

kingdom to end with arthropods. The last chapter is a table of human infections. The book is attractively illustrated.

R. N. FIENNES.

## A Remarkable Calvaria

**Olduvai Gorge.** Vol. 2. The Cranium and Maxillary Dentition of *Australopithecus (Zinjanthropus) boisei*. By P. V. Tobias. (Pp. 264 + xvi; illustrated. 90s.) London: Cambridge University Press. 1967.

Among the many studies of early man and his ancestors a few classic works stand out because of their imaginative range, their careful method, or simply their lasting influence on later work. We think here of Hooton's *Pecos Pueblo*, Boule's description of the La Chapelle-aux-Saints Neandertaler, Davidson Black's diagnosis of *Sinanthropus* from a single molar tooth, and Le Gros Clark's *Early Forerunners of Man*.

Tobias's volume on "Zinjanthropus" combines something of all these. It is the most comprehensive monograph ever written about a fossil hominid, and it sets new standards that will daunt later workers for many years to come. It is first of all a minutely detailed presentation of facts, not only about the structure of "Zinjanthropus" but—most valuably—about other australopithecines, the anthropoids, *Homo erectus*, and the Neandertalers. This comparative material is one of the most important features of the book. It is, however, transcended by the imaginative interpretation that Tobias brings to his analysis of this remarkable calvaria. In 20 chapters he deals with its cranial vault, the basis cranii, the interior of the skull, its endocranial cast, the thickness of the bones, metrical characters, the structure of the face, pneumatization, the dental arcade and teeth, and much else.

Where all is resplendent it is not easy to pick out the highlights. Especially interesting is the evidence from the sagittal crest (p. 19) and from dental attrition (p. 140) of a marked functional asymmetry of the jaw; the comparative study of the entoglenoid process (pp. 37-41); the detail of venous sinus grooves (pp. 64-71); his use of Jerison's "extra neurones" analysis (p. 86); inferences about the structure of the missing mandible and its muscular relationship with

the zygomatic arch (pp. 120-1); and the evidence for two opposing morphogenetic tendencies, one leading to facial flattening, the other producing great enlargement of the molar teeth—with dental overcrowding as a result (p. 138). A feature of the teeth is extensive enamel hypoplasia which presumably implies recurrent illness in childhood. Gastroenteritis is suggested, but it would be interesting to speculate on the possibility of higher parasitic infection or even malaria. In discussing its taxonomic status Tobias is a firm lump, and he allots "Zinjanthropus" to *Australopithecus* with merely specific distinction. In a final chapter he examines the evidence for its cultural achievements. This is fascinating but perhaps premature: we probably need to see it more clearly vis-à-vis its sympatric contemporary *Homo habilis* before an assessment can be made of "Who made what?" among the Oldowan pebble tools.

This leads to a final caveat. Despite the thoroughness of Tobias's work his account of "Zinjanthropus" is, of necessity, far from complete. The calvaria was severely shattered and defective, there are no mandible and no postcranial bones. The final description of *Australopithecus boisei* must await their discovery, but until then this fine volume with its excellent plates and adequate bibliography and indices will remain the definitive statement on the subject and a model for future monographs of this kind.

CALVIN WELLS.

## History of Medicine

**The Growth of Medicine.** Compiled and edited by Frederick Stenn, M.D. (Pp. 199 + xvii. \$9.50.) Springfield, Illinois: Charles C. Thomas. 1967.

This book contains a series of lectures on the history of medicine delivered to the first- and second-year students at the North Western University Medical School, Chicago—a school well known for the interest it takes in the history of medicine.

Nine lecturers took part in the course, which surveyed the growth of medicine from primitive times to the present day. In the first lecture on primitive medicine we are reminded that the most ancient medical customs have something in common with

present-day medicine. Egyptian and Graeco-Roman medicine are briefly but adequately dealt with in two lectures. Then comes a section devoted to mediaeval medicine; that on Persian and Arabic medicine explains clearly how the Nestorians managed to maintain the Greek tradition in medicine in Persia and the Middle East and handed their knowledge to the Arabs. The mediaeval period in Europe may have been "rich in constructive activity," but for a great part of that thousand years medicine advanced little. The Renaissance period is taken to include the years 1550-1700, and includes many great men—Boyle, Lower, Galileo, Vesalius, and Harvey, and many others.

The lecturer on the eighteenth century rightly states that it was a vital period during which experimentation, precision, and revolt against tradition were notable features; but we miss any reference to the great increase in hospitals in Europe, and particularly in Britain, nor do we find any mention of the beginnings of clinical and scientific medical education in Edinburgh, London, Dublin, or even in Pennsylvania, where Morgan and Shippen founded the first great hospital and medical school in America (in Philadelphia). One lecture is devoted to the great physicians in Paris (Laennec, Bretonneau), London (Bright, Addison, and Hodgkin), and Dublin (Stokes), who flourished between 1800 and 1850; and then follows an account of the growth of surgery between 1850 and 1900, during which period modern surgery was made possible.

Twenty-five pages are given to the medical advances during the present century, and the author of this section does well to enumerate them in such a limited space. Looking into the future, he has a fear of socialized medicine, and writes: "In my opinion Socialism has already impaired patient care and research in Germany and England, where rapid progress was under way at the start of the century." The final chapter is a short account of William Osler as the ideal physician—a fitting example to put before medical students.

This book should stimulate students' interest in medical history and cause them to refer to some of the many volumes in the appended references and bibliography.

ZACHARY COPE.

## Books Received

Review is not precluded by notice here of books recently received.

**Imagination and Reality.** Edited by Charles Rycroft. (Pp. 143 + ix. 30s.) London: The Hogarth Press. 1968.

**New Approaches to Sex in Marriage.** Edited by John E. Eichenlaub, M.D. (Pp. 205. 30s.) London: Souvenir Press. 1968.

**Progress in Conception Control. 1967.** Third Physicians' Conference. Edited by David Charles, M.D. (Pp. 104; illustrated. 45s.) London: Pitman Medical. 1968. For J. B. Lippincott Co., Philadelphia.

**Hypertensive Vascular Disease. Diagnosis and Treatment.** Edited by Marvin Moser, M.D., F.A.C.P., and Arthur G. Goldman, M.D. (Pp. 343 + xiii. £5 10s.) London: Pitman Medical. 1968. For J. B. Lippincott Co., Philadelphia.

**Frontiers of Radiation Therapy and Oncology.** Proceedings of the Second Annual San Francisco Cancer Symposium. Vol. 2. Edited by Jerome M. Vaeth. (Pp. 267 + vii; illustrated. 121s.) London: Academic Press. 1968.

**Four Year Old in an Urban Community.** Edited by John and Elizabeth Newsen. Child Development Research Unit, University of Nottingham. (Pp. 570. 60s.) London: George Allen & Unwin Ltd. 1968.

**X-ray Diagnosis.** For Clinical Students and Practitioners. Second edition. Edited by G. Simon, M.D., F.R.C.P., F.F.R. (Pp. 248 + xiii; illustrated. 70s.) London: Butterworths.

**Medical Odyssey.** An Autobiography by Sir Douglas Robb. (Pp. 201; illustrated. 27s. 6d.) London: Collins. 1968.

**The Legend of Linda Martel.** As told by Charles Graves. (Pp. 138; illustrated. 35s.) London: Icon Books Ltd. 1968.

**Experimental Psychology: Its Scope and Method.** Vol. 1. History and Method. Edited by Jean Paiget, Paul Fraisse, and Maurice Reuchlin. (Pp. 245 + ix. 35s.) London: Routledge & Kegan Paul Ltd. 1968.

**The Pharmacology of Inflammation.** Edited by W. G. Spector, M.B., B.Chir.(Camb.), F.R.C.P., and D. A. Willoughby, Ph.D.(Camb.), M.C.PATH. (Pp. 123 + ix; illustrated. 40s.) London: The English Universities Press. 1968.

**The Prevalence of Varicose Veins in the Lower Extremities.** Edited by Edwin Borschberg, M.B.A.(Harvard), Dr.Phil., Dr.Oec.Publ. Professor, Lausanne University, Privatdozent, Zurich University. (Pp. 139 + ix; illustrated. 29s.) London. 1968.

**Clinical Diabetes Mellitus.** Edited by John Malins, M.D.(Birmingham), F.R.C.P.(London), Physician to the United Hospital, Birmingham. (Pp. 501 + xix; illustrated. £5 5s.) London: Eyre & Spottiswoode. 1968.