

rems are established, Prandtl-Meyer flow is presented, and the hodograph and other transformations are introduced. There follows a chapter on steady, ideal, plane, and axisymmetric subsonic flow. This chapter contains a detailed treatment of linearized theory, the Prandtl-Glauert rule, and the methods of Rayleigh-Janzen and Karman-Tsien. Numerical relaxation methods are treated briefly.

The next chapter deals with steady, ideal, plane, and axisymmetric supersonic flow. Linearized theory is presented, followed by consideration of the oblique shock and applications of the method of characteristics to nonlinear isentropic flow. Specific applications are given to airfoils, nozzles, jets, cascades, and bodies of revolution at incidence. There is a brief discussion of hypersonic flow. The next chapters deal with transonic flow and with miscellaneous unsteady multidimensional flow situations. There is a brief chapter summarizing some of the more important results for compressible boundary layers, laminar and turbulent jets, separation, stability, and shock-wave thickness.

The volume closes with a survey of some of the more standard experimental techniques. There are no exercises. The bibliography is somewhat brief. There are brief tables and charts for the dynamic relations of various gases.

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**The North American Deserts.** Edmund C. Jaeger. Stanford University Press, Stanford, 1957. x+308 pp. Illus. \$5.95.

Edmund C. Jaeger, curator of plants at the Riverside Municipal Museum, is a student of desert ecology, acquainted with animals as well as plants. He is also a competent expositor and illustrator, whose knowledge and talents have been put to effective use in what adds up to a very convenient guidebook to the deserts of North America. Peveril Meigs has provided a good chapter on desert weather and climate, and the author acknowledges generous assistance from numerous other collaborators.

After a general discussion on deserts and the chapter by Meigs, five great desert areas—the Chihuahuan, Sonoran, and Mohave deserts, the Great Basin, and the Painted Desert—are described. The account of one of them, the Sonoran, is broken up into six subdivisions. Physical conditions, flora, fauna, and human cultures are dealt with in a manner that should be appreciated by professional worker and layman alike; both popular and scientific names are given for all organisms. Helpful travel hints are also

included. This portion of the book is well illustrated with maps and photographs.

It is followed by some 130 pages of plates and brief descriptions of desert insects, reptiles, birds, mammals, and plants, by a page on the euphonious Spanish names, so indispensable in the Southwest, and by a good index.

Apart from their intrinsic interest and beauty and the growing pressure to convert them into something "useful," deserts are becoming of increasing interest from a scientific standpoint. In Inner Mongolia, Spain, and our own Southwest, the sediments of former lakes are revealing records of climatic change extending back through the Pleistocene and beyond, giving a continuity not possible within the glaciated region itself. Scientists who will, in increasing numbers, be engaged in such studies owe a debt of gratitude to Jaeger and his collaborators, since the desert is not likely to be a familiar environment to many of them.

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## New Books

*Artificial Stimulation of Rain.* Proceedings of the first Conference on the Physics of Cloud and Precipitation Particles. Held at Woods Hole Oceanographic Institution, Woods Hole, Mass., 7-10 Sept. 1955. Pergamon Press, New York and London, 1957. 443 pp. \$15.

*Forest Fertilization.* A bibliography, with abstracts, on the use of fertilizers and soil amendments in forestry. Compiled by Donald P. White and Albert L. Leaf. State University College of Forestry, Syracuse University, Syracuse, N.Y., 1957. 303 pp. \$3.

*Instinctive Behavior.* The development of a modern concept. Translated and edited by Claire H. Schiller. International Universities Press, New York, 1957. 347 pp. \$7.50.

*No and Yes.* On the genesis of human communication. Rene A. Spitz. International Universities Press, New York, 1957. 182 pp. \$4.

*Surgery in World War II. Ophthalmology and Otolaryngology.* John Boyd Coates, Jr., Ed. Medical Department, U.S. Army, Washington, 1957 (order from Supt. of Documents, GPO, Washington 25). 628 pp. \$5.

*Manual of Microbiological Methods.* Society of American Bacteriologists, Committee on Bacteriological Technic. McGraw-Hill, New York, 1957. 325 pp. \$5.50.

*Deafness, Mutism and Mental Deficiency in Children.* Louis Minski. Philosophical Library, New York, 1957. 90 pp.

*The Volunteers.* Means and ends in a national organization. David L. Sills. Free Press, Glencoe, Ill., 1957. 340 pp. \$6.

*Human Histology.* A textbook in outline form. Leslie Brainerd Arey. Saunders, Philadelphia, 1957. 346 pp.

*Atomic Power, an Appraisal.* Including atomic energy in economic development. Corbin Allardice, Ed. Pergamon Press, New York and London, 1957. 151 pp. \$3.50.

*Cytochemical Methods with Quantitative Aims.* Biophysical and biochemical approaches. Experimental Cell Research, Supplement 4, 1957. Proceedings of the symposium, 27-29 Sept. 1956, Institute for Medical Cell Research and Genetics, Karolinska Institutet, Stockholm, Sweden. Academic Press, New York, 1957. 296 pp. \$9.50.

## Miscellaneous Publications

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

*Federal Funds for Science.* VI. The Federal Research and Development Budget, Fiscal Years 1956, 1957, and 1958. National Science Foundation, Washington, 1957 (order from Supt. of Documents, GPO, Washington 25). 60 pp. \$0.40.

*Education Associations.* Part 4 of Education Directory 1956-57. Office of Education, U.S. Department of Health, Education, and Welfare, Washington 1957 (order from Supt. of Documents, GPO, Washington 25). 79 pp. \$0.30.

*American Museum of Natural History, Eighty-Eighth Annual Report, July 1956-June 1957.* The Museum, New York, 1957. 77 pp.

*The Age of Space.* Proceedings of a nontechnical conference on missiles, rockets, and space travel—and their impact on our times. 16 May 1957. Southern Research Institute, Birmingham, Ala., 1957. 43 pp.

*Scientific Resources of the San Francisco Bay Area.* International Science Foundation, Golden Gate Park, San Francisco, 1957. 96 pp. \$5.

*Hydrography of the Faroe-Shetland Channel, 1927-1952.* Scottish Home Department, Marinen Research, 1957, No. 2. John B. Tait. Her Majesty's Stationery Office, Edinburgh, 1957. 309 pp. £5 5s.

*Enuresis.* A clinical and genetic study (*Acta Psychiat. et Neurol. Scand.*, vol. 32, Suppl. No. 114). Bertil Hallgren. Munksgaard, Copenhagen, Denmark, 1957. 159 pp.

*Étude Théorique des Oscillations Libres (Seiches) du Lac Tanganika.* Exploration hydrobiologique du Lac Tanganika, 1946-1947. vol. II, fasc. 3, *Resultats Scientifiques*. F. Servais. Institut Royal des Sciences Naturelles de Belgique, Bruxelles, 1957. 311 pp.

*Inventions Wanted by the Armed Forces.* U.S. Department of Commerce. National Inventors Council, Washington 25, 1957. 34 pp.

*Polemoniaceae of Nevada.* Edgar T. Wherry. *Ipomopsis and Gilia Sect. Arachnion* contributed by Verne Grant and Alva Grant. Contributions toward a Flora of Nevada, No. 43. Plant Industry Station, Beltsville, Md., 1957. 103 pp.

*Ecological Life History of the Warmouth (Centrarchidae).* Survey Bulletin, vol. 27, art. 1. R. Weldon Larimore. Illinois, Natural History Division, Urbana, 1957. 84 pp.