radical mastectomy in a patient.



It is of interest to study the intervals between the initial treatment and local or distant recurrence. In Stages I and III (Fig. above) the findings favour simple mastectomy, and the intervals are remarkably constant in Stage II for all treatment methods. It will be noted too that the shortest times to recurrences in Stages I and III are found when the axilla is interfered with, but inadequately dissected. Apart from these exceptions there is a remarkable similarity in the timing of further disease in all stages and in all treatment methods.

In considering the larger overall reports of the results between different methods of treatment in breast cancer it has to be borne in mind that comparison of the results in different series of cases between radical and conservative surgery is difficult unless certain facts are known. It is certainly advantageous to learn the overall crude survival rate in any given series of patients, but this must obviously vary between one series and another, depending on the percentage of late and early cases. Yet in the statements of some authors this is not always taken into account. Even if a complete similarity could be obtained at this level the zest for treatment of metastatic disease may vary from one centre to another so conceivably altering the final assessment at a given point in time which is usually five years. For these reasons it has been thought worthwhile to present the results under

nine sub-divisions which allow a more true comparison of treatment methods even though in some groups the figures will inevitably be rather small. It will have to be accepted that the hormone management of metastases in these patients has been fairly uniform, as it has been carried out almost entirely by doctors attached to the Northern Ireland Radiotherapy Centre

Because there can be very considerable variation in size of tumours within any given clinical stage it is worth noting that the mean size of the tumours treated in each stage was comparable, and as regards siting, the comment has already been made that the only significant variation was in the percentage of inner half tumours in Stage I. From the known lymph node dissemination of inner half tumours the results obtained by simple mastectomy in this group of Stage I cases would suggest that simple mastectomy is at least of equal efficacy in the control of the disease at this stage.

A review of the literature in a comprehensive way about the treatment of breast cancer is almost impossible because it is so vast, but the main impression gained is that the findings in this paper are supported by powerful evidence from elsewhere. McWhirter (1948 a and b, 1949 a and b, 1955, 1956), for many years has been a protagonist of the value of simple mastectomy followed by radiation, and he has produced figures in a large series of patients which will stand up to comparison with those of others who have practised the most meticulous radical mastectomies. McWhirter's figures were attacked in an interesting paper by Watson (1959) in a series showing results in 1,055 cases in Saskatchewan, and treated between 1944 and 1952. Watson reported a 5 year survival rate of 52 per cent after radical mastectomy, as compared with 42 per cent 5 year survival rate in the McWhirter series of cases treated between 1941 and 1947. It is to be noted, however, that Watson's series contain 75 per cent of operable cases as against 62 per cent in the Edinburgh series, underlining the comment made above that useful comparison can only be carried out between tumour groups if they are in fact fully comparable. No attempt has been made to investigate the effects of hormone therapy in either of the 5 year survival rates compared.

Many other authors have produced evidence to support the contention that more conservative surgery may be just as effective as any other form in this disease. Deaton and Greene (1955) in a review of some of the work published up to 1955 on the problem reported on a series of 2,995 cases of operable breast cancer treated by radical mastectomy, and showed that in these cases there was a 54.5 per cent survival. He referred to work by Clifton and Young (1951), Engelstad (1948), Bell (1949), Richardson (1948), and Haagenson and Stout (1951), and he contrasted this with another large series of patients, 808 in all, derived from various other sources—Orr (1950), Saugmann-Jensen and Jacoby (1950), Fitzwilliams (1940), Mustakallio (1949), Nohrmann (1949) and Hartmann (1950) who had simple mastectomy followed by radiation. In this group there were 482 survivors in 5 years, or a 5 year survival rate of 59.8 per cent. It will be noted that the figures in these two large contrasted groups from many different sources are very similar to those of our own.

The results of a co-operative international study (Haagensen et al (1963) on the treatment of early mammary carcinoma were published in February, 1963.

The "Columbia" classification of staging was used and defined, and the results of different methods of treatment were compared. It was recognised by the authors that as many factors would enter into a true comparison of results, some have to be dispensed with as otherwise the numbers would be too small in the sub-groups for any valid comparison to be made. Tumour grading was excluded though the importance of grading in addition to staging for determining prognosis has been demonstrated by Bloom (1951) and others. The authors did not mention mean tumour size in comparing their results, but on the other hand gave very great care to the proper staging of their cases.

The best results in this study were obtained by Haagensen and Cooley, Haagensen has already defined the criteria for radical mastectomy, and since 1951 has added a study of regional lymph nodes at the apex of the axilla, and in the first, second and third interspaces before surgery is undertaken in certain types of cases. If any of these nodes are involved by tumour, radical surgery is not undertaken. When all the criteria defined by Haagensen for surgery are present, the 5 year survival rate in the patients so selected is 82.2 per cent. This group of cases must be regarded as a most highly selected one which has been rationally treated, and it is to be noted that not less than 35-50 lymph nodes are obtained at each operation, and that the mean operating time is 5 hours 30 minutes. A careful analysis of the lymph nodes taken at operation shows conclusively that the prognosis is most definitely related to the number of lymph nodes involved in all stages, thus suggesting that the invasive characteristics of any given tumour, or the host defences to it are what will really determine the outcome of treatment.

Both Haagensen's own paper in this International Study and that of Dahl-Iversen and Tobiassen, illustrate the difficulty of comparison of selected types of cases with those of other centres, and it is for this reason that a paper included in the study by Kaae and Johansen using the same staging is of very great interest. In this paper all the patients presenting with breast cancer for treatment have been divided into two random groups. The first group had as treatment a simple mastectomy and post-operative radiation by the McWhirter method. In the second group the patients were treated by extended radical mastectomy by the method of Dahl-Inversen, and none of these patients received post-operative radiation. The primary examination, the follow-up, and the staging were all carried out at the Radium Centre in Copenhagen.

The results of both groups are statistically the same, though there are not adequate numbers for comparison in the stages 'C' and 'D' as defined in the "Columbia" classification. It is, however, in these late groups that good results cannot be expected from radical mastectomy, if indeed it should ever be done, but comparison of the earlier results is of considerably interest.

In further support of the effectiveness of conservative treatment the findings of Mustakallio (1955) may be mentioned. He reported on 127 cases to whom treatment was given by biopsy/excision followed by radiation to the axilla, parasternal and supraclavicular regions. Of these patients 107 or 84 per cent lived 5 years or longer. This treatment has been confined to Stage I cases, and he has reported no results in Stage II. He has confirmed the continuing success of the method (Mustakallio, 1964).

Porritt (1964) reporting on 263 cases of breast cancer found in those treated by local excision and radiotherapy a better survival rate than in those treated by the radical operation and sometimes combined with radiation. In the cases who had conservative surgery a "segmental mastectomy" was carried out and in some cases who had this procedure if a palpable gland was felt this was removed from the axilla as well.

In deciding on a policy for the treatment of breast cancer it is natural that very considerable caution should be exercised. This is especially so in early cases. A consideration of the pathogenesis of malignant breast tumours makes it clear, however, that radical surgery will either be unnecessary in a high proportion of cases, or will fail because of extension of the disease beyond the confines of the operation. Taking into account the staging of the tumour, and the incidence of parasternal and supraclavicular lymph node involvement in cases staged I and II it is evident that in only a very small proportion can radical surgery be logically beneficial. These cases will be those in Stage II who have nodal involvement entirely confined to the lower part of the axilla, but these cases are in fact the ones who most markedly demonstrated no benefit from radical surgery in this series.

It is suggested that a very great step forward would have been made in the treating of this disease if the results in women who had had a biopsy excision, or at most a wedge resection, followed by X-ray treatment could be shown to be as good as those following more radical surgery. Obviously such patients would have retained their breasts, and having megavoltage radiation would have experienced much less skin reaction than with orthovoltage. The combination of these two changes in treatment policy would make for a very different final anatomical result from that seen with the therapeutic programme offered today.

Summary

In Northern Ireland 947 cases of breast cancer occurring between 1955 and 1959 were referred for post-operative radiotherapy. Of these 686 were in stages I, II and III and were treated by either modified radical or simple mastectomy.

The over-all results of treatment do not appear to be influenced by the extent of the surgery carried out, though in Stage II cases the outcome statistically favours simple mastectomy.

The findings of other workers are discussed and a suggestion is made that more conservative surgery still, combined with megavoltage radiotherapy, be considered as a suitable treatment method in many cases of this disease.

I would like to thank the many surgeons who referred their patients for radiotherapy. The work analysed in this paper is obviously one of joint activity between surgeons and radiotherapists.

I am most grateful to Professor Eric Cheeseman for his interest and advice; without his help the task of compiling the figures would have been infinitely more difficult.

I am indebted to Dr. George Edelstyn for much work on the case material, and to Miss Grace Marshall and her staff for typing the script.

References

Bell, H. G. (1949). *Ann. Surg.*, 130, 310.

Bloom, H. J. G. (1951). *Brit. J. Surg.*, 4, 259.

Clifton, E. E., Young, L. E. (1951). *Am. J. Surg.*, 82, 185.

Deaton, W. R. Jr., Greene Boro, N. C. (1955). *Surgery*, 37, 720.

Engelstad, R. B. (1948). *Amer. J. Roentgenol*, 60, 776.

Fitzwilliams, D. C. L. (1940). *Brit. med. J.*, 2, 405.

Haagenson, C. D., Cooley, E., Kennedy, C. S., Elmer Miller, Handley, R. S., Thackeray, A. C. Butcher, H. R. Jr., Dahl-Iversen, E., Tobiassen, T., Williams, I. G., Curwen, M. P., Kaab, S. and Johansen, H. (1963). *Ann. Surg.*, 157, 157.

Haagensen, E. D., Stout, A. P. (1951). *Ann. Surg.*, 134, 151.

Hartman, H. (1950). *Bull. Act Nat. Med.*, 134, 178.

McWhirter, R. (1948). *Brit. J. Radiol.*, 21, 599.

„ „ (1948. *Proc. Roy. Soc. Med.*, 41, 122.

„ „ (1949), *Arch. Surg.*, 59, 830.

„ „ (1949). *Amer. J. Roentgenol.*, 62, 335.

„ „ (1955). *Brit. J. Radiol.*, 28, 128.

„ „ (1956). *Irish J. med. Sci.*, 371, 475.

Mustakallio, S. (1945). *Acta Radiol.*, 26, 503.

Mustakallio, S. (1955). *Brit. J. Radiol.*, 6, 23.

Mustakallio, S. (1964). *(Personal Communication)*

Nohrmann, B. A. (1949). *Acta Radiol., supp.*, 77.

Orr, T. G. (1950). *Surg., Gynaec., Obstet.*, 90, 413.

Porritt, A. (1964). *Brit. J. Surg.*, 51, 214.

Richards, G. E. (1948). *Brit. J. Radiol.*, 21, 109.

Saugmann-Jensen, J., Jacoby, P. (1950). *Acta Radiolog.*, 34, 453.

Watson, T. A. (1959). *Lancet.*, 1, 1191.

Figures 1 and 2 are reproduced from chapter 31, page 606 on 'Cancer of the Breast' in the "Treatment of Cancer and Clinical Practice" edited by P. Kunkler and T. Rains by kind permission of the publishers, E. S. Livingstone Ltd., Edinburgh.

REVIEWS

GALLSTONES: CAUSES AND TREATMENT. By A. J. Harding Rains, M.S., F.R.C.S. (Pp. 188. Illustrated. 40s.). London: William Heinemann Medical Books Ltd, 1964.

As an external examiner in surgery for the past few years, Professor Rains has made himself well known to us here in Ulster, and we welcome this monograph of his on gallstones.

Some fifty years ago there were many books on the subject, but in recent years little has been written. Professor Rains himself is well known for his researches into the causation of gallstones.

In the first half of this book the etiology and structure of gallstones is studied in considerable detail. The classical theories of causation are reviewed and much attention is devoted to physico-chemical factors, crystallisation mechanisms, cholesterol-bile salt ratios and bile stasis and layering. In this part of the book, in addition to drawing upon his own researches and ideas, Professor Rains gives a very full and lucid review of the whole subject.

In the second, and rather shorter part, he deals clearly and concisely with the clinical effects of gallstones and the standard methods of treatment. This section is entirely orthodox, but includes all modern methods.

The chapter on operative treatment contains much excellent advice and should be useful to all surgeons called upon to treat patients with biliary disease.

The whole monograph is liberally illustrated with line drawings, which are especially valuable in the clarification of somewhat complicated physico-chemical theories.

This small book should prove of great interest to the abdominal surgeon, and should be helpful also to the trainee surgeon. The clinical chapters, at least, should be read by the senior student.

T. K.

THE PREMENSTRUAL SYNDROME. By Katharina Dalton, M.R.C.S., L.R.C.P. (Pp. vii+1+104, figs. 39). London: William Heinemann Medical Books Ltd., 1964.

THE author defines the premenstrual syndrome as a term that covers a wide variety of symptoms, which regularly recur at the same phase of each menstrual cycle, commonly premenstrually, but occasionally at ovulation. She has avoided using the term 'premenstrual tension' as this reflects only one of the many components of the syndrome, and may be absent or 'overshadowed by some more serious complaint'. The number of symptoms given by the author is considerable, ranging from the rare to more common manifestations. Psychological concomitants of the condition include those described by the author in girls at an English boarding school when the prefects gave significantly more punishment during their own menstruation than at other times. The author raises the point as to whether the same is true of women generally, especially teachers, magistrates and others in authority.

Cyclical phenomena are difficult to interpret, and often require elaborate statistical methods for their elucidation. Psychological variables may play a part in the syndrome and cannot always be correlated with the physical findings. According to Bruce and Russell (Lancet 1962, ii, 267) the patients they chose to study biochemically because of complaints of premenstrual tension failed to provide evidence of a positive correlation either between complaints and weight gain or between subjective complaints and 'objective' assessment of their degree of distress.

This book provides a ready source of information for the general practitioner on the diversity of symptoms and behaviour in relation to the menstrual cycle, and their treatment. Dr. Dalton has made a considerable contribution to the clinical literature on cyclical phenomena.

J. G. G.

REVIEWS

GALLSTONES: CAUSES AND TREATMENT. By A. J. Harding Rains, M.S., F.R.C.S. (Pp. 188. Illustrated. 40s.). London: William Heinemann Medical Books Ltd, 1964.

As an external examiner in surgery for the past few years, Professor Rains has made himself well known to us here in Ulster, and we welcome this monograph of his on gallstones.

Some fifty years ago there were many books on the subject, but in recent years little has been written. Professor Rains himself is well known for his researches into the causation of gallstones.

In the first half of this book the etiology and structure of gallstones is studied in considerable detail. The classical theories of causation are reviewed and much attention is devoted to physico-chemical factors, crystallisation mechanisms, cholesterol-bile salt ratios and bile stasis and layering. In this part of the book, in addition to drawing upon his own researches and ideas, Professor Rains gives a very full and lucid review of the whole subject.

In the second, and rather shorter part, he deals clearly and concisely with the clinical effects of gallstones and the standard methods of treatment. This section is entirely orthodox, but includes all modern methods.

The chapter on operative treatment contains much excellent advice and should be useful to all surgeons called upon to treat patients with biliary disease.

The whole monograph is liberally illustrated with line drawings, which are especially valuable in the clarification of somewhat complicated physico-chemical theories.

This small book should prove of great interest to the abdominal surgeon, and should be helpful also to the trainee surgeon. The clinical chapters, at least, should be read by the senior student.

T. K.

THE PREMENSTRUAL SYNDROME. By Katharina Dalton, M.R.C.S., L.R.C.P. (Pp. vii+1+104, figs. 39). London: William Heinemann Medical Books Ltd., 1964.

THE author defines the premenstrual syndrome as a term that covers a wide variety of symptoms, which regularly recur at the same phase of each menstrual cycle, commonly premenstrually, but occasionally at ovulation. She has avoided using the term 'premenstrual tension' as this reflects only one of the many components of the syndrome, and may be absent or 'overshadowed by some more serious complaint'. The number of symptoms given by the author is considerable, ranging from the rare to more common manifestations. Psychological concomitants of the condition include those described by the author in girls at an English boarding school when the prefects gave significantly more punishment during their own menstruation than at other times. The author raises the point as to whether the same is true of women generally, especially teachers, magistrates and others in authority.

Cyclical phenomena are difficult to interpret, and often require elaborate statistical methods for their elucidation. Psychological variables may play a part in the syndrome and cannot always be correlated with the physical findings. According to Bruce and Russell (Lancet 1962, ii, 267) the patients they chose to study biochemically because of complaints of premenstrual tension failed to provide evidence of a positive correlation either between complaints and weight gain or between subjective complaints and 'objective' assessment of their degree of distress.

This book provides a ready source of information for the general practitioner on the diversity of symptoms and behaviour in relation to the menstrual cycle, and their treatment. Dr. Dalton has made a considerable contribution to the clinical literature on cyclical phenomena.

J. G. G.

BAILEY'S TEXTBOOK OF HISTORY. Revised by Wilfred M. Copenhaver, Ph.D. Fifteenth Edition. (Pp. xiii+679; figs. 509. 108s). London: Baillière, Tindall & Cox, 1965.

THERE have been many changes in microscopic anatomy since this text first appeared in 1904, but it has been regularly revised and since 1920 it has been revised by various teachers. Even since the last edition in 1958 many advances, especially in electron microscopy and in histochemical and auto-radiographic techniques, have been recorded. The book has been revised throughout and some chapters rewritten.

A very successful synthesis of old and new material has been achieved and the relationship of appearances given by light microscopy and electron microscopy is clearly drawn. The description of electron microscopy supplements what the student may hope to see with his own microscope in good preparations. There is a useful discussion of the relationship of structure and function.

This book will be of interest and value to the better and more enquiring medical student and to the post graduate worker using histological techniques. It will provide a reliable survey of modern human histology.

J. E. M.

HEREDITY. An introduction to Genetics by A. M. Winchester, M.A., Ph.D. (Pp. ix+269, Illustrated. 18s). London: Harrap, 1965.

THIS is a well prepared and well designed primer on genetics intended for students in the various disciplines where such a knowledge is now required. It does not assume a prior knowledge of general biology and the second chapter is a very clear presentation of the historical development of genetic knowledge. Within modest compass a large part of classical genetic theory and practice is clearly presented. The author is evidently an experienced teacher and both by the text and by well designed diagrams leads the student carefully to an understanding of many difficult aspects of genetics. Questions and answers after the early chapters should prompt the student to read the text closely. The author claims that the medical student who must often undertake a study of medical applications of genetics without previous training will find it a valuable reference, but it is really a book to study as whole, and the medical reader unfamiliar with genetics will not find it useful for casual reference. Indeed, he must appreciate that it covers general biology, and, despite such useful chapters as that on the blood groups, is concerned with general biological applications.

The American edition of the book was evidently published in 1961 and there is no useful presentation of modern cytogenetics or the modern direct study of chromosomes. For a basic study of the older and more established part of general genetics this is a reliable text. References are limited to a list of student text books.

J. E. M.

MODERN DRUG TREATMENT IN TUBERCULOSIS. By J. D. Ross, M.B., Ch.B., F.R.C.P.E., M.P.H., and N. W. Horne, M.B., Ch.B., F.R.C.P.E. Third Edition. (Pp. 84, 12s. 6d.). London: Chest and Heart Association, 1965.

THE paper-back monograph is new to medicine but sensible. In no field is it more appropriate than therapeutics where the pace of modern developmnets renders the textbook a rapidly wasting asset. This small book gives a clear and concise account of modern chemotherapy of tuberculosis. It describes the rationale of standard therapy with streptomycin, isoniazid and para-aminosalicylic acid. There is a clear account of the complications of drug therapy, of the difficulties that arise if there is bacterial resistance to drugs and of the measures that may make it possible to use a drug that is needed for adequate therapy even though the patient has developed drug sensitivity. Worth reading and well worth buying at 12s. 6d.

O.L.W.

BAILEY'S TEXTBOOK OF HISTORY. Revised by Wilfred M. Copenhaver, Ph.D. Fifteenth Edition. (Pp. xiii+679; figs. 509. 108s). London: Baillière, Tindall & Cox, 1965.

THERE have been many changes in microscopic anatomy since this text first appeared in 1904, but it has been regularly revised and since 1920 it has been revised by various teachers. Even since the last edition in 1958 many advances, especially in electron microscopy and in histochemical and auto-radiographic techniques, have been recorded. The book has been revised throughout and some chapters rewritten.

A very successful synthesis of old and new material has been achieved and the relationship of appearances given by light microscopy and electron microscopy is clearly drawn. The description of electron microscopy supplements what the student may hope to see with his own microscope in good preparations. There is a useful discussion of the relationship of structure and function.

This book will be of interest and value to the better and more enquiring medical student and to the post graduate worker using histological techniques. It will provide a reliable survey of modern human histology.

J. E. M.

HEREDITY. An introduction to Genetics by A. M. Winchester, M.A., Ph.D. (Pp. ix+269, Illustrated. 18s). London: Harrap, 1965.

THIS is a well prepared and well designed primer on genetics intended for students in the various disciplines where such a knowledge is now required. It does not assume a prior knowledge of general biology and the second chapter is a very clear presentation of the historical development of genetic knowledge. Within modest compass a large part of classical genetic theory and practice is clearly presented. The author is evidently an experienced teacher and both by the text and by well designed diagrams leads the student carefully to an understanding of many difficult aspects of genetics. Questions and answers after the early chapters should prompt the student to read the text closely. The author claims that the medical student who must often undertake a study of medical applications of genetics without previous training will find it a valuable reference, but it is really a book to study as whole, and the medical reader unfamiliar with genetics will not find it useful for casual reference. Indeed, he must appreciate that it covers general biology, and, despite such useful chapters as that on the blood groups, is concerned with general biological applications.

The American edition of the book was evidently published in 1961 and there is no useful presentation of modern cytogenetics or the modern direct study of chromosomes. For a basic study of the older and more established part of general genetics this is a reliable text. References are limited to a list of student text books.

J. E. M.

MODERN DRUG TREATMENT IN TUBERCULOSIS. By J. D. Ross, M.B., Ch.B., F.R.C.P.E., M.P.H., and N. W. Horne, M.B., Ch.B., F.R.C.P.E. Third Edition. (Pp. 84, 12s. 6d.). London: Chest and Heart Association, 1965.

THE paper-back monograph is new to medicine but sensible. In no field is it more appropriate than therapeutics where the pace of modern developmnets renders the textbook a rapidly wasting asset. This small book gives a clear and concise account of modern chemotherapy of tuberculosis. It describes the rationale of standard therapy with streptomycin, isoniazid and para-aminosalicylic acid. There is a clear account of the complications of drug therapy, of the difficulties that arise if there is bacterial resistance to drugs and of the measures that may make it possible to use a drug that is needed for adequate therapy even though the patient has developed drug sensitivity. Worth reading and well worth buying at 12s. 6d.

O.L.W.

BAILEY'S TEXTBOOK OF HISTORY. Revised by Wilfred M. Copenhaver, Ph.D. Fifteenth Edition. (Pp. xiii+679; figs. 509. 108s). London: Baillière, Tindall & Cox, 1965.

THERE have been many changes in microscopic anatomy since this text first appeared in 1904, but it has been regularly revised and since 1920 it has been revised by various teachers. Even since the last edition in 1958 many advances, especially in electron microscopy and in histochemical and auto-radiographic techniques, have been recorded. The book has been revised throughout and some chapters rewritten.

A very successful synthesis of old and new material has been achieved and the relationship of appearances given by light microscopy and electron microscopy is clearly drawn. The description of electron microscopy supplements what the student may hope to see with his own microscope in good preparations. There is a useful discussion of the relationship of structure and function.

This book will be of interest and value to the better and more enquiring medical student and to the post graduate worker using histological techniques. It will provide a reliable survey of modern human histology.

J. E. M.

HEREDITY. An introduction to Genetics by A. M. Winchester, M.A., Ph.D. (Pp. ix+269, Illustrated. 18s). London: Harrap, 1965.

THIS is a well prepared and well designed primer on genetics intended for students in the various disciplines where such a knowledge is now required. It does not assume a prior knowledge of general biology and the second chapter is a very clear presentation of the historical development of genetic knowledge. Within modest compass a large part of classical genetic theory and practice is clearly presented. The author is evidently an experienced teacher and both by the text and by well designed diagrams leads the student carefully to an understanding of many difficult aspects of genetics. Questions and answers after the early chapters should prompt the student to read the text closely. The author claims that the medical student who must often undertake a study of medical applications of genetics without previous training will find it a valuable reference, but it is really a book to study as whole, and the medical reader unfamiliar with genetics will not find it useful for casual reference. Indeed, he must appreciate that it covers general biology, and, despite such useful chapters as that on the blood groups, is concerned with general biological applications.

The American edition of the book was evidently published in 1961 and there is no useful presentation of modern cytogenetics or the modern direct study of chromosomes. For a basic study of the older and more established part of general genetics this is a reliable text. References are limited to a list of student text books.

J. E. M.

MODERN DRUG TREATMENT IN TUBERCULOSIS. By J. D. Ross, M.B., Ch.B., F.R.C.P.E., M.P.H., and N. W. Horne, M.B., Ch.B., F.R.C.P.E. Third Edition. (Pp. 84, 12s. 6d.). London: Chest and Heart Association, 1965.

THE paper-back monograph is new to medicine but sensible. In no field is it more appropriate than therapeutics where the pace of modern developmnets renders the textbook a rapidly wasting asset. This small book gives a clear and concise account of modern chemotherapy of tuberculosis. It describes the rationale of standard therapy with streptomycin, isoniazid and para-aminosalicylic acid. There is a clear account of the complications of drug therapy, of the difficulties that arise if there is bacterial resistance to drugs and of the measures that may make it possible to use a drug that is needed for adequate therapy even though the patient has developed drug sensitivity. Worth reading and well worth buying at 12s. 6d.

O.L.W.

LIVE LONG AND STAY YOUNG—POSITIVE HEALTH AND REJUVENATION. By Dr. Eric J. Trimmer (Pp. 159. Paper 9s. 6d., Cloth 15s.). London: George Allen & Unwin, 1965.

THIS book has a great deal to commend it. Written for both lay and medical readers (a glossary of medical terms is appended for the former), it is presented in three parts with two appendices.

In days when the lay press is flooded with quasi-medical writings, this book does much to create a good survey of fact and fallacy in regard to health education. As commented on in the foreword written by Dr. Harvey Flack, Editor of "Family Doctor," "The book has taken in a widely-ranging perspective, all the fact and fallacies, all the methods and techniques, orthodox and unorthodox and even pure quack, that relate to keeping fit and well men and women who are said to be 'old'."

In the section on "Living Long" sound advice is given on escaping coronory thrombosis, detecting cancer at an early stage, avoiding dyspeptic aging, prevention of accidents (a specially good section) and the means of dealing with bronchitis. Sound arguments, statistically supported, abound in this book and these are particularly effective in the case against smoking.

This is altogether an engaging little book which offers admirable advice to lay readers. To benefit from its councils it should be read before many of the bad habits are formed.

M.W.J.B.

SAMSON WRIGHT'S APPLIED PHYSIOLOGY. Revised by Cyril A. Keele and Eric Neil. Eleventh Edition. (Pp. vii+526, figs. 384. Paper 42s, Cloth 60s.). London: Oxford University Press, 1965.

IN this edition the sections on Digestion and Endocrines have been rewritten and there has been much detailed revision of other sections. The result is an up-to-date presentation of physiology and especially of human physiology. The material is well marshalled in sections and subsections and supported by references to a few classical papers and to many well chosen recent papers and reviews.

It is difficult to avoid the thought that over the years Samson Wright's masterpiece has become less closely concerned with the application of physiology to medical practice. Probably the mere presentation of the accumulation of physiological knowledge which might be relevant has tended to obscure discussion of what is relevant. When, as in such sections as that on the blood, there is much direct discussion of diseased states it tends to be superficial and the relevancy of normal function for the diseased state is not clear. Thus the few paragraphs given to immunity are of little value to those concerned with how the normal response of the body is disturbed in microbic disease or in auto-immune states.

Perhaps after all there never was such a subject as applied physiology. It only arose and had a vogue with such able interpreters as Samson Wright, because pathologists, who should have studied the disturbed function as well as the disturbed structure of the body failed, especially in Scotland and thus in Great Britain, to appreciate their true role. Admittedly a really adequate discussion of normal physiology and of its disturbance in all the various diseased states of man would require many monographs. While much is given here a lingering disappointment remains.

J. E. M.

CATALOGUE OF WORLD HEALTH ORGANISATION PUBLICATIONS 1947-1960. (Pp. 114). Geneva: World Organisation, 1965.

THIS catalogue arranged under subjects and also listing periodicals and series and official publications indicates the wide scope of the various activities of the W.H.O. Many must be unaware of these excellent surveys prepared by experts. A wider knowledge of the publications available could prevent readers searching in scattered journals for information documented in these publications.

LIVE LONG AND STAY YOUNG—POSITIVE HEALTH AND REJUVENATION. By Dr. Eric J. Trimmer (Pp. 159. Paper 9s. 6d., Cloth 15s.). London: George Allen & Unwin, 1965.

THIS book has a great deal to commend it. Written for both lay and medical readers (a glossary of medical terms is appended for the former), it is presented in three parts with two appendices.

In days when the lay press is flooded with quasi-medical writings, this book does much to create a good survey of fact and fallacy in regard to health education. As commented on in the foreword written by Dr. Harvey Flack, Editor of "Family Doctor," "The book has taken in a widely-ranging perspective, all the fact and fallacies, all the methods and techniques, orthodox and unorthodox and even pure quack, that relate to keeping fit and well men and women who are said to be 'old'."

In the section on "Living Long" sound advice is given on escaping coronory thrombosis, detecting cancer at an early stage, avoiding dyspeptic aging, prevention of accidents (a specially good section) and the means of dealing with bronchitis. Sound arguments, statistically supported, abound in this book and these are particularly effective in the case against smoking.

This is altogether an engaging little book which offers admirable advice to lay readers. To benefit from its councils it should be read before many of the bad habits are formed.

M.W.J.B.

SAMSON WRIGHT'S APPLIED PHYSIOLOGY. Revised by Cyril A. Keele and Eric Neil. Eleventh Edition. (Pp. vii+526, figs. 384. Paper 42s, Cloth 60s.). London: Oxford University Press, 1965.

IN this edition the sections on Digestion and Endocrines have been rewritten and there has been much detailed revision of other sections. The result is an up-to-date presentation of physiology and especially of human physiology. The material is well marshalled in sections and subsections and supported by references to a few classical papers and to many well chosen recent papers and reviews.

It is difficult to avoid the thought that over the years Samson Wright's masterpiece has become less closely concerned with the application of physiology to medical practice. Probably the mere presentation of the accumulation of physiological knowledge which might be relevant has tended to obscure discussion of what is relevant. When, as in such sections as that on the blood, there is much direct discussion of diseased states it tends to be superficial and the relevancy of normal function for the diseased state is not clear. Thus the few paragraphs given to immunity are of little value to those concerned with how the normal response of the body is disturbed in microbic disease or in auto-immune states.

Perhaps after all there never was such a subject as applied physiology. It only arose and had a vogue with such able interpreters as Samson Wright, because pathologists, who should have studied the disturbed function as well as the disturbed structure of the body failed, especially in Scotland and thus in Great Britain, to appreciate their true role. Admittedly a really adequate discussion of normal physiology and of its disturbance in all the various diseased states of man would require many monographs. While much is given here a lingering disappointment remains.

J. E. M.

CATALOGUE OF WORLD HEALTH ORGANISATION PUBLICATIONS 1947-1960. (Pp. 114). Geneva: World Organisation, 1965.

THIS catalogue arranged under subjects and also listing periodicals and series and official publications indicates the wide scope of the various activities of the W.H.O. Many must be unaware of these excellent surveys prepared by experts. A wider knowledge of the publications available could prevent readers searching in scattered journals for information documented in these publications.

LIVE LONG AND STAY YOUNG—POSITIVE HEALTH AND REJUVENATION. By Dr. Eric J. Trimmer (Pp. 159. Paper 9s. 6d., Cloth 15s.). London: George Allen & Unwin, 1965.

THIS book has a great deal to commend it. Written for both lay and medical readers (a glossary of medical terms is appended for the former), it is presented in three parts with two appendices.

In days when the lay press is flooded with quasi-medical writings, this book does much to create a good survey of fact and fallacy in regard to health education. As commented on in the foreword written by Dr. Harvey Flack, Editor of "Family Doctor," "The book has taken in a widely-ranging perspective, all the fact and fallacies, all the methods and techniques, orthodox and unorthodox and even pure quack, that relate to keeping fit and well men and women who are said to be 'old'."

In the section on "Living Long" sound advice is given on escaping coronory thrombosis, detecting cancer at an early stage, avoiding dyspeptic aging, prevention of accidents (a specially good section) and the means of dealing with bronchitis. Sound arguments, statistically supported, abound in this book and these are particularly effective in the case against smoking.

This is altogether an engaging little book which offers admirable advice to lay readers. To benefit from its councils it should be read before many of the bad habits are formed.

M.W.J.B.

SAMSON WRIGHT'S APPLIED PHYSIOLOGY. Revised by Cyril A. Keele and Eric Neil. Eleventh Edition. (Pp. vii+526, figs. 384. Paper 42s, Cloth 60s.). London: Oxford University Press, 1965.

IN this edition the sections on Digestion and Endocrines have been rewritten and there has been much detailed revision of other sections. The result is an up-to-date presentation of physiology and especially of human physiology. The material is well marshalled in sections and subsections and supported by references to a few classical papers and to many well chosen recent papers and reviews.

It is difficult to avoid the thought that over the years Samson Wright's masterpiece has become less closely concerned with the application of physiology to medical practice. Probably the mere presentation of the accumulation of physiological knowledge which might be relevant has tended to obscure discussion of what is relevant. When, as in such sections as that on the blood, there is much direct discussion of diseased states it tends to be superficial and the relevancy of normal function for the diseased state is not clear. Thus the few paragraphs given to immunity are of little value to those concerned with how the normal response of the body is disturbed in microbic disease or in auto-immune states.

Perhaps after all there never was such a subject as applied physiology. It only arose and had a vogue with such able interpreters as Samson Wright, because pathologists, who should have studied the disturbed function as well as the disturbed structure of the body failed, especially in Scotland and thus in Great Britain, to appreciate their true role. Admittedly a really adequate discussion of normal physiology and of its disturbance in all the various diseased states of man would require many monographs. While much is given here a lingering disappointment remains.

J. E. M.

CATALOGUE OF WORLD HEALTH ORGANISATION PUBLICATIONS 1947-1960. (Pp. 114). Geneva: World Organisation, 1965.

THIS catalogue arranged under subjects and also listing periodicals and series and official publications indicates the wide scope of the various activities of the W.H.O. Many must be unaware of these excellent surveys prepared by experts. A wider knowledge of the publications available could prevent readers searching in scattered journals for information documented in these publications.

BEDSIDE DIAGNOSIS. By Charles Seward, M.D., F.R.C.P.(Ed.). Seventh Edition. (Pp. xx+ 568, 35s.). Edinburgh and London: E. & S. Livingstone, 1965.

SEVEN editions in a period of sixteen years with translations into four languages is strong proof of the popularity of this little book. As a short text of differential diagnosis admirably suitable for the student in clinical studies in hospital, it has few rivals.

The present edition has been expanded by some 70 pages in a full revision of the book and the re-writing of the chapters on "Anaemia," "Haemorrhagic Disease" and "Debility and/or loss of weight." Throughout, there is a logical sequence from the main symptom, with reference to its physiology, to the pathological causations with answers to the student's needs in special investigations, which incidentally have been fully brought up to date. The section on the side effects of drugs again brings this expanding subject into a useful small compass.

Unfortunately no references are given to further reading and one finds the section on serum protein electrophoresis unduly short. A few further causes of hypoalbuminaemia might be added and a few words added on the importance of *beta* globulin in metal transport, etc.

However these are only small criticisms of a book that does not set out to be exhaustive. It still remains good value at 35s.

The presentation and binding make for easy transport and handling. It can be thoroughly recommended to students and practitioners (general and specialized).

M.W.J.B.

TO-DAY'S DRUGS. Specially commissioned articles from the British Medical Journal. (Pp. viii+400, 30s.). London: British Medical Association, 1964.

PHARMACOLOGY and therapeutic practice develop and change so rapidly that Sir Edward Wayne has rendered a valuable service to our profession by persuading the Editor of the British Medical Journal to publish review articles each week in the section "To-day's Drugs." These articles are informative and useful and special attention is always given to precautions which should be observed in the use of drugs and to a description of toxic effects or adverse reactions which may occur. I have only one major criticism of this series: I think that all articles should be signed. In this I suspect that I am not alone for the Management Committee of "Prescribers' Journal" recently conducted a survey of the opinion of readers and found a high proportion of doctors wanted articles expressing opinions and comments on drugs but wanted these articles to be signed.

In this book 55 articles have been re-published. Some reparation is made for the absence of signatures by including a list of contributors and some pleasure can be obtained from the "who wrote which" game. The range of subjects is wide and they have been grouped in 11 sections on important topics such as antibiotics, drugs used in diseases of the cardio-vascular system, in skin disease, endocrine disorders, blood diseases and the therapy of malignant disease. The articles were originally published between January 1963 and May 1964. They have been edited and brought up to date to form a useful and authoritative guide to modern therapeautics.

O.L.W.

THE CONTRACEPTIVE PILL. By J. F. Robinson, M.B., Ch.B. (Pp. 16, 2s 6d.). Edinburgh and London: E. & S. Livingstone, 1965.

THIS booklet gives a clear account, for the non-medical reader, of oral contraceptives. It describes their probable mode of action, how to take them, their possible side-effects, complications and contra-indications. It covers, in fact, the sort of ground covered by a doctor when discussing this form of contraception with his patient and gives a balanced account of the pros and cons of the use of these pills.

J.N.

BEDSIDE DIAGNOSIS. By Charles Seward, M.D., F.R.C.P.(Ed.). Seventh Edition. (Pp. xx+ 568, 35s.). Edinburgh and London: E. & S. Livingstone, 1965.

SEVEN editions in a period of sixteen years with translations into four languages is strong proof of the popularity of this little book. As a short text of differential diagnosis admirably suitable for the student in clinical studies in hospital, it has few rivals.

The present edition has been expanded by some 70 pages in a full revision of the book and the re-writing of the chapters on "Anaemia," "Haemorrhagic Disease" and "Debility and/or loss of weight." Throughout, there is a logical sequence from the main symptom, with reference to its physiology, to the pathological causations with answers to the student's needs in special investigations, which incidentally have been fully brought up to date. The section on the side effects of drugs again brings this expanding subject into a useful small compass.

Unfortunately no references are given to further reading and one finds the section on serum protein electrophoresis unduly short. A few further causes of hypoalbuminaemia might be added and a few words added on the importance of *beta* globulin in metal transport, etc.

However these are only small criticisms of a book that does not set out to be exhaustive. It still remains good value at 35s.

The presentation and binding make for easy transport and handling. It can be thoroughly recommended to students and practitioners (general and specialized).

M.W.J.B.

TO-DAY'S DRUGS. Specially commissioned articles from the British Medical Journal. (Pp. viii+400, 30s.). London: British Medical Association, 1964.

PHARMACOLOGY and therapeutic practice develop and change so rapidly that Sir Edward Wayne has rendered a valuable service to our profession by persuading the Editor of the British Medical Journal to publish review articles each week in the section "To-day's Drugs." These articles are informative and useful and special attention is always given to precautions which should be observed in the use of drugs and to a description of toxic effects or adverse reactions which may occur. I have only one major criticism of this series: I think that all articles should be signed. In this I suspect that I am not alone for the Management Committee of "Prescribers' Journal" recently conducted a survey of the opinion of readers and found a high proportion of doctors wanted articles expressing opinions and comments on drugs but wanted these articles to be signed.

In this book 55 articles have been re-published. Some reparation is made for the absence of signatures by including a list of contributors and some pleasure can be obtained from the "who wrote which" game. The range of subjects is wide and they have been grouped in 11 sections on important topics such as antibiotics, drugs used in diseases of the cardio-vascular system, in skin disease, endocrine disorders, blood diseases and the therapy of malignant disease. The articles were originally published between January 1963 and May 1964. They have been edited and brought up to date to form a useful and authoritative guide to modern therapeautics.

O.L.W.

THE CONTRACEPTIVE PILL. By J. F. Robinson, M.B., Ch.B. (Pp. 16, 2s 6d.). Edinburgh and London: E. & S. Livingstone, 1965.

THIS booklet gives a clear account, for the non-medical reader, of oral contraceptives. It describes their probable mode of action, how to take them, their possible side-effects, complications and contra-indications. It covers, in fact, the sort of ground covered by a doctor when discussing this form of contraception with his patient and gives a balanced account of the pros and cons of the use of these pills.

J.N.

BEDSIDE DIAGNOSIS. By Charles Seward, M.D., F.R.C.P.(Ed.). Seventh Edition. (Pp. xx+ 568, 35s.). Edinburgh and London: E. & S. Livingstone, 1965.

SEVEN editions in a period of sixteen years with translations into four languages is strong proof of the popularity of this little book. As a short text of differential diagnosis admirably suitable for the student in clinical studies in hospital, it has few rivals.

The present edition has been expanded by some 70 pages in a full revision of the book and the re-writing of the chapters on "Anaemia," "Haemorrhagic Disease" and "Debility and/or loss of weight." Throughout, there is a logical sequence from the main symptom, with reference to its physiology, to the pathological causations with answers to the student's needs in special investigations, which incidentally have been fully brought up to date. The section on the side effects of drugs again brings this expanding subject into a useful small compass.

Unfortunately no references are given to further reading and one finds the section on serum protein electrophoresis unduly short. A few further causes of hypoalbuminaemia might be added and a few words added on the importance of *beta* globulin in metal transport, etc.

However these are only small criticisms of a book that does not set out to be exhaustive. It still remains good value at 35s.

The presentation and binding make for easy transport and handling. It can be thoroughly recommended to students and practitioners (general and specialized).

M.W.J.B.

TO-DAY'S DRUGS. Specially commissioned articles from the British Medical Journal. (Pp. viii+400, 30s.). London: British Medical Association, 1964.

PHARMACOLOGY and therapeutic practice develop and change so rapidly that Sir Edward Wayne has rendered a valuable service to our profession by persuading the Editor of the British Medical Journal to publish review articles each week in the section "To-day's Drugs." These articles are informative and useful and special attention is always given to precautions which should be observed in the use of drugs and to a description of toxic effects or adverse reactions which may occur. I have only one major criticism of this series: I think that all articles should be signed. In this I suspect that I am not alone for the Management Committee of "Prescribers' Journal" recently conducted a survey of the opinion of readers and found a high proportion of doctors wanted articles expressing opinions and comments on drugs but wanted these articles to be signed.

In this book 55 articles have been re-published. Some reparation is made for the absence of signatures by including a list of contributors and some pleasure can be obtained from the "who wrote which" game. The range of subjects is wide and they have been grouped in 11 sections on important topics such as antibiotics, drugs used in diseases of the cardio-vascular system, in skin disease, endocrine disorders, blood diseases and the therapy of malignant disease. The articles were originally published between January 1963 and May 1964. They have been edited and brought up to date to form a useful and authoritative guide to modern therapeautics.

O.L.W.

THE CONTRACEPTIVE PILL. By J. F. Robinson, M.B., Ch.B. (Pp. 16, 2s 6d.). Edinburgh and London: E. & S. Livingstone, 1965.

THIS booklet gives a clear account, for the non-medical reader, of oral contraceptives. It describes their probable mode of action, how to take them, their possible side-effects, complications and contra-indications. It covers, in fact, the sort of ground covered by a doctor when discussing this form of contraception with his patient and gives a balanced account of the pros and cons of the use of these pills.

J.N.

SURGERY OF ARTHRITIS. By Robert A. Milch, M.D. (Editor). (Pp. x+280; Illustrated, 92s.). London: Baillière, Tindall & Cox, 1964.

THIS book has been written in an effort to give more detail of surgical procedure, applicable to the treatment of arthritis than is found in the main text books of rheumatic diseases, and as such is presented as a "surgical primer for the physician."

The Editor is supported by sixteen international contributors, all experts in their own fields. Each discusses the various types of arthritic involvement of a specific joint. The anatomy, pathology, disorders of function and methods or operative correction are considered in detail and, especially important to the physician in charge of rheumatic diseases, the operative procedures are discussed fairly fully. Methods of treatment other than by surgical operation are mentioned only briefly. There are profuse radiographic and line drawing illustrations with sketches and photographs of the operative fields. Unfortunately a few of the figures, especially those on the temporo-mandibular joint, are indistinct and the X-ray reproductions of the spine fail to make their point.

The style makes for occasional ambiguity and difficulty in reading. The danger lies in in the simplicity with which many of the procedures are presented. Many of these might be regarded as "experimental" by other than the specialized orthopaedic surgeon, in the hands of whom the results are far from uniformly good. The multiplicity of operations advocated in arthritis of the hip casts doubt on their effectiveness and the treatment of osteoarthritis of the shoulder by prosthesis carries a high risk of failure.

With these reservations the overall objectives of the book are well achieved. The sections on the hand, knee joint and hip are excellent. There are many up-to-date and useful references after each chapter.

The binding and printing are of a high quality and although expensive at 92s. it fills a very useful place for those engaged in treating patients with rheumatic diseases.

M.W.J.B.

PSYCHIATRIC ILLNESS: Diagnosis and Management for General Practitioners and Students. By H. Merskey, M.A., B.M., D.P.M., and W. Lawton Tonge, M.D., D.P.M. (Pp. 264, 27s. 6d.). London: Baillière, Tindall & Cox, 1965.

THIS small book is refreshing in that it has broken away from the custom of recent short books on psychiatry by avoiding a routine systematic discussion of psychiatry. Instead, the book opens by going into the difficulties which doctors experience in handling psychiatric patients in practice. Attention is drawn to the feelings and reactions of the doctor, as well as those of the patient.

The second section covers the common general problems in consultation and the general principles of psychiatric treatment. The third section ranges widely over special areas, such as problems of children and adolescents, old age and psychosomatic illness. The final section of the book covers the handling of psychiatric emergencies in practice.

The authors' emphasis in aetiology seems to be on psychoanalytic theory, although they do cover briefly other theories. Their descriptions are most vivid about psychotherapy and tend to be more pedestrian on the more organic aspects of aetiology and treatment. Their remarks on drug treatment are too dogmatic; they suggest that certain drugs, whose value is still a subject of controversy, are of established benefit.

The book is refreshing in its not following the familiar systematic approach to psychiatry. It seems to the reviewer more directed towards general practitioners than medical students. It might have been more useful to the general practitioner to have supportive therapy dealt with in greater detail, and specialised insight psychotherapy given less scope, since this is unlikely to be within the province of the average practitioner who has not had any special training. This imbalance, and the uncritical drug enthusiasm, are drawbacks to a book containing much common sense and practical advice.

W.O.McC.

SURGERY OF ARTHRITIS. By Robert A. Milch, M.D. (Editor). (Pp. x+280; Illustrated, 92s.). London: Baillière, Tindall & Cox, 1964.

THIS book has been written in an effort to give more detail of surgical procedure, applicable to the treatment of arthritis than is found in the main text books of rheumatic diseases, and as such is presented as a "surgical primer for the physician."

The Editor is supported by sixteen international contributors, all experts in their own fields. Each discusses the various types of arthritic involvement of a specific joint. The anatomy, pathology, disorders of function and methods or operative correction are considered in detail and, especially important to the physician in charge of rheumatic diseases, the operative procedures are discussed fairly fully. Methods of treatment other than by surgical operation are mentioned only briefly. There are profuse radiographic and line drawing illustrations with sketches and photographs of the operative fields. Unfortunately a few of the figures, especially those on the temporo-mandibular joint, are indistinct and the X-ray reproductions of the spine fail to make their point.

The style makes for occasional ambiguity and difficulty in reading. The danger lies in in the simplicity with which many of the procedures are presented. Many of these might be regarded as "experimental" by other than the specialized orthopaedic surgeon, in the hands of whom the results are far from uniformly good. The multiplicity of operations advocated in arthritis of the hip casts doubt on their effectiveness and the treatment of osteoarthritis of the shoulder by prosthesis carries a high risk of failure.

With these reservations the overall objectives of the book are well achieved. The sections on the hand, knee joint and hip are excellent. There are many up-to-date and useful references after each chapter.

The binding and printing are of a high quality and although expensive at 92s. it fills a very useful place for those engaged in treating patients with rheumatic diseases.

M.W.J.B.

PSYCHIATRIC ILLNESS: Diagnosis and Management for General Practitioners and Students. By H. Merskey, M.A., B.M., D.P.M., and W. Lawton Tonge, M.D., D.P.M. (Pp. 264, 27s. 6d.). London: Baillière, Tindall & Cox, 1965.

THIS small book is refreshing in that it has broken away from the custom of recent short books on psychiatry by avoiding a routine systematic discussion of psychiatry. Instead, the book opens by going into the difficulties which doctors experience in handling psychiatric patients in practice. Attention is drawn to the feelings and reactions of the doctor, as well as those of the patient.

The second section covers the common general problems in consultation and the general principles of psychiatric treatment. The third section ranges widely over special areas, such as problems of children and adolescents, old age and psychosomatic illness. The final section of the book covers the handling of psychiatric emergencies in practice.

The authors' emphasis in aetiology seems to be on psychoanalytic theory, although they do cover briefly other theories. Their descriptions are most vivid about psychotherapy and tend to be more pedestrian on the more organic aspects of aetiology and treatment. Their remarks on drug treatment are too dogmatic; they suggest that certain drugs, whose value is still a subject of controversy, are of established benefit.

The book is refreshing in its not following the familiar systematic approach to psychiatry. It seems to the reviewer more directed towards general practitioners than medical students. It might have been more useful to the general practitioner to have supportive therapy dealt with in greater detail, and specialised insight psychotherapy given less scope, since this is unlikely to be within the province of the average practitioner who has not had any special training. This imbalance, and the uncritical drug enthusiasm, are drawbacks to a book containing much common sense and practical advice.

W.O.McC.

MANUAL OF GASTRO-INTESTINAL ENDOSCOPY. By Eddy D. Palmer and H. Worth Boyce, Jr. (Pp. 133, figs. 48, 70s.). London: Bailliére, Tindall & Cox, 1964.

THIS useful manual contains a description of endoscopy as it applies to gastroenterology. There are a few black and white figures, largely to illustrate technical procedure but none to illustrate the appearances seen, and in this respect it is severly lacking. But ,as a resumé of a subject which is beginning to be of increasing importance it provides a good introduction. The author speaks from considerable personal experience and has many wise and helpful instructions to give the novice in this subject. He puts so much of his own personal practice into it that at times it gives the impression that it is the only way to do this sort of work. This does not on the whole detract from the book but adds to the helpfulness of the instruction given.

The bibliography is adequate and taken from the literature of many countries.

In each section there is a description of the indications, the instruments available, a number of sketches of the techniques required and warnings as to the dangers that may be encountered. There is more emphasis on oesophagoscopy than it merits in comparison with some of the other procedures.

The writing loses a little by not being concise. The cost (70/-) for so small a paper back is exorbitant. but with these small criticisms one can safely say that it is a book that gastroenterologists should include in their libraries. H. W. R.

THE ART OF GENERAL PRACTICE. By D. C. Morrell, M.B., M.R.C.P. (Pp. viii+124, 12s. 6d.). Edinburgh and London: E. & S. Livingstone, 1965.

THIS is an interesting contribution to the literature of general practice. The author describes it as a series of essays about problems which he encountered on entering general practice, mostly related to the different circumstances in which disease has to be diagnosed and treated, the differing pattern of diagnoses and the special relationship between patient and family doctor.

The young doctor moving from hospital practice to general practice is often puzzled and sometimes dismayed by the contrast. Writing out of his own recent experience Dr. Morrell has many wise and useful things to say, supported by careful observation and case-histories from his own experience.

This short book should be of the greatest interest to any doctor who has recently begun general practice or who is contemplating doing so. It would also be of interest and value to workers in other medical fields who have not had the opportunity of experience in that field of medicine. R.P.M.

CLINICAL DIAGNOSIS IN LABOUR. By R. H. J. Hamlin, O.B.E., M.A. (Hons.), M.B., Ch.B. (N.Z.), F.R.C.O.G. Second Edition (Pp. 178, figs. 35, 20s.). Edinburgh and London: E. & S. Livingstone, 1965.

THIS book provides some very important information on the recognition of various complications in labour.

The need for diagnostic accuracy is well illustrated in the opening chapters in the discussion on dystocia of contracted pelves.

Only someone with the vast clinical experience of the author could have emphasized such a large number of diagnostic points in as concise a manner.

Unique in its presentation this book should provide a valuable addition to the library of those practising obstetrics. J.M.G.H.

MANUAL OF GASTRO-INTESTINAL ENDOSCOPY. By Eddy D. Palmer and H. Worth Boyce, Jr. (Pp. 133, figs. 48, 70s.). London: Bailliére, Tindall & Cox, 1964.

THIS useful manual contains a description of endoscopy as it applies to gastroenterology. There are a few black and white figures, largely to illustrate technical procedure but none to illustrate the appearances seen, and in this respect it is severly lacking. But ,as a resumé of a subject which is beginning to be of increasing importance it provides a good introduction. The author speaks from considerable personal experience and has many wise and helpful instructions to give the novice in this subject. He puts so much of his own personal practice into it that at times it gives the impression that it is the only way to do this sort of work. This does not on the whole detract from the book but adds to the helpfulness of the instruction given.

The bibliography is adequate and taken from the literature of many countries.

In each section there is a description of the indications, the instruments available, a number of sketches of the techniques required and warnings as to the dangers that may be encountered. There is more emphasis on oesophagoscopy than it merits in comparison with some of the other procedures.

The writing loses a little by not being concise. The cost (70/-) for so small a paper back is exorbitant. but with these small criticisms one can safely say that it is a book that gastroenterologists should include in their libraries. H. W. R.

THE ART OF GENERAL PRACTICE. By D. C. Morrell, M.B., M.R.C.P. (Pp. viii+124, 12s. 6d.). Edinburgh and London: E. & S. Livingstone, 1965.

THIS is an interesting contribution to the literature of general practice. The author describes it as a series of essays about problems which he encountered on entering general practice, mostly related to the different circumstances in which disease has to be diagnosed and treated, the differing pattern of diagnoses and the special relationship between patient and family doctor.

The young doctor moving from hospital practice to general practice is often puzzled and sometimes dismayed by the contrast. Writing out of his own recent experience Dr. Morrell has many wise and useful things to say, supported by careful observation and case-histories from his own experience.

This short book should be of the greatest interest to any doctor who has recently begun general practice or who is contemplating doing so. It would also be of interest and value to workers in other medical fields who have not had the opportunity of experience in that field of medicine. R.P.M.

CLINICAL DIAGNOSIS IN LABOUR. By R. H. J. Hamlin, O.B.E., M.A. (Hons.), M.B., Ch.B. (N.Z.), F.R.C.O.G. Second Edition (Pp. 178, figs. 35, 20s.). Edinburgh and London: E. & S. Livingstone, 1965.

THIS book provides some very important information on the recognition of various complications in labour.

The need for diagnostic accuracy is well illustrated in the opening chapters in the discussion on dystocia of contracted pelves.

Only someone with the vast clinical experience of the author could have emphasized such a large number of diagnostic points in as concise a manner.

Unique in its presentation this book should provide a valuable addition to the library of those practising obstetrics. J.M.G.H.

MANUAL OF GASTRO-INTESTINAL ENDOSCOPY. By Eddy D. Palmer and H. Worth Boyce, Jr. (Pp. 133, figs. 48, 70s.). London: Bailliére, Tindall & Cox, 1964.

THIS useful manual contains a description of endoscopy as it applies to gastroenterology. There are a few black and white figures, largely to illustrate technical procedure but none to illustrate the appearances seen, and in this respect it is severly lacking. But ,as a resumé of a subject which is beginning to be of increasing importance it provides a good introduction. The author speaks from considerable personal experience and has many wise and helpful instructions to give the novice in this subject. He puts so much of his own personal practice into it that at times it gives the impression that it is the only way to do this sort of work. This does not on the whole detract from the book but adds to the helpfulness of the instruction given.

The bibliography is adequate and taken from the literature of many countries.

In each section there is a description of the indications, the instruments available, a number of sketches of the techniques required and warnings as to the dangers that may be encountered. There is more emphasis on oesophagoscopy than it merits in comparison with some of the other procedures.

The writing loses a little by not being concise. The cost (70/-) for so small a paper back is exorbitant. but with these small criticisms one can safely say that it is a book that gastroenterologists should include in their libraries. H. W. R.

THE ART OF GENERAL PRACTICE. By D. C. Morrell, M.B., M.R.C.P. (Pp. viii+124, 12s. 6d.). Edinburgh and London: E. & S. Livingstone, 1965.

THIS is an interesting contribution to the literature of general practice. The author describes it as a series of essays about problems which he encountered on entering general practice, mostly related to the different circumstances in which disease has to be diagnosed and treated, the differing pattern of diagnoses and the special relationship between patient and family doctor.

The young doctor moving from hospital practice to general practice is often puzzled and sometimes dismayed by the contrast. Writing out of his own recent experience Dr. Morrell has many wise and useful things to say, supported by careful observation and case-histories from his own experience.

This short book should be of the greatest interest to any doctor who has recently begun general practice or who is contemplating doing so. It would also be of interest and value to workers in other medical fields who have not had the opportunity of experience in that field of medicine. R.P.M.

CLINICAL DIAGNOSIS IN LABOUR. By R. H. J. Hamlin, O.B.E., M.A. (Hons.), M.B., Ch.B. (N.Z.), F.R.C.O.G. Second Edition (Pp. 178, figs. 35, 20s.). Edinburgh and London: E. & S. Livingstone, 1965.

THIS book provides some very important information on the recognition of various complications in labour.

The need for diagnostic accuracy is well illustrated in the opening chapters in the discussion on dystocia of contracted pelves.

Only someone with the vast clinical experience of the author could have emphasized such a large number of diagnostic points in as concise a manner.

Unique in its presentation this book should provide a valuable addition to the library of those practising obstetrics. J.M.G.H.

ORGANIC CHEMISTRY FOR MEDICAL STUDENTS. By G. A. Maw, D.Sc., Ph.D., F.R.I.C. (Pp. 214, 15s.). London: Bailliére, Tindall & Cox, 1964.

THIS small book replaces the popular "Aids to Organic Chemistry" by the same author. The thirty-eight chapters cover structural isomerism and stereoisomerism, the general properties of the main groups of organic compounds and a brief description of important heterocyclic and polycyclic substances.

The general lay-out is excellent and although the information is naturally condensed the text is pleasing to read. The chemical equations and structural formula are very clearly presented and there is an excellent index.

This textbook should be helpful to students of elementary organic chemistry, as an aid to revision. It should also be of considerable value to medical graduates who may wish to obtain information concerning the formula and properties of common organic compounds .

S. G. W.

INTRODUCTION TO PHARMACOLOGY. By J. J. Lewis. Third Edition. (Pp. xvi+1048, figs. 199. 63s.). Edinburgh and London: E. S. Livingstone Ltd. 1964.

THIS book now appears in its third edition only four years after its initial publication. This alone is proof enough of its continuing success and popularity. In addition, it provides a unique opportunity for up-to-date revision of a subject, whose frontiers are constantly and relentlessly advancing. This latter fact is reflected in the extension of the book by over 100 pages—a little disappointing perhaps for those who already find overwhelming demands on their reading time.

It needs to be emphasized that this is not a textbook of materia medica or therapeutics, nor was it intended to be. The author sets out rather to present what is known about the site, mode of action, type of action and chemical structure-action relationships. This is done in a way which is both well set out and easy to read. Two new features in this edition are particularly welcome: a new chapter appears on 'Drugs used in the treatment of Hypertension', a subject undergoing change and often resulting in some confusion as a consequence; and the inclusion of short bibliographies at the endings of chapters, and in some cases, of sections.

For the medical student, of course, a textbook with more emphasis on therapeutics must be the priority; but in this age, when unnecessary empiricism is frowned upon, every student of medicine, whether undergraduate or postgraduate, should have access to such a book for reference purposes, if he is to have a mature understanding of the drugs which he uses. Used in such a fashion, its size is less formidable and its usefulness ensured.

D. G. McD.

AN INTRODUCTION TO PSYCHIATRY. By Max Valentine. (Pp. viii+320, 24s.). Edinburgh and London: E. & S. Livingstone, 1965.

A SLIGHT increase in price, some additional references and minor alterations in the text characterise this third edition of Dr. Valentine"s "Introduction to Psychiatry." The format of the book is essentially the same. Involutional psychosis is used as a synonym for involutional melancholia, which is still dealt with separately without clear reference to the arguments against the disorder being regarded as a separate entity. Newer treatments are mentioned, such as the use of conditioning techniques in enuresis. The list of drugs recommended for the treatment of depression has been revised. In the section on admission to hospital, there is no reference to the Northern Ireland Mental Health Act, 1961, although it differs in certain important respects from its English, Scottish and Eire counterparts.

The general practitioner who is not familiar with the earlier editions of this book will find it interesting.

J.G.G.

ORGANIC CHEMISTRY FOR MEDICAL STUDENTS. By G. A. Maw, D.Sc., Ph.D., F.R.I.C. (Pp. 214, 15s.). London: Bailliére, Tindall & Cox, 1964.

THIS small book replaces the popular "Aids to Organic Chemistry" by the same author. The thirty-eight chapters cover structural isomerism and stereoisomerism, the general properties of the main groups of organic compounds and a brief description of important heterocyclic and polycyclic substances.

The general lay-out is excellent and although the information is naturally condensed the text is pleasing to read. The chemical equations and structural formula are very clearly presented and there is an excellent index.

This textbook should be helpful to students of elementary organic chemistry, as an aid to revision. It should also be of considerable value to medical graduates who may wish to obtain information concerning the formula and properties of common organic compounds .

S. G. W.

INTRODUCTION TO PHARMACOLOGY. By J. J. Lewis. Third Edition. (Pp. xvi+1048, figs. 199. 63s.). Edinburgh and London: E. S. Livingstone Ltd. 1964.

THIS book now appears in its third edition only four years after its initial publication. This alone is proof enough of its continuing success and popularity. In addition, it provides a unique opportunity for up-to-date revision of a subject, whose frontiers are constantly and relentlessly advancing. This latter fact is reflected in the extension of the book by over 100 pages—a little disappointing perhaps for those who already find overwhelming demands on their reading time.

It needs to be emphasized that this is not a textbook of materia medica or therapeutics, nor was it intended to be. The author sets out rather to present what is known about the site, mode of action, type of action and chemical structure-action relationships. This is done in a way which is both well set out and easy to read. Two new features in this edition are particularly welcome: a new chapter appears on 'Drugs used in the treatment of Hypertension', a subject undergoing change and often resulting in some confusion as a consequence; and the inclusion of short bibliographies at the endings of chapters, and in some cases, of sections.

For the medical student, of course, a textbook with more emphasis on therapeutics must be the priority; but in this age, when unnecessary empiricism is frowned upon, every student of medicine, whether undergraduate or postgraduate, should have access to such a book for reference purposes, if he is to have a mature understanding of the drugs which he uses. Used in such a fashion, its size is less formidable and its usefulness ensured.

D. G. McD.

AN INTRODUCTION TO PSYCHIATRY. By Max Valentine. (Pp. viii+320, 24s.). Edinburgh and London: E. & S. Livingstone, 1965.

A SLIGHT increase in price, some additional references and minor alterations in the text characterise this third edition of Dr. Valentine"s "Introduction to Psychiatry." The format of the book is essentially the same. Involutional psychosis is used as a synonym for involutional melancholia, which is still dealt with separately without clear reference to the arguments against the disorder being regarded as a separate entity. Newer treatments are mentioned, such as the use of conditioning techniques in enuresis. The list of drugs recommended for the treatment of depression has been revised. In the section on admission to hospital, there is no reference to the Northern Ireland Mental Health Act, 1961, although it differs in certain important respects from its English, Scottish and Eire counterparts.

The general practitioner who is not familiar with the earlier editions of this book will find it interesting.

J.G.G.

ORGANIC CHEMISTRY FOR MEDICAL STUDENTS. By G. A. Maw, D.Sc., Ph.D., F.R.I.C. (Pp. 214, 15s.). London: Bailliére, Tindall & Cox, 1964.

THIS small book replaces the popular "Aids to Organic Chemistry" by the same author. The thirty-eight chapters cover structural isomerism and stereoisomerism, the general properties of the main groups of organic compounds and a brief description of important heterocyclic and polycyclic substances.

The general lay-out is excellent and although the information is naturally condensed the text is pleasing to read. The chemical equations and structural formula are very clearly presented and there is an excellent index.

This textbook should be helpful to students of elementary organic chemistry, as an aid to revision. It should also be of considerable value to medical graduates who may wish to obtain information concerning the formula and properties of common organic compounds .

S. G. W.

INTRODUCTION TO PHARMACOLOGY. By J. J. Lewis. Third Edition. (Pp. xvi+1048, figs. 199. 63s.). Edinburgh and London: E. S. Livingstone Ltd. 1964.

THIS book now appears in its third edition only four years after its initial publication. This alone is proof enough of its continuing success and popularity. In addition, it provides a unique opportunity for up-to-date revision of a subject, whose frontiers are constantly and relentlessly advancing. This latter fact is reflected in the extension of the book by over 100 pages—a little disappointing perhaps for those who already find overwhelming demands on their reading time.

It needs to be emphasized that this is not a textbook of materia medica or therapeutics, nor was it intended to be. The author sets out rather to present what is known about the site, mode of action, type of action and chemical structure-action relationships. This is done in a way which is both well set out and easy to read. Two new features in this edition are particularly welcome: a new chapter appears on 'Drugs used in the treatment of Hypertension', a subject undergoing change and often resulting in some confusion as a consequence; and the inclusion of short bibliographies at the endings of chapters, and in some cases, of sections.

For the medical student, of course, a textbook with more emphasis on therapeutics must be the priority; but in this age, when unnecessary empiricism is frowned upon, every student of medicine, whether undergraduate or postgraduate, should have access to such a book for reference purposes, if he is to have a mature understanding of the drugs which he uses. Used in such a fashion, its size is less formidable and its usefulness ensured.

D. G. McD.

AN INTRODUCTION TO PSYCHIATRY. By Max Valentine. (Pp. viii+320, 24s.). Edinburgh and London: E. & S. Livingstone, 1965.

A SLIGHT increase in price, some additional references and minor alterations in the text characterise this third edition of Dr. Valentine"s "Introduction to Psychiatry." The format of the book is essentially the same. Involutional psychosis is used as a synonym for involutional melancholia, which is still dealt with separately without clear reference to the arguments against the disorder being regarded as a separate entity. Newer treatments are mentioned, such as the use of conditioning techniques in enuresis. The list of drugs recommended for the treatment of depression has been revised. In the section on admission to hospital, there is no reference to the Northern Ireland Mental Health Act, 1961, although it differs in certain important respects from its English, Scottish and Eire counterparts.

The general practitioner who is not familiar with the earlier editions of this book will find it interesting.

J.G.G.

BACTERIOLOGY ILLUSTRATED. By R. R. Gillies, M.D., D.P.H., M.C.Path. and T. C. Dodds, F.I.M.L.T., F.I.B.P., F.R.P.S. (Pp, 170; figs. 122, 45s.) Edinburgh: E. & S. Livingstone Ltd., 1965.

THIS excellent bacteriological atlas has set a new standard for the visual appreciation of the cultural and microscopic appearances of pathogenic bacteria. The authors have taken advantage of developments in colour photography to overcome the inadequacy of the black and white photographs in most text books on bacteriology. There are numerous high fidelity colour photographs of bacteria on culture plates and high magnification stained films and sections, as well as black and white line drawings and diagrams.

The book is divided into three sections—General Introduction, Systematic Bacteriology and Diagnostic Methods. The text accompanying the chapters in each section is succinct, lucid and eminently readable; the print is large and well space.

A few practical aids to diagnostic bacteriology which have been omitted are—surface description of colonies, Brewer's thioglycollate medium for anaerobes, Wilson and Blair's bismuth sulphite medium for typhoid and paratyphoid bacilli and Maxted's bacitracin disc test for Group A streptococci.

This book is strongly commended for medical students, trainee bacteriologists and laboratory technicians, and merits a place in every medical library and bacteriological laboratory.

V. D. A.

BACTERIOLOGY. By C. G. A. Thomas, M.A., B.M., B.Ch. (Oxon.), M.R.C.P. (Lond.). (Pp. 312 17s 6d.). London: Bailliere, Tindall & Cox, 1964.

"MICROBIOLOGY" would have been a better title for this textbook, as it covers the fields not only of bacteriology, immunity and chemotherapy, but also of fungi, rickettsiae, viruses and protozoa. The book is divided into twenty-four chapters and includes sections on sterilization and disinfection, control of hospital infection, chemtherapy and the taking and examination of clinical specimens.

The book is a much enlarged and up-to-date edition of the corresponding title in the Students Aid Series and is based on lectures given to medical students in two London teaching hospitals and the University of Rochester, N.Y. As a refresher course for medical students it fulfils its purpose, but it cannot replace the standard textbooks on the subject.

V. D. A.

DERMATOLOGY: CURRENT CONCEPT AND PRACTICE. By Patrick Hall-Smith, M.D., F.R.C.P.E., M.R.C.P., and Robert J. Cairns, M.B., M.R.C.P. (Pp. 256, figs. 73, 63s.). London: Staples Press, 1964.

THIS addition to the dermatological literature is warmly welcomed. Well produced, it provides a surprisingly wide cover of this subject in a concise yet easily readable form. Whilst somewhat lacking in photographs, it compensates by including many excellent explanatory drawings and tables. Modern views are expressed and the pleasing tendency to link dermatology with general medicine is enhanced. It can be recommended to a wide public. It is suitable for medical students when used in conjunction with practical demonstrations, and is a complete reference book for those in general practice, and the final chapter on therapeutics with a quantitative guide to prescribing is highly practicable. This book will also be interesting to those studying for higher examinations and to general physicians interested in the external features of disease processes; the chapters on cutaneous vasculitis, cutaneous manifestations of internal disease, reticuloses and vasospastic conditions are especially applicable. The only criticism, and perhaps a personal one, is the frequent advocacy of systemic steroids for comparatively minor ailments. One hopes that further editions will follow so that a concise, comprehensive text-book on dermatology is always available.

J.J.

BACTERIOLOGY ILLUSTRATED. By R. R. Gillies, M.D., D.P.H., M.C.Path. and T. C. Dodds, F.I.M.L.T., F.I.B.P., F.R.P.S. (Pp, 170; figs. 122, 45s.) Edinburgh: E. & S. Livingstone Ltd., 1965.

THIS excellent bacteriological atlas has set a new standard for the visual appreciation of the cultural and microscopic appearances of pathogenic bacteria. The authors have taken advantage of developments in colour photography to overcome the inadequacy of the black and white photographs in most text books on bacteriology. There are numerous high fidelity colour photographs of bacteria on culture plates and high magnification stained films and sections, as well as black and white line drawings and diagrams.

The book is divided into three sections—General Introduction, Systematic Bacteriology and Diagnostic Methods. The text accompanying the chapters in each section is succinct, lucid and eminently readable; the print is large and well space.

A few practical aids to diagnostic bacteriology which have been omitted are—surface description of colonies, Brewer's thioglycollate medium for anaerobes, Wilson and Blair's bismuth sulphite medium for typhoid and paratyphoid bacilli and Maxted's bacitracin disc test for Group A streptococci.

This book is strongly commended for medical students, trainee bacteriologists and laboratory technicians, and merits a place in every medical library and bacteriological laboratory.

V. D. A.

BACTERIOLOGY. By C. G. A. Thomas, M.A., B.M., B.Ch. (Oxon.), M.R.C.P. (Lond.). (Pp. 312 17s 6d.). London: Bailliere, Tindall & Cox, 1964.

"MICROBIOLOGY" would have been a better title for this textbook, as it covers the fields not only of bacteriology, immunity and chemotherapy, but also of fungi, rickettsiae, viruses and protozoa. The book is divided into twenty-four chapters and includes sections on sterilization and disinfection, control of hospital infection, chemtherapy and the taking and examination of clinical specimens.

The book is a much enlarged and up-to-date edition of the corresponding title in the Students Aid Series and is based on lectures given to medical students in two London teaching hospitals and the University of Rochester, N.Y. As a refresher course for medical students it fulfils its purpose, but it cannot replace the standard textbooks on the subject.

V. D. A.

DERMATOLOGY: CURRENT CONCEPT AND PRACTICE. By Patrick Hall-Smith, M.D., F.R.C.P.E., M.R.C.P., and Robert J. Cairns, M.B., M.R.C.P. (Pp. 256, figs. 73, 63s.). London: Staples Press, 1964.

THIS addition to the dermatological literature is warmly welcomed. Well produced, it provides a surprisingly wide cover of this subject in a concise yet easily readable form. Whilst somewhat lacking in photographs, it compensates by including many excellent explanatory drawings and tables. Modern views are expressed and the pleasing tendency to link dermatology with general medicine is enhanced. It can be recommended to a wide public. It is suitable for medical students when used in conjunction with practical demonstrations, and is a complete reference book for those in general practice, and the final chapter on therapeutics with a quantitative guide to prescribing is highly practicable. This book will also be interesting to those studying for higher examinations and to general physicians interested in the external features of disease processes; the chapters on cutaneous vasculitis, cutaneous manifestations of internal disease, reticuloses and vasospastic conditions are especially applicable. The only criticism, and perhaps a personal one, is the frequent advocacy of systemic steroids for comparatively minor ailments. One hopes that further editions will follow so that a concise, comprehensive text-book on dermatology is always available.

J.J.

BACTERIOLOGY ILLUSTRATED. By R. R. Gillies, M.D., D.P.H., M.C.Path. and T. C. Dodds, F.I.M.L.T., F.I.B.P., F.R.P.S. (Pp, 170; figs. 122, 45s.) Edinburgh: E. & S. Livingstone Ltd., 1965.

THIS excellent bacteriological atlas has set a new standard for the visual appreciation of the cultural and microscopic appearances of pathogenic bacteria. The authors have taken advantage of developments in colour photography to overcome the inadequacy of the black and white photographs in most text books on bacteriology. There are numerous high fidelity colour photographs of bacteria on culture plates and high magnification stained films and sections, as well as black and white line drawings and diagrams.

The book is divided into three sections—General Introduction, Systematic Bacteriology and Diagnostic Methods. The text accompanying the chapters in each section is succinct, lucid and eminently readable; the print is large and well space.

A few practical aids to diagnostic bacteriology which have been omitted are—surface description of colonies, Brewer's thioglycollate medium for anaerobes, Wilson and Blair's bismuth sulphite medium for typhoid and paratyphoid bacilli and Maxted's bacitracin disc test for Group A streptococci.

This book is strongly commended for medical students, trainee bacteriologists and laboratory technicians, and merits a place in every medical library and bacteriological laboratory.

V. D. A.

BACTERIOLOGY. By C. G. A. Thomas, M.A., B.M., B.Ch. (Oxon.), M.R.C.P. (Lond.). (Pp. 312 17s 6d.). London: Bailliere, Tindall & Cox, 1964.

"MICROBIOLOGY" would have been a better title for this textbook, as it covers the fields not only of bacteriology, immunity and chemotherapy, but also of fungi, rickettsiae, viruses and protozoa. The book is divided into twenty-four chapters and includes sections on sterilization and disinfection, control of hospital infection, chemtherapy and the taking and examination of clinical specimens.

The book is a much enlarged and up-to-date edition of the corresponding title in the Students Aid Series and is based on lectures given to medical students in two London teaching hospitals and the University of Rochester, N.Y. As a refresher course for medical students it fulfils its purpose, but it cannot replace the standard textbooks on the subject.

V. D. A.

DERMATOLOGY: CURRENT CONCEPT AND PRACTICE. By Patrick Hall-Smith, M.D., F.R.C.P.E., M.R.C.P., and Robert J. Cairns, M.B., M.R.C.P. (Pp. 256, figs. 73, 63s.). London: Staples Press, 1964.

THIS addition to the dermatological literature is warmly welcomed. Well produced, it provides a surprisingly wide cover of this subject in a concise yet easily readable form. Whilst somewhat lacking in photographs, it compensates by including many excellent explanatory drawings and tables. Modern views are expressed and the pleasing tendency to link dermatology with general medicine is enhanced. It can be recommended to a wide public. It is suitable for medical students when used in conjunction with practical demonstrations, and is a complete reference book for those in general practice, and the final chapter on therapeutics with a quantitative guide to prescribing is highly practicable. This book will also be interesting to those studying for higher examinations and to general physicians interested in the external features of disease processes; the chapters on cutaneous vasculitis, cutaneous manifestations of internal disease, reticuloses and vasospastic conditions are especially applicable. The only criticism, and perhaps a personal one, is the frequent advocacy of systemic steroids for comparatively minor ailments. One hopes that further editions will follow so that a concise, comprehensive text-book on dermatology is always available.

J.J.

A SHORT TEXTBOOK OF MICROBIOLOGY. By D. C. Turk, D.M., M.R.C.P., M.C.Path. and I. A. Porter, M.D., M.C.Path. (Pp. xi+292, 4 figs. 20s. paper, 27s. 6d. board). London: The English Universities Press Ltd. (University Medical Texts), 1965.

A PAPER back text of microbiology is welcome and if only the publishers had given it covers more like a James Bond than an Agatha Christie, some medical students might have (accidentally) packed it for their vacation. Had they subsequently read it, they would have learned much.

In one of the latest James Bond books the author notes—"Not that it matters, but a great deal of the background in this story is accurate." In a small textbook like this it matters that *all* the information is accurate. I doubt if even the authors can seriously believe that "passive immunization with preparations of human gamma globulin is of some value in the early stages" of whooping cough; that "passive immunization, using human convalescent gamma globulin" is now used and "is of some value if carried out in the pre-paralytic stage" of poliomyelitis or that the most common cause of tinea pedis is *T. rubrum* and not *T. mentagrophytes.*

Consistency is a requisite in both the paper back novel and textbook and there are occasional slips which undoubtedly will be corrected in subsequent editions such as, rickettsiae are "primarily intestinal parasites of blood-sucking arthropods, such as ticks, mites, rat fleas *and mice*" (my italics) and *R. rickettsi* on p. 136 and *R. rickettsiai* on p. 138. More serious is the statement on p. 94 that "a clinical diagnosis of tetanus must be followed by immediate and vigorous passive immunization" while on p. 250 the authors say that the "Therapeutic use of A.T.S. in cases of tetanus is also highly unsatisfactory."

While matters of opinion are welcome, in a small student textbook it should be made clear e.g. that the recommendation that skin should be swabbed with 70% alcohol before collecting scabs from fungal skin lesions is a very personal one and never generally recommended and again, that most people would consider X-ray irradiation of hair too hazardous in the treatment of skin ringworm. Indeed mention of X-ray therapy could have been omitted but it should have at the same time been made clear that griseofulvin is of proven value in certain ringworm infections.

This raises the question of what should be omitted in a textbook like this. The authors tried to govern the "packing" of the book like an air travel bag by being governed by the question of "what is essential" and "what can I safely leave out." In the reviewer's opinion what is essential to a medical student are the main principles of microbiology (including immunology) and the natural history and epidemiology of common parasites. It is more important to have adequate space devoted to a clear explanation of why some staphyloccoci become resistant to antibiotics than to details of optimal temperatures for growth or for pigment formation.

What to leave out is difficult, but there is no place in a book like this for mentioning that "the somatic antigens of *H. influenzae* are numerous and poorly understood." This is of little help to the medical student in view of the wealth of data which is important for him to remember. The same applies to including mention of e.g. *Spirillum minus* and *Actinobacillus muris.*

It has sections on the biological background of microbiology, the pathogenesis of microbial disease and then sections on bacteria, rickettsiae, viruses, fungi and protozoa of medical importance. This is followed by a section of the laboratory diagnosis of microbial disease which sensibly avoids technical details and includes a chapter on serology and skin testing. The final part of the book deals with the principles of prevention of disease, sterilization, hospital problems, the bacteriology of water, milk and food ,immunization and anti-microbial drugs. In spite of its size it contains a great deal of information, but perhaps pays a penalty for excess baggage.

The fact that the book contains only four line drawings or figures may make it difficult for a student to study it as his primary textbook.

As a textbook for revision, it can be well recommended to medical students and also to physicians and surgeons. It is hoped that many of them will pack it in their cases as holiday reading along with or *in lieu* of other paper backs. G.W.A.D.