

The focus is on changes in the structure of thought processes which seem to occur at the age of 11 to 12 years. Much has been written about emotional adjustments necessary at this age, but cognitive changes have received far less attention. The authors argue that at this age a child becomes capable of certain *formal* or abstract operations of thought which before were possible only as *concrete* operations on properties of the immediately present object world. This provides the last of three mental revolutions during development: the first occurs at two years when sensorimotor schemata are supplemented by symbols for representing the environment; the second, at 7 to 8 years, when it becomes possible for the child to foresee the results of concrete operations. Thus the present book takes its place in the larger design of Piaget's description of mental development.

The reader can be grateful to Anne Parsons and Stanley Milgram for an excellent translation and for a brief, helpful introduction to Piaget's psychology.

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## New Books

*Earth's Shifting Crust.* A key to some basic problems of earth science. Charles H. Hapgood. Pantheon Books, New York, 1958. 438 pp. \$6.50.

*A List of Zoological and Botanical Types Preserved in Collections in Southern and East Africa.* vol. I, pt. 1, Zoology. South African Council for Scientific and Industrial Research, Pretoria, South Africa, 1958. 147 pp. Paper, 7s. 6d.

*Physics and Philosophy.* The revolution in modern science. Werner Heisenberg. Harper, New York, 1958. 221 pp. \$4.

*Anatomist at Large.* An autobiography and selected essays. George W. Corner. Basic Books, New York, 1958. 220 pp. \$4.

*Human Infertility.* C. Lee Buxton and Anna L. Southam. Harper, New York, 1958. 239 pp. \$7.50.

*Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death.* Based on the recommendations of the seventh revision conference, 1955, and adopted by the ninth WHO Assembly under the WHO nomenclature regulations. vol. 1. World Health Organization, Geneva, 1957 (order from Columbia Univ. Press, New York). 444 pp. \$6.75 (price includes vol. 2, in press).

*The UFAW Handbook on the Care and Management of Laboratory Animals.* Alastair N. Worden and W. Lane-Petters. Universities Federation for Animal Welfare, London, ed. 2, 1957. 951 pp. 70s.

*Splitting of Terms in Crystals.* Hans A. Bethé. Consultants Bureau, New York, 1958 (English translation from *Annalen der Physik*, vol. 3, pp. 133-206, 1929). 69 pp. \$3.

*Minerals, Metals and Gems.* A. Hyatt

Verrill. Grosset & Dunlap, New York. (c. 1939) 302 pp. \$1.98.

*Principles of Biology.* W. Gordon Whaley, Osmond P. Breland, Charles Heimsch, Austin Phelps, A. R. Schrank *et al.* Harper, New York, ed. 2, 1958. 887 pp. \$6.75.

*X-Rays and the Electric Conductivity of Gases.* Comprising papers by W. C. Rontgen, J. J. Thomson, E. Rutherford; historical introduction by N. Feather. Alembic Club Reprints, No. 22. Livingstone, Edinburgh, 1958. 73 pp. Paper, 6s. 6d.

*Determinism and Freedom in the Age of Modern Science.* A philosophical symposium. Sidney Hook, Ed. New York Univ. Press, New York, 1958. 242 pp. \$5.

*The Encyclopaedia of Radio and Television.* A complete alphabetical reference to all aspects of modern radio technology. Philosophical Library, New York, ed. 2, 1958. 736 pp. \$12.

*The Strange Story of Our Earth.* A. Hyatt Verrill. Grosset & Dunlap, New York, 1958. 267 pp. \$1.98.

*Group Processes.* Transactions of the Third Conference, 7-10 Oct. 1956, Princeton, N.J. Bertram Schaffner, Ed. Josiah Macy, Jr. Foundation, New York, 1958. 328 pp. \$4.

*The Testing of Negro Intelligence.* Audrey M. Shuey. J. B. Bell, Lynchburg, Va., 1958. 366 pp. \$4.

*Differential Psychology.* Individual and group differences in behavior. Anne Anastasi. Macmillan, New York, ed. 3, 1958. 676 pp. \$7.50.

*Analysis and Control of Nonlinear Systems.* Nonlinear vibrations and oscillations in physical systems. Y. H. Ku. Ronald, New York, 1958. 367 pp. \$10.

*Advances in Geophysics.* vol. 4. H. E. Landsberg and J. Van Mieghem, Eds. Academic Press, New York, 1958. 466 pp. \$12.

## Reprints

*A Short History of Anatomy from the Greeks to Harvey.* Charles Singer. Dover, New York, 1957 (originally published as *The Evolution of Anatomy*, 1925). 221 pp. Paper, \$1.75.

*The Theory of Functions of a Real Variable and the Theory of Fourier's Series.* vols. I and II. E. W. Hobson. Dover, New York, 1958 (republication of vol. 1, ed. 3, 1927 and vol. 2, ed. 2, 1926). 736 pp.; 780 pp. \$3 per volume.

*Thermodynamics.* Enrico Fermi. Dover, New York, 1958 (republication of ed. 1, 1937). 160 pp. \$1.75.

*Foundations of Physics.* Robert Bruce Lindsay and Henry Margenau. Dover, New York, 1958 (republication of ed. 1, 1936). 542 pp. \$2.45.

*Elements of Mathematical Biology.* Alfred J. Lotka. Dover, New York, 1958 (formerly published as *Elements of Physical Biology*). 465 pp. \$2.45.

*A Treatise on the Analytic Geometry of Three Dimensions.* George Salmon. Revised by Reginald A. P. Rogers. Charles H. Rowe, Ed. Chelsea, New York, ed. 7, 1927. \$4.95.

## Miscellaneous Publications

(Inquiries concerning these publications should be addressed, not to Science, but to the publisher or agency sponsoring the publication.)

*Zoological Society of India, Year-Book.* (1 Apr. 1956 to 31 Mar. 1957). Zoological Soc. of India, c/o Zoological Survey of India, 34, Chittaranjan Ave., Calcutta-12, India, 1957. 48 pp. Rs. 2.

*On the Paragenesis of Copper Ores.* Studia Universitatis Lovanium, Faculté des Sciences, 4, Paul Bartholomé. Editions de l'Université, Leopoldville, Congo Belge, 1958. 31 pp.

*Gallionella Ferruginea Ehrenberg in a Different Light.* Verhandelingen der Koninklijke Nederlandse Akademie van Wetenschappen, Afd. Natuurkunde, LII, No. 2. W. Van Iterson. Noord-Hollandsche, Amsterdam, 1958. Fl. 15.

*Status Reports on Optical Observations of Satellites 1958 Alpha and 1958 Beta.* Spec. Rept. No. 11, IGY Project No. 30.10. Astrophysical Observatory, Smithsonian Institution, Cambridge, Mass., 1958. 41 pp.

*Forest Research in India, 1954-55.* pt. II, *Reports from Burma and Indian States.* Forest Research Inst. and Colleges, Dehar Run, India, 1957. 186 pp. Rs. 4.12.

*Modern Yucatecan Maya Pottery Making.* vol. xxiii, No. 4, pt. 2 of *Amer. Antiq.* Raymond H. Thompson. Society for American Archaeology, Salt Lake City, Utah, 1958. 157 pp. \$2.50.

*Handbook of Citrus Diseases in Florida.* Bull. 587. L. C. Knorr, R. F. Suit, E. P. DuCharme. Univ. of Florida, Agricultural Experiment Stations, Gainesville, 1958. 157 pp.

*Grain Research Laboratory, 1957 Report.* J. Ansel Anderson. Board of Grain Commissioners for Canada, Winnipeg, Manitoba, 1958. 76 pp.

*Survey of Research Projects in the Field of Aviation Safety.* 1958 annual supplement. Daniel & Florence Guggenheim Aviation Safety Center at Cornell University, 468 Fourth Ave., New York. 18 pp.

*Copying.* Kodak data book. Eastman Kodak, Rochester, N.Y., ed. 6, 1958. 48 pp. \$0.50.

*Ruvenzori Expedition, 1952.* vol. 1, No. 1, *Introduction with List of Localities*, G. O. Evans and D. S. Fletcher; Nos. 2-3, *Arctiidae (except Nolinae)*, *Thyretidae* and *Notodontidae*, S. G. Kiriakoff; No. 4, *Arctiidae, Nolinae*, D. S. Fletcher; No. 5, *Lymantriidae*, C. L. Collenette; No. 6, *Geometridae*, D. S. Fletcher. British Museum (Natural History) London, 1958. 183 pp.

*British Mosquitoes and Their Control.* Economic Ser. No. 4A. British Museum (Natural History), London, ed. 4, 1958. 23 pp. 1s.

*Checklist of the Freshwater Fishes of Canada and Alaska.* W. B. Scott. Royal Ontario Museum, Division of Zoology and Palaeontology, Ontario, Canada, 1958. 30 pp. \$0.35.

*National Advisory Committee on Research in the Geological Sciences, Seventh Annual Report.* 1956-57. Geological Survey of Canada, Ottawa, 1957. 165 pp. \$0.50.