to continued fractions" fulfill objective (b). Over and over again Kac exemplifies the old Italian saying: "A mathematician is like a lover—grant a mathemathician the least concession and he will draw from it a consequence, and from that consequence another!"

A truly delightful book!

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Forerunner of Audubon

Mark Catesby. George Frick and Raymond Phineas Stearns. University of Illinois Press, Urbana, 1961. x + 137 pp. Illus. $5.

If Audubon—Bartram—Catesby are the ABC's of American natural history, Catesby is certainly least known to Americans. This attractive book will help remedy that situation, but we shall not know Catesby well until his great work, *Natural History of Carolina, Florida, and the Bahama Islands*, is reissued.

Eighteenth-century Catesby, subsidized by Sloane, Sherard, and others who had been eager for the contributions of John Banister, and by Governor Nicholson, displayed none of Audubon's showmanship as man or artist. Catesby illustrated North American birds in habitat backgrounds, a method brought to its fullest flowering by Audubon in the next century. Contrary to the authors, these backgrounds were not initiated by Catesby. Maria Sibylle Merian published her first work in 1679, and another on insects of Surinam in 1705, wherein plants fairly compete with insects in disciplined beauty.

We know little of Catesby's exact routes in Virginia and Carolina. He reached Fort Moore on the Savannah River some 300 miles from Charleston. There may be notes as to where the sketches were made on the original Catesby drawings in the Royal Library at Windsor. Catesby drew from the living plant, but faced with engraving costs, he took lessons from the French artist, Joseph Goupy, and engraved the plates himself. That Goupy's friend, the Duke of Chandos, was also Catesby's patron seems to have been overlooked. Although the text of his *Natural History* was published in parallel English and French columns, we do not know who prepared the French version, but the Franco-Philadelphia naturalist Du Simitiere left a 16-page manuscript subject "Catalogue" to Catesby's work, though there is no clear evidence he was in touch with Catesby.

Frick and Stearns' volume is an excellent chronicle of man and naturalist, and happily the price is most attractive! It must be said, however, that this is historians' and not naturalists' commentary. The naturalists' edition, which should be published, will embrace not only bird commentary but also notes on Catesby's mollusks (by Wilkins) and on his plants (by Dandy); it will align these subjects with the state of our knowledge rather more intimately.

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New Books

Mathematics, Physical Sciences, and Engineering

The Abundance of the Elements. Lawrence H. Aller. Interscience, New York, 1961. 294 pp. Illus. $10.

Algebra. With applications to business and economics. Paul H. Daus and William Whyburn. Addison-Wesley, Reading, Mass., 1961. 365 pp. Illus. $6.75.

Elementary Particles. Enrico Fermi. Yale Univ. Press, New Haven, Conn., 1961. 120 pp. Illus. $1.45.

Elements of Statistics. Elmer B. Mode. Prentice-Hall, New York, ed. 3, 1961. 334 pp. Illus. Text edition, $7.25; trade edition, $9.65.

Engineering Castings. How to use, make, design and buy them. Glenn J. Cook. McGraw-Hill, New York, 1961. 266 pp. Illus. $8.50.

Fast Reactors. R. G. Palmer and A. Platt. Temple Press, London, 1961 (order from Simmons-Boardman, New York). 93 pp. Illus. $2.95.

Flow of Fluids through Porous Materials. Royal Eugene Collins. Reinhold, New York, 1961. 280 pp. Illus. $12.50.

Heterocyclic Compounds. Polycyclic compounds containing two hetero atoms in different rings. Five- and six-membered heterocycles containing three hetero atoms and their benzo derivatives. vol. 7. Robert C. Elderfield, Ed. Wiley, New York, 1961. 885 pp. Illus. $37.50.

The Impact of the New Physics. Frank Hinman. Philosophical Library, New York, 1961. 174 pp. Illus. $4.50.

Instrumentation for High-Energy Physics. Proceedings of an international conference. Lawrence Radiation Laboratory, University of California, Berkeley. Interscience, New York, 1961. 338 pp. Illus. $10.

Introduction to Engineering Mechanics. John V. Huddleston. Addison-Wesley, Reading, Mass., 1961. 500 pp. Illus. $9.75.

Introduction to Geometry. H. S. M. Coxeter. Wiley, New York, 1961. 458 pp. Illus. $9.95.

Modern Computing Methods. Philosophical Library, New York, ed. 2, 1961. 176 pp. Illus. $6.

Nuclear Sizes. L. R. B. Elton. Oxford Univ. Press, London, 1961. 114 pp. Illus. $2.40.

Operational Electricity. Theory, characteristics, applications, and mode of operation of circuits and machines. Charles I. Hubert. Wiley, New York. 540 pp. Illus. $8.50.

Physical Chemistry. Gordon M. Barrow. McGraw-Hill, New York, 1961. 707 pp. Illus. $8.95.

Plasmas and Controlled Fusion. David J. Rose and Melville Clark, Jr. M.I.T. Press and Wiley, New York, 1961. 507 pp. Illus. $10.75.

Plastics in Nuclear Engineering. James O. Turner. Reinhold, New York; Chapman and Hall, London, 1961. 149 pp. Illus. $5.50.

Pleistocene Geology of the Randall Region, Central Minnesota. Allan F. Schneider. Univ. of Minnesota Press, Minneapolis, 1961. 166 pp. Illus. $4.25.

Probability. A first course. Frederick Mosteller, Robert E. K. Rourke, and George B. Thomas, Jr. Addison-Wesley, Reading, Mass., 1961. 334 pp. Illus. $5.

Probability with Statistical Applications. Frederick Mosteller, Robert E. K. Rourke, and George B. Thomas, Jr. Addison-Wesley, Reading, Mass., 1961. 493 pp. Illus. + plates. $6.50.

Progress in Solid Mechanics. vol. 2. I. N. Sneddon and R. Hill, Eds. North-Holland, Amsterdam, Netherlands; Interscience, New York, 1961. 342 pp. Illus. $11.75.

Quantum Theory. D. R. Bates, Ed. Academic Press, New York, 1961. 462 pp. Illus. $10.

Radioactive Wastes. Their treatment and disposal. J. C. Collins, Ed. Wiley, New York, 1960. 260 pp. Illus. + plates. $8.

The Science of Adhesive Joints. J. J. Bikerman. Academic Press, New York, 1961. 266 pp. Illus. $8.

A Synopsis of Physics. C. C. N. Vass, Ed. Williams and Wilkins, Baltimore, Md., ed. 5, 1961. 348 pp. Illus. $8.

The Theory of Crystal Structure Analysis. A. I. Kitaigorodskii. Translated from the Russian by David and Katherine Harker. Consultants Bureau, New York, 1961. 286 pp. Illus. $12.50.

The Theory of Subsonic Plane Flow. L. C. Woods. Cambridge Univ. Press, New York, 1961. 616 pp. Illus. $22.50.

Thermoelectricity. Science and engineering. Robert R. Heikes and Roland W. Ure, Jr. Interscience, New York, 1961. 587 pp. Illus. $18.50.

Trace Elements in Plants. Walter Stiles. Cambridge Univ. Press, New York, ed. 3, 1961. 264 pp. $7.50.

Transistors and Active Circuits. John G. Linvill and James F. Gibbons. McGraw-Hill, New York, 1961. 530 pp. Illus. $14.50.

Water Treatment. For industrial and other uses. Eskel Nordell. Reinhold, New York; Chapman and Hall, London, ed. 2, 1961. 607 pp. Illus. $12.