

the apothecary Miller, the nurseryman James Gordon, and the physicians Mead, Sloane, and Gronovius. The last, with opportunism, published Clayton's descriptions in Leiden. All were counting stamens and pistils for Linnaeus.

John Clayton, not to be confounded with the Reverend John Clayton, was a member of the American Philosophical Society (although he probably never attended a meeting), and he was reported to be a member of the Royal Society (which he was not) and a physician (seriously doubted). On these matters, the authors have commendably set the record straight. Clayton's genealogy is intricate; a schematic pedigree is a desideratum. Two chapters, the "Clayton family" and "Life in Virginia," are animated. It is difficult to know John's own personality from his letters. The enthusiasms of the botanical fraternity glow in this ingenious biography and overshadow any attempt to tape Clayton's dimensions of greatness. Certainly Clayton's life was "neither brilliant nor spectacular," though his actions were "thorough and painstaking."

The historian will encounter fresh materials, fully documented. The Ellis Papers at the Linnean Society and the Norton Papers at Colonial Williamsburg disclosed sidelights down to gentlemanly blackmailing (p. 67). The notes by John Ellis on "Flora Virginiana Claytonii," first published here, recall Governor John Drayton's "Carolinian Florist." Benjamin Clement's essay on the history of botany (1756) is a glowing coal, and it might have been reprinted in its entirety, as an appendix.

Contemporary Dutch estimates of Gronovius would have been illuminating, for the circumstances surrounding the printing of the second edition of the *Flora Virginica* (1762) are still puzzling. And now a few corrections. It is more accurate to state that although Dr. Houstoun, protégé of Philip Miller, planned to botanize in Georgia under Oglethorpe's appointment, he died in Jamaica. The Charleston caricaturist George Roupel, one of many names not indexed, illustrated botanical papers for Alexander Garden (p. 127).

This attractively designed biography will be a welcome addition to collateral reading lists for botany courses.

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## New Books

### Mathematics, Physical Sciences, and Engineering

**Advances in Electrochemistry and Electrochemical Engineering.** vol. 3, *Electrochemistry*. Paul Delahay and Charles W. Tobias, Eds. Interscience (Wiley), New York, 1963. 409 pp. Illus. \$15.

**Advances in Electronic Circuit Packaging.** vol. 3. Proceedings of a symposium (Boulder, Colo.), August 1962. Lawrence L. Rosine, Ed. Plenum Press, New York, 1963. 463 pp. Illus. \$16.50.

**Advances in Petroleum Chemistry and Refining.** vol. 7. John J. McKetta, Jr., Ed. Interscience (Wiley), New York, 1963. 497 pp. Illus. \$19.75.

**Advances in Space Science and Technology.** Frederick I. Ordway III, Ed. suppl. 1, *Space Carrier Vehicles: Design, Development, and Testing of Launching Rockets*. Oswald H. Lange and Richard J. Stein. Academic Press, New York, 1963. 325 pp. Illus. \$12.

**The Art and Science of Growing Crystals.** J. J. Gilman, Ed. Wiley, New York, 1963. 503 pp. Illus. \$20.

**Astronautical Congress, 12th International. Proceedings.** Washington, D.C., October 1961. vols. 1 and 2. Robert M. L. Baker Jr., and Maud W. Makemson, Eds. Springer, Vienna; Academic Press, New York, 1963 (vol. 1, 518 pp.; vol. 2, 516 pp.). Illus. \$22 each.

**Asymptotic Behavior and Stability Problems in Ordinary Differential Equations.** Lamberto Cesari. Springer, Berlin; Academic Press, New York, ed. 2, 1963. 279 pp. Illus. \$9.

**Basic Statistics.** Thomas E. Kurtz. Prentice-Hall, Englewood Cliffs, N.J., 1963. 343 pp. Illus. \$10.

**The Buckling of Plates and Shells.** H. L. Cox. Pergamon, London; Macmillan, New York, 1963. 138 pp. Illus. \$6.50.

**Carbon.** vols. 1 and 2. Proceedings of the 5th conference (University Park, Pa.), June 1961. S. Mrozowski, M. L. Studebaker, and P. L. Walker, Jr., Eds. Pergamon, London; Macmillan, New York, 1963 (vol. 1, 651 pp.; vol. 2, 685 pp.). Illus. \$20 each.

**Diffusion in Semiconductors.** B. I. Boltaks. Translated from the Russian (*Dif-fuziya v Poluprovodnik akh*. Moscow, 1961) by J. I. Carasso. H. J. Goldsmid, Ed. Academic Press, New York, 1963. 390 pp. Illus. \$14.

**Dynamics of Satellites.** A symposium (Paris), May 1962. Maurice Roy, Ed. Academic Press, New York; Springer, Berlin, 1963. 347 pp. Illus. \$15.

**Earth Science and Meteoritics.** Compiled by J. Geiss and E. D. Goldberg. North-Holland, Amsterdam; Interscience (Wiley), New York, 1963. 328 pp. Illus. \$10.50.

**Elements of Chemical Reactor Design and Operation.** H. Kramers and K. R. Westerterp. Academic Press, New York, 1963. 263 pp. Illus. \$10.

**Hungarian Problem Book.** Nos. 1 and 2. No. 1, based on the Eotvos Competitions, 1894-1905 (120 pp.); No. 2, based on the Eotvos Competitions 1906-1928 (128 pp.). Jozsef Kurschak. Revised and edited by G. Hajos, G. Neukomm and J. Suranyi. Translated from the Hungarian

(revised edition 1955) by Elvira Rapaport. Random House, New York; Singer, Syracuse, N.Y., 1963. Illus. Paper, \$1.95 each.

**Identification of Organic Compounds.** A student's text using semimicro techniques. Nicholas D. Cheronis and John B. Entrikin. Interscience (Wiley), New York, 1963. 489 pp. Illus. \$8.95.

**Infrared Physics and Engineering.** John A. Jamieson, Raymond H. McFee, Gilbert N. Plass, Robert H. Grube, and Robert G. Richards. McGraw-Hill, New York, 1963. 687 pp. Illus. \$19.

**Introduction to Theoretical Physics.** Classical mechanics and electrodynamics. Roald K. Wangness. Wiley, New York, 1963. 423 pp. Illus. \$9.75.

**Introduction to the Theory of Integration.** T. H. Hildebrandt. Academic Press, New York, 1963. 395 pp. Illus. \$14.

**Introduction to University Physics.** vol. 1. Joseph Morgan. Allyn and Bacon, Boston, Mass., 1963. 527 pp. Illus. \$6.95.

**An Introduction to Vacuum Technique.** A. H. Turnbull, R. S. Barton, and J. C. Riviere. Wiley, New York, 1962. 200 pp. Illus. \$7.75.

**Invariant Imbedding and Radiative Transfer in Slabs of Finite Thickness.** Richard E. Bellman, Robert E. Kalaba, and Marcia C. Prestrud. Elsevier, New York, 1963. 356 pp. Illus. \$6.50.

**Mathematical Methods for the Study of Automatic Control Systems.** V. I. Zubov. Translated from the 1959 Russian edition by Yaakov Schorr-kon. Pergamon, London; Macmillan, New York, 1963. 335 pp. Illus. \$12.50.

**The Mathematical Works of J. H. C. Whitehead.** vol. 4, *Algebraic and Classical Topology*. I. M. James, Ed. Pergamon, London; Macmillan, New York, 1963. 361 pp. Illus. \$45.

**Mathematics.** David Bergamini and the editors of *Life*. Time Inc., New York, 1963. 200 pp. Illus. \$3.95.

**Mathematics and the Physical World.** Morris Kline. Doubleday, Garden City, N.Y. (© 1959), 1963. 557 pp. Illus. Paper, \$1.95.

**Mechanical Vibrations.** Austin H. Church. Wiley, New York, ed. 2, 1963. 452 pp. Illus. \$12.

**Nonstoichiometric Compounds.** A symposium, 141st meeting of the American Chemical Society, March 1962. Roland Ward, Chairman. American Chemical Society, Washington, D.C., 1963. 261 pp. Illus. Paper.

**Nuclear Research Emulsions.** vol. 1, *Techniques and Theory*. Walter H. Barkas. Academic Press, New York, 1963. 534 pp. Illus. \$18.

**Nuclear Theory Reference Book 1957 and 1958** (142 pp.); **1959 and 1960** (142 pp.). A compilation of nuclear theory index cards. J. B. Marion, Ed. Natl. Acad. of Sciences-Natl. Research Council, Washington, D.C., 1963 (order from Superintendent of Documents, GPO, Washington, D.C.). Paper, \$1 each.

**Physics of Failure in Electronics.** M. F. Goldberg and Joseph Vaccaro, Eds. Spartan, Baltimore, Md.; Cleaver Hume, London, 1963. 263 pp. Illus.

**Physics of Thin Films.** Advances in research and development. vol. 1. Georg Hass, Ed. Academic Press, New York, 1963. 364 pp. Illus. \$13.