

PNEUMOENCEPHALOGRAPHY

Pneumoencephalography. By E. Graeme Roberston, M.D. (Melb.), F.R.C.P., F.R.A.C.P. Pp. xxi + 482. Figs. 209. £5 10s. Oxford: Blackwell Scientific Publications. 1957.

Contents: Foreword. List of Plates. I. Introductory. II. Distribution of Gas. III. A Consideration of the Mechanism of Ventricular Filling. IV. Experiments *in Vitro*. V. Tubular Ventricular Models. VI. Application of Principles to Practice. VII. Technique: Preliminary Considerations. VIII. Basic Encephalographic Technique and Normal Shadows. IX. Failure of Ventricular Filling: Implications and Rectification. X. The Posterior Fossa. XI. The Aqueduct of Sylvius. XII. The Third Ventricle and Neighbouring Cisterns. XIII. The Third Ventricle: Pathological Appearances. XIV. The Suprasellar Region. XV. The Lateral Ventricles. XVI. The Lateral Ventricles: Deformation by Neoplasm. XVII. The Investigation of Neoplasms of the Cerebral Hemispheres. XVIII. Difficulties in Pneumographic Diagnosis. XIX. The Subarachnoid Space Over the Cerebral Hemispheres. XX. Tomography. XXI. Atrophic Lesions: General Remarks. XXII. Vascular Diseases. XXIII. Injuries to the Head. XXIV. Infections. XXV. Hydrocephalus. XXVI. Encephalography in Childhood: A Microcosm of Encephalography. XXVII. Developmental Abnormalities. XXVIII. The Value of Pneumoencephalography. References. Index.

This book is based upon its forerunners 'Encephalography' (1946) and its successor 'Further Studies in Encephalography'. Here is considered the physics of the behaviour of gas during encephalography, especially in relation to different postural conditions and the previously published experiments *in vitro* are extended by use of glass and plastic ventricular models to simulate more closely, the natural anatomy and dynamics. These are described and excellently illustrated in Chapters IV and V, and the principles thereafter applied in practice.

These principles are argued to show that flotation of gas is insufficient to provide the motivating force for the gas to pass upwards through the aqueduct and 3rd ventricle, and to displace trapped cerebro-spinal fluid which must, in the head-flexed position, also travel upwards through the 3rd ventricle in a retrograde direction. The counter forces transmitted by vascular pulsation are thought to be unimportant, as the behaviour of the gas is similar in experimenting with the cadaver.

The possible significance of unfolding of triangular or crescentic lateral ventricles and the compressibility and elasticity of the brain, and the role played by venous volumes, are discussed.

Conclusions are drawn making analogy to a trapped gas bubble in a closed 'U' tube, and it is considered that the differential pressures inherent in the bubble, as balanced against the incompressible fluid in the limbs of the 'U' tube, causes the gas to seek its way against counter-resistance and to displace the fluid in the opposite direction, even against gravity. In the cranium the ventricles containing the gas bubble represent the one limb of the 'U' tube, and the lower ventricles and extra-ventricular spaces, the other. These experiments and fundamental deductions are ingeniously carried out and are a challenge to our casual acceptance of the phenomena of air-encephalography. They provide a basis for more logical appreciation of air techniques and interpretation which the author goes on to describe in the following chapters. In these, he focuses attention systematically upon the filling of different parts of the ventricular system, and then deals with the various pathological lesions causing ventricular distortion.

In regard to the latter, this work is more comprehensive than the earlier publications dealing with neoplasms, atrophic lesions, vascular diseases, head injuries, infections, hydrocephalus and developmental anomalies.

There is a very useful chapter on encephalography in childhood, aptly qualified as 'A microcosm of encephalography'. Reference is made to tomography, the value of which is stated to be limited. The technique of the procedure is discussed and may still be thought by some, in the reviewer's opinion, to be a perfection beyond the daily scope of the practicing neurologist and even that of the neuro-surgeon and radiologist. For these practitioners, the book as a whole is perhaps the most comprehensive, while being really excellently laid out and illustrated.

To the reviewer, the outline of the physics is particularly fascinating and challenging, according in so many respects with general neuro-surgical observation. Yet one must ask whether there are not other dynamic complexities involved, such as forces set up by the phasing of rhythmic pulses in the closed cranium, pulses of large dimension from respiration, heart, abdominal compression etc., which have been ignored or only briefly considered. This criticism, if valid, in no way diminishes the value and thoughtfulness of the author's work.

K.L.A.

AORTOGRAPHY

Aortography. Its Application in Urological and some other conditions. By W. Barr Stirling, Ch.M., F.R.C.S. (Ed.), F.R.F.P.S.G. Pp. vii + 291. 155 Fig. 50s. net + Postage 2s. 1d. (Abroad). Edinburgh and London: E. & S. Livingstone Ltd. 1957.

Contents: I. Historical. II. Surgical Anatomy. III. Armamentarium. IV. Anaesthesia. V. Procedure. VI. Interpretation. VII. Pressure Factors. VIII. Hazards and Complications. IX. Congenital Renal Anomalies. X. Renal Cyst. XI. Renal Neoplasm. XII. Unilateral Renal Bleeding. XIII. Hydronephrosis. XIV. Renal Calculus. XV. Renal Tuberculosis. XVI. Hypertension. XVII. Renal Hypoplasia. XVIII. Post-Operative Function. XIX. Adrenal Glands. XX. Other Urological Conditions. XXI. Other Organs. XXII. Intrinsic Vascular Disease. References. Index.

The author presents a comprehensive account of a procedure of which he has had wide experience. Tribute is paid to the pioneer work of dos Santos (1929), but we are intrigued to learn that aortography was first attempted in 1896.

The chapter on Surgical Anatomy is based on aortic punctures done on cadavers and provides authoritative information not ordinarily available. In the description of technique of translumbar aortography, mention of the dos Santos needle is, surprisingly, omitted. Rubber tubing is used in preference to plastic (though the latter has the advantage of transparency) and a mechanical device is preferred to manual injection.

A chapter is devoted to hazards and complications; in the author's view the translumbar carries no greater risk than the more recent transfemoral (Seldinger) technique. We are provided with a firm basis for the interpretation of aortograms by a lucid discussion of the normal picture. The numerous excellent repro-

ductions deal mainly with renal conditions but bone tumours, splenic enlargements and peripheral arterial lesions are included, albeit briefly.

The author shows that aortography holds considerable promise in the more exact elucidation of a variety of urological conditions, especially in the ability to distinguish, in most cases, between renal cyst and tumours, which is usually impossible on clinical and pyelographic grounds alone. This may save the patient an unnecessary exploration. The information gained in conditions such as hydronephrosis, calculus, congenital anomalies etc. is of academic rather than practical value.

It seems likely though that aortography will become a *sine qua non* before nephrectomy is undertaken for a unilateral renal lesion for hypertension, and it is clearly of value in such cases of renal tuberculosis or stone where partial nephrectomy is contemplated. An unequivocal diagnosis of aneurysm of the renal artery is only possible with aortography. By clearly revealing renal function (particularly in a portion of one kidney) aortography is a distinct advance on the accepted diagnostic procedures and will undoubtedly play an increasing role in the precise diagnosis of the more complicated urological conditions.

Mr. Stirling's book will be welcomed by Urologists, Radiologists and General Surgeons dealing with peripheral vascular disease.

P.J.M.R. and L.B.

NEUROLOGICAL DISABILITY

Ten Million and One—Neurological Disability as a National Problem. Arden House Conference Sponsored by The National Health Council. Pp. xv + 102. \$3.50. New York: Paul B. Hoeber Inc. 1957.

Contents: Preface. The Authors. Acknowledgements. I. The Challenge of Neurological Disabilities Today: An Introduction to a Topic and a Conference. 2. The Economics of Neurological Disabilities. 3. Professional and Technical Management of Neurological Disabilities. 4. Preparation of the Neurologically Disabled for Mature Living—From Preschool Years Through Old Age. 5. The Outlook for Research Concerning Neurological Disabilities. 6. Who Needs to Know What About Neurological Disabilities: The Information and Education Problem. 7. Ten Million and One: A Summary of a Subject and a Conference. Appendix A. A Representative List of Neurological Disorders. Appendix B. Conference Participants Identified. Appendix C. Agencies Concerned With Neurological Disabilities. Index.

Good intentions, which, as everyone knows, pave the road to hell, may be so trimmed by ardent road-makers as to lose all their substance. Resolutions may be so vague as to be meaningless—the League of Nations at least managed to emphasise that point. Heaven knows, there are real and tragic neurological problems enough without adding to our difficulties by publishing a 100 page booklet which contains nothing but the muffled and almost meaningless breathings of 50 'conferees', and which ends (apart from a 30 page index) in a sentence which typifies the whole nebulousness of the book: 'We look forward to the time when we will be willing to discipline ourselves as individuals and organisations in carrying on not one but many cooperative undertakings; for we have said here that all great things achieved in community activity and in science have been the products of cooperative endeavour. Let us go forward together.'

Planning is certainly necessary in any endeavour, and the outlines of proposals are useful in concentrating efforts, but expensive volumes explaining the obvious are not to be encouraged. Open the book at random and take the first sentence: 'The importance of good diagnostic services must be stressed as well as the need for adequate treatment services.' But for whom is it necessary to stress these points? And must it be stressed at three dollars fifty for 70 pages of trite resolutions? J.M.M.

ALGEMEENE CHIRURGIE

Lehrbuch der Chirurgie. Herausgegeben von Prof. Dr. H. Hellner, Prof. Dr. R. Nissen, und Prof. Dr. K. Vosschulte Unter Mitarbeit von M. Allgöwer, W. Baumgartner, G. Börger, H. U. Buff, H. Bürkle de la Camp, W. Dick, W. Düben, H. Ehlert, K. G. Eysholdt, E. K. Frey, H. Gelbke, G. Grundmann, R. Hasche-Klunder, G. Hegemann, H. Hellner, W. Hess, W. Hügin, J. Konz, K. Lenggenhager, F. Loew, H. Nigst, R. Nissen, H. W. Pia, H. Poppe, L. Rathcke, P. Röttgen, M. Schwaiger, F. Stelzner, K. Tauber, K. Vosschulte, R. Wanke, E. Weisschedel, H. Willenegger. xxxvi + 1060 Seiten, 596

Abbildungen in 914 Einzeldarstellungen, Lex.-80, Ganzleinen DM 84. Stuttgart: Georg Thieme Verlag. 1957.

Inhalt: I. Entwicklung der Chirurgie. II. Wundheilung und Wundbehandlung. III. Blutung und Blutersatz. IV. Chirurgische Infektionen. V. Allgemeine Geschwulstlehre. VI. Radioaktive Isotope in der Chirurgie. VII. Schock. VIII. Thrombose und Embolie. IX. Anästhesie. X. Plastiken und Transplantationen. XI. Chirurgische Technik. XII. Pathophysiologie des chirurgischen Eingriffs, Vor- und Nachbehandlung. XIII. Neurochirurgie. XIV. Vegetative Nervensystem. XV. Nebennieren. XVI. Kopf und Gesicht. XVII. Hals. XVIII. Thorax. XIX. Abdomen. XX. Urogenitalorgane. XXI. Skelettsystem. XXII. Gefäßsystem und Lymphbahnen. XXIII. Grundlagen der chirurgischen Begutachtung. Sachregister.

Met enkele uitsonderings is die persone wat bygedra het tot die skrywe van hierdie handboek oor Chirurgie aan ons in Suid-Afrika onbekend. By die lees van hierdie boek besef 'n mens egter dat elke medewerker 'n meester in sy vak is—beide wat betref kennis en die manier waarop dit meegedeel word. Ongetwyfeld is van die beste chirurgie in Duitsland en Switserland uitgesoek om medewerkers van hierdie handboek te wees.

Sood die inhoudsopgawe aandui, dek die boek 'n wye veld, insluitende urologie, ortopedie, neuro- en hartchirurgie. Die eerste kwart word gewy aan die basiese beginsels van chirurgie. Daarna word die verskillende dele van die liggaam behandel. Dit sal seker voldoende wees om te sê dat elke hoofstuk met welbekende Duitse deeglikheid geskryf is. Na 'n paragraaf wat kortliks die historiese agtergrond skets, volg die anatomie, fisiologie en patologie wat op daardie afdeling betrekking het. Operatiewe tegniek word nie in besonderhede gegee nie, maar die allernuutste metodes van behandeling word bespreek. So word bv. die verskillende tipes van hart-long-apparate en hul toepassing op hartkwale kortliks bespreek. Hierdie boek is vir 'n mediese handboek goed op datum. Deurgaans word klem gelê op die algemene siekte-toestande, terwyl plek vir die ander in verhouding tot insidensie van voorkoms, afgestaan word. Die waarde van die boek word verhoog deur 596 foto's en tekeninge wat deurgaans goed is, en 'n bibliografie aan die einde van elke hoofstuk.

Sonder twyfel vergelyk hierdie boek goed met die allerbeste leerboeke in chirurgie in Engels. Vir die chirurg wat in 'n bepaalde afdeling spesialiseer sal dit nie veel beteken nie. Die algemene chirurg sal dit egter van groot waarde vind veral as hy op hoogte wil bly met die nuwere ontwikkelings in die gespesialiseerde afdelings van chirurgie. Vir die nagraadse student in chirurgie is hierdie 'n handboek wat die hele veld van chirurgie dek. Dit bevat egter nie vir hom genoeg besonderhede om as die enigste handboek gebruik te word nie. Die boek bereik sy hoogste waarde as handboek vir die gevorderde voorgraadse student. Vir hom dek die boek die hele veld van chirurgie in voldoende besonderhede op 'n duidelike en praktiese manier. B.D.

CLINICAL APPLICATION OF ANTIBIOTICS

The Clinical Application of Antibiotics. Volume III. Chloramphenicol and the Tetracyclines. By M. E. Florey, M.D. Pp. ix + 303. 23 Figures. 84s. London: Oxford University Press. 1957.

Contents: Preface. Chloramphenicol. 1. General Considerations. 2. The Treatment of Diseases due to Specific Organisms. 3. The Treatment of Diseases considered by Systems, Age Groups or Sex. The Tetracyclines. 4. Chlorotetracycline (Aureomycin). 5. The Treatment of Diseases due to Specific Organisms. 6. The Treatment of Diseases considered by Systems, Age Groups or Sex. 7. Effect on Growth. 8. Oxytetracycline (Terramycin). 9. The Treatment of Diseases due to Specific Organisms. 10. The Treatment of Diseases considered by Systems, Age Groups or Sex. 11. Tetracycline (Achromycin). 12. The Treatment of Diseases due to Specific Organisms. 13. The Treatment of Diseases considered by Systems. Glossary of Bacteriological Nomenclature. Bibliography. Index.

This volume, the 3rd in a proposed set of 4, deals with Chloramphenicol (chloromycetin) and the Tetracyclines (Aureomycin, Terramycin and Achromycin). The aim of the book is to evaluate critically the data in which the present use of antibiotics is founded. The scheme of the book is to devote a separate section to each of the four antibiotics, and to treat each section under three headings, viz., General Considerations, the Treatment of Diseases due to Specific Organisms, and the Treatment of Diseases considered by systems, age or sex. There is a wealth of references, and a bibliography of forty pages. These antibiotics have been in use for a number of years, so it may not matter materially that the references go back mostly to the years before 1953. There are not many for the year 1954. Those for 1955 (the most recent) are very few indeed. (The preface is dated September 1956.)

Full as the book is of information the practicing doctor will encounter this difficulty, that although he can ascertain what the four named antibiotics can or cannot do, he will have to await the

publication of the 4th volume before he gets the advice he is looking for, viz: which antibiotic to use. The last volume will deal with Erythromycin, carbomycin and the newer antibiotics.

Complications of antibiotic therapy, such as staphylococcal enteritis and fungus infection are no more than mentioned in the third volume. This, admittedly, is owing to the overall plan of the author; but the knowledge of them and their treatment is necessary for the therapist right now.

There are many pieces of sound advice in this volume. We are advised against the temptation of administering antibiotics on inadequate data. "The serious consequences which may follow the administration of chloramphenicol, even if rare, prompt the recommendation that it should be used only in major infections illnesses in which the specific organism has been identified as one responding better to this drug than any other available." These are, of course, exceptions, emergencies and other desperate or urgent occasions. But certainly not as a routine measure.

These or any other antibiotics yet known have no effect on infections due to the viruses of smaller size than the psittacosis-lymphogranuloma group.

F.F.

X-RAY TECHNOLOGY

X-Ray Technology. By Charles A. Jacobi, B.Sc., R.T.(A.R.X.T.), M.T.(A.S.C.P.), M.T.(A.M.T.) and Donald E. Hagen, R.T.(A.R.X.T.). Pp. 410. 320 Illustrations. South African price 83s. St. Louis: The C. V. Mosby Company. 1957.

Contents: Chapter I. The Composition of Matter. Chapter II. Electricity. Chapter III. X-Ray Circuits. Chapter IV. X-Ray Physics. Chapter V. Preventive Maintenance. Chapter VI. Darkroom Technique, Equipment and Chemistry. Chapter VII. Ethics. Chapter VIII. Bones of the Extremities. Chapter IX. Positioning for the Extremities. Chapter X. Bones of the Trunk. Chapter XI. Positioning for the Trunk. Chapter XII. Bones of the Skull. Chapter XIII. Positioning for the Skull. Chapter XIV. Anatomic Physiology. Chapter XV. Positioning for the Viscera. Chapter XVI. Dental Radiography. Chapter XVII.

Special Techniques. Chapter XVIII. Related Techniques. Glossary—Radiographic Terminology and Definitions.

This is an eminently practical book for the radiographer and the authors have made a valuable contribution to X-ray technology.

The chapters on matter, electricity, circuits and physics cover the subjects briefly but adequately. There are useful chapters on machine maintenance, dark-room technique and ethics, clearly written from wide experience. The authors might well have included an admonition not to leave a rotating anode running unnecessarily.

The anatomy is lucid, accurate and adequate, though an occasional diagram is too complex, e.g. fig. 33.

The greater part of the book is devoted to practical radiography. The number of positions has been kept to a minimum, which is correct in this type of book; special examinations should be directed by the radiologist as required. A few of the photographs do not illustrate the text, e.g. fig. 197 depicts a 15° not a 5° tube tilt, and fig. 201 a 30° not a 35° tilt. This is a pity as pictures are so much more easily remembered than written descriptions. Too little emphasis has been placed on the use of the erect position which most radiologists would insist on, e.g. for the sinus views. Some of the radiographs do not demonstrate the whole field of the examination, e.g. fig. 167; while others are too wide. On both radiographic and protective grounds 'coning down' should be described as 'obligatory' rather than 'desirable'.

A most useful and instructive feature that alone would make the book worth while is the tabulated routine for each examination. Radiographers have so many items to remember for each individual picture that beginners would be well advised to read this book, if only for these routines.

In spite of the few minor criticisms offered above, this volume ably achieves its author's purpose, and it can be recommended to all student radiographers and to most qualified radiographers; while the student radiologist will also find it useful. It is well arranged, illustrated and printed.

H.J.