

In addition to lakes and swamps, distinctions have been made between lowland and upland communities and transitions between. Nongrassy herbs (forbs) such as legumes and composites are important constituents, as well as a source of great interest and beauty in the native grasslands. All of this involves considerable detail in the presentation.

I am reluctant to offer suggestions in the face of this admirable effort to condense the studies of a lifetime. There are, however, two sources of economy in discussing complex and extensive areas of vegetation. One is the idea of succession to which Nebraskans have made a major contribution. The other is that of the con-

tinuum, developed by Curtis in his classical Wisconsin work. The importance of both of these theoretical constructs will be inferred by the professional reader. It would be interesting to see whether they might not have been of great help to the laity for whom the book is intended.

For various reasons, many useful books get lost in the shuffle. Raymond J. Pool's *Marching With the Grasses* (University of Nebraska Press, 1948) is perhaps not as well known as it should be. In it readers will find much of general interest regarding this indispensable group of plants.

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History of Experimental Psychology

Source Book in the History of Psychology. Richard J. Herrnstein and Edwin G. Boring, Eds. Harvard University Press, Cambridge, Mass., 1965. xvi + 636 pp. Illus. \$12.50.

This is without any question the best, and perhaps the only really good, selection of primary material relevant to the history of experimental psychology. Psychology's historical documents are in very large proportion in languages other than English, and many of them have not been translated. Herrnstein and Boring have made their selection on the basis of importance rather than of availability in translation. The book consequently contains a good many new translations, and the principal translators, Mollie D. Boring and Don Cantor, should share with the editors the credit for an important job very well done.

Boring is the undisputed dean of psychological historians. Herrnstein is a younger Harvard colleague with an interest in what Boring has called "behavioristics." Together they have made an impressive selection.

There are 116 items, clustered under nine topical headings, all annotated and appropriately indexed, and every one of them of significance for the history of experimental psychology. A reviewer could easily carp about items that have been omitted. (Perhaps a second edition will include a few of these.)

I am delighted, almost to the

point of exuberance, by the appearance in fresh translation of important items that have been buried in the archives. Examples are Köhler's discussion of isomorphism in the *Physische Gestalten*, which has previously never been translated, and Broca's report on the speech center, which most of us have cited but have never read. There are also important but infrequently consulted American items, such as Watson's original Manifesto (1913) and W. S. Small's classic study of the rat (1901), both of which have led a good many of us down blind alleys. (But shame on the Harvard professors for having represented Wellesley's Mary Calkins by one of her less exciting contributions! Miss Calkins deserves better of the historian.) William James is quoted liberally, as he should be, and William McDougall (also a Harvard professor) somewhat grudgingly; and James Ward (but not G. F. Stout) regains his proper place in history. Add to these some gems from Sechenov, the Müllers (G. E. as well as Johannes), La Mettrie, Ernst Mach, and a host of others and you have a book which will delight the scholar and remind the student that all good ideas were not born yesterday.

Boring has paid a proper tribute to E. B. Titchener, which probably does not please Herrnstein but which pleases me immensely.

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Radiation Effects

Actions chimiques et biologiques des Radiations. M. Haissinsky, Ed. Masson, Paris, 1965. 250 pp. Illus. F. 86.

This volume, the eighth of a series, contains three articles dealing with topics in the molecular physics of radiation effects. I think it useful to comment on them in an order reverse to their appearance in the book.

The longest of the three, and the one that deals most directly with chemical and biological effects of radiation, is an excellent review by S. Wexler, "Primary physical and chemical effects associated with emission of radiation in nuclear processes." For each of the practically important classes of nuclear transitions, Wexler first assembles a theoretical picture of the ensuing atomic and molecular rearrangements, then provides a summary of the relevant experiments. There is a great deal of information about specific organic and inorganic materials, but no explicit reference to biological material.

In the review article, "Attachement électronique en phase gazeuse," by Florence Fiquet-Fayard, *attachment* means the transition in which a free electron becomes bound. This field has been very active in recent years, for attachment is an important process in the physics of the upper atmosphere, a field of great importance to missile and space technology. A great deal of experimental information is assembled here, with fitting interpretive comment for finding one's way about in it. When a worker in radiation effects comes to think about the final disposition of free, or nearly free, electrons, as he will at some point in considering nearly any system, he may well find suggestive, and indeed normative, information in Fiquet-Fayard's review.

Finally, there is a short article (28 pp.) by Koichi Funabashi and John L. Magee. Though entitled "Dissociation processes in electronically excited molecules," it is really an essay in the theory of the interplay of migration of electronic excitation and molecular vibration in molecular aggregates. I am afraid that I find the treatment here unconvincing, and perhaps one detail will serve to illustrate my reservations: Early in the paper (p. 9) there is a basic error—the authors assume that matrix elements for vibrational

transitions accompanying electronic excitation transfer are zero unless energy is conserved; the argument proceeds by many further assumptions and inferences, which in the nature of a problem of this sort cannot be rigorously justified, but in such a way that no trace remains of the error cited above.

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New Books

General

Adventures in Living Plants. Edwin B. Kurtz, Jr., and Chris Allen. Univ. of Arizona Press, Tucson, 1965. 128 pp. Illus. \$4.95 (juvenile book).

After 20 years: Alternatives to the Cold War in Europe. Richard J. Barnet and Marcus G. Raskin. Random House, New York, 1965. 255 pp. \$5.95.

American Women. The report of the President's Commission on the Status of Women, and other publications of the Commission. Margaret Mead and Frances B. Kaplan, Eds. Scribner, New York, 1965. 286 pp. Illus. \$6.95.

Apprenticeships in America. Harry Kursh. Norton, New York, ed. 2, 1965. 216 pp. \$4.95.

Arms, Money and Politics. Julius Duschka. Washburn, New York, 1965. 222 pp. \$4.50.

Astronautics and Aeronautics, 1964. Chronology on science, technology, and policy. Prepared by the NASA Historical Staff, Office of Policy Planning. National Aeronautics and Space Administration, Washington, D.C., 1965. 535 pp. Paper, \$1.75 (order from Superintendent of Documents, Washington, D.C.).

Bibliography of North American Geology, 1950-1959 (*Bull. U.S. Geol. Surv.*, No. 1195), pts. 1 and 2, vols. 1 to 4. Pt. 1: *Bibliography*, vol. 1, *A to L* (1016 pp.), vol. 2, *M to Z* (778 pp.); pt. 2, *Index*, vol. 3, *A to L* (1006 pp.), vol. 4, *M to Z* (1229 pp.). Ruth Reece King, Elisabeth S. Loud, Mildred Challman Mead, Virginia M. Jussen, and Georgianna D. Conant. U.S. Department of the Interior, Washington, D.C., 1965 (order from Superintendent of Documents, Washington, D.C.). Paper, \$10.75. The bibliography covers literature published during the years 1950 to 1959, on the geology of the United States (including Alaska and Hawaii), the rest of the North American Continent including Greenland, the West Indies, and adjacent islands, and also Guam and other Pacific Island possessions—but not the Trust Territories of the United States. It includes information previously published in the individual volumes for the period and supplementary material—notably a group of reports prepared for the Atomic Energy Commission, with emphasis on those related to the uranium exploration program, and now available from the Office of Technical Services and designated depository libraries throughout the world.

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Biographical Memoirs. vol. 38. Published for the Natl. Acad. of Sciences by Columbia Univ. Press, New York, 1965. 435 pp. Illus. \$5. 14 biographical essays: Comfort Avery Adams (by Vannevar Bush), Tom Wilkerson Bonner (by W. V. Houston), William Ernest Castle (by L. C. Dunn), Arthur Holly Compton (by Samuel K. Allison), Ernest William Goodpasture (by Esmond R. Long), Louis Otto Kunkel (by Wendell M. Stanley), Frank Charles Mann (by Maurice B. Visscher), Henry Wieghorst Nissen (by Leonard Carmichael), John Thomas Patterson (by Theophilus S. Painter), Thomas Milton Rivers (by Frank L. Horsfall, Jr.), James Perrin Smith (by Eliot Blackwelder), Charles Thom (by Kenneth B. Raper), Theodore von Kármán (by Hugh L. Dryden), and Robert Mearns Yerkes (by Ernest R. Hilgard).

British Instruments Directory and Data Handbook. Scientific Instrument Manufacturers' Association, British Scientific Instrument Research Association, and United Science Press, London, ed. 5, 1965. 452 pp. £8 8s.

Brookings Papers on Public Policy. Herbert C. Morton, Ed. Brookings Institution, Washington, D.C., 1965. 230 pp. Paper, \$1.95. Highlights of 26 studies on economics, foreign policy, and governmental affairs.

Children and Politics. Fred I. Greenstein. Yale Univ. Press, New Haven, Conn., 1965. 211 pp. \$5.

Chinese Communist Education: Records of the First Decade. Compiled and edited by Stewart Fraser. Vanderbilt Univ. Press, Nashville, Tenn., 1965. 558 pp. \$10. A compilation of 48 papers, most of them concerned with the period 1950-1960.

College Guide for Jewish Youth. S. Norman Feingold and Alfred Jospe. B'nai B'rith Vocational Service, Washington, D.C., ed. 2, 1965. 112 pp. Illus. Paper, \$3.

The Coming Age of Information Technology. Vladimir Slamecka, Ed. Documentation Inc., Washington, D.C., 1965. 176 pp. Illus. \$5. *Studies in Coordinate Indexing*, vol. 6. Twelve papers.

Cone Shells of the World. J. A. Marsh. Jacaranda Press, Brisbane, 1965. 166 pp. Illus. \$14 (order from Tri-Ocean Books, San Francisco).

The Control of Pain. Frederick Prescott. Crowell, New York, 1965. 160 pp. Illus. \$4.50.

Crisis in the Congo: A United Nations Force in Action. Ernest W. Lefever. Brookings Institution, Washington, D.C., 1965. 227 pp. Paper, \$1.95; cloth, \$3.50.

The Dropout: Causes and Cures. Lucius F. Cervantes. Univ. of Michigan Press, Ann Arbor, 1965. 252 pp. \$5.95.

Elements of the Natural Movement of Population. Egon Vielrose. Translated from the Polish by I. Dobosz. H. Infeld and P. F. Knightsfield, Translation Eds. Panstwowe Wydawnictwo Ekonomiczne, Warsaw; Pergamon, New York, 1965. 294 pp. Illus. \$10.

The English Language: An Introduction. Background for writing. W. Nelson Francis. Norton, New York, 1965. 285 pp. Illus. \$3.50.

Federal Lending and Economic Stability. George F. Break. Brookings In-

stitution, Washington, D.C., 1965. 195 pp. Illus. \$5.75.

Fifth Inter-American Symposium on the Peaceful Application of Nuclear Energy (Valparaiso, Chile), March 1964. Pan American Union, Washington, D.C., 1965. 304 pp. Illus. Paper, \$3.50. Thirty-eight papers in English or Spanish presented at the symposium which was sponsored by the Inter-American Nuclear Energy Commission and the Government of Chile.

Foundations of Behavioral Research: Educational and Psychological Inquiry. Fred N. Kerlinger. Holt, Rinehart, and Winston, New York, 1965. 761 pp. Illus. \$10.50.

The French in the Mississippi Valley. John Francis McDermott, Ed. Univ. of Illinois Press, Urbana, 1965. 259 pp. Illus. \$6.75. Fourteen papers: "Myths and realities concerning the founding of St. Louis" by John Francis McDermott; "The houses of French St. Louis" by Charles E. Peterson; "St. Louis families from the French West Indies" by Dorothy Garesché Holland; "An early St. Louis poet: Pierre François Régnier" by Charles Guenther; "Pierre Gibault and the critical period of the Illinois country, 1768-78" by Joseph P. Donnelly; "The French mountain men of the early far west" by Frederic E. Voelker; "Colonial fortifications and military architecture in the Mississippi Valley" by Samuel Wilson, Jr.; "Some French engineers in Spanish Louisiana" by Jack D. L. Holmes; "French reactions to the Louisiana Revolution of 1768" by Pierre H. Boulle; "French naturalists in the Mississippi Valley" by Joseph Ewan; "A kingdom beyond the Rockies: The El Dorado of Mathieu Saguean" by Richebourg Gaillard McWilliams; "The seminary of Quebec: Resources for the history of the French in the Mississippi Valley" by Noël Bailargeon; "Resources in Detroit for the history of the French in the Mississippi Valley" by James M. Babcock; and "Manuscript sources in Louisiana for the history of the French in the Mississippi Valley" by Winston De Ville.

How to Live with Diabetes. Henry Dolger and Bernard Seeman. Norton, New York, ed. 2, 1965. 201 pp. \$4.50.

How Trees Help Your Health. Muriel W. Sweet. Naturegraph Publishers, Healdsburg, Calif., 1965. 64 pp. Illus. Paper, \$1; cloth, \$3 (juvenile book).

Improving the Effectiveness of Research and Development. Robert E. Seiler. McGraw-Hill, New York, 1965. 220 pp. Illus. \$10.

Information and Prediction in Science. S. Dockx and P. Bernays, Eds. Academic Press, New York, 1965. 286 pp. Illus. \$9.50. Fifteen papers presented at a symposium (Brussels), September 1962, sponsored by the Académie Internationale de Philosophie des Sciences.

Klimadiagramm-Weltatlas. pt. 2. Heinrich Walter and Helmut Lieth. Fischer, Jena, East Germany, 1964. Unpaged. DM. 65.

Learning and Programmed Instruction. Julian I. Taber, Robert Glaser, and Hal-muth H. Schaefer. Addison-Wesley, Reading, Mass., 1965. 192 pp. Illus. \$4.95.