tistics, the measurement of weight and volume, solvent extraction, and organic reagents in inorganic analysis. The section on statistics, by E. C. Wood, is exceptionally well written. That on solvent extraction, by G. H. Morrison and H. Freiser, is systematic and concise, yet it contains a vast amount of practical detail.

A 100-page chapter on gas analysis, by A. E. Heron and H. N. Wilson, treats in detail the Hempel and Orsat techniques, as well as newer microanalytical methods, but discussion of gas chromatography has been postponed to a later volume.

Two chapters, each a textbook in miniature, deal with inorganic and organic qualitative analysis, respectively. A plan for the systematic detection of 47 elements without the use of hydrogen sulfide is described here for the first time, by P. W. West and A. O. Parks. Spot tests are discussed, and H. Weisz describes his novel and simple "ring oven" technique for identifying many different elements in a single drop of solution. The relevance of these qualitative techniques to modern analytical chemistry is defended.

A long chapter on inorganic gravimetric analysis follows, written largely by F. E. Beamish and W. A. E. McBryde. The discussion of laboratory techniques is detailed and valuable; the section headed "Reagents" is sketchy, yet it contains an excellent discussion of the solubility of metal-organic precipitates and the kinds of contamination which such precipitates can have. The chapter closes with an account of precipitation from homogeneous solution, by L. Gordon. I wish that a more complete discussion of thioacetamide had been included here.

The emphasis throughout is on practical applications; the book is written for the chemist at the laboratory bench. Theoretical principles are not neglected, however, and there are ample literature citations. There is some overlapping of the topics treated in different chapters, but this is welcome, since the 17 authors write from different backgrounds—from Great Britain, the United States, Canada, and Austria.

I warn every practising analytical chemist and every chemical librarian that he had better become resigned to purchasing each volume of this work as it appears.

HAROLD F. WALTON
Department of Chemistry,
University of Colorado

Antonio Meucci, Inventor of the Telephone. Giovanni E. Schiavo. Vigo Press, New York, 1958. 288 pp. $10.

Even though technology is so ancient that its presence or absence serves to distinguish the human primate from the nonhuman primate, the history of technology is still one of the youngest scholarly disciplines. With few exceptions, it is still in the formative stage in which all change and advance is ascribed to a few unique inventors. Efforts have been made to break the hold of this cult of personality, but official biographies, popular histories, and public relations departments tend to perpetuate this oversimplification of how inventions are made and introduced into use.

Consequently, it is refreshing to see an attack on the great-man theory, even if it is only a flank attack that substitutes one man for another. Giovanni Schiavo's book, *Antonio Meucci: Inventor of the Telephone*, seeks to replace the single inventor of the telephone, A. G. Bell, with Antonio Meucci, the man from whom the Bell Telephone Company and Western Union supposedly stole the invention. Meucci was born in Italy in 1808 and remained there until 1835. He then went to Cuba, where he accumulated a considerable fortune through his inventions in electroplating. He moved to New York City in 1850 and supported himself (and, for a brief time, his exiled revolutionary compatriot, Garibaldi) by setting up a candle (and salami!) factory, but his unscrupulous business partners eventually left him in poverty.

Sometime during the 1850's or 1860's, he conceived the idea of the *telettrofono*, or electric telephone, that he sought to patent in 1871, but since he lacked funds he could obtain only a caveat in which he claimed he was working on such an invention. Two facts form the basis of the charges made by some individuals in the mid-1880's that his invention had been stolen: His wife sold his models in 1871 while he was sick; and the papers and experimental model he left with the Western Union in 1872 disappeared.

This book is a black-and-white narrative of these events, obviously directed to a particular audience. Quotations from the legal depositions lend some plausibility to the author's argument, but the evidence is insufficient to make a convincing case. However, the book serves to remind us that invention is a complex social act that is not due to the efforts of any one person, for what one glimpses here is only a portion of a very intricate story that extends from the workshops of many inventors to the Supreme Court of the United States.

W. JAMES KING
Division of Electricity,
Smithsonian Institution

New Books

The Arterial Wall. Albert I. Lansing. Williams & Wilkins, Baltimore, Md., 1959. 268 pp. $7.50. This volume represents an attempt to review the data that are currently available on the structure, function, and chemistry of the major components of the arterial wall. The volume is sponsored by the Gerontological Society.

A Biological Survey of Katmai National Monument. Misc. Collections, vol. 138, No. 5. Victor H. Cahalane. Smithsonian Institution, Washington, D.C., 1959. 246 pp.

Blakeslee: the Genus Datura. Amos G. Avery, Sophie Satina, Jacob Rietsema. Ronald Press, New York, 1959. 330 pp. $8.75.

Curious Naturalists. Niko Tinbergen. Basic Books, New York, 1959. 280 pp. $5.

Diseases of Medical Progress. A survey of diseases and syndromes unintentionally induced as the results of properly indicated, widely accepted therapeutic procedures. Robert H. Moser. Thomas, Springfield, Ill., 1959. 147 pp. $4.75.

Education in the Age of Science. Brand Blanshard. Basic Books, New York, 1959. 320 pp. $4.50.

Experimental Surgery. Including surgical physiology. J. Markowitz, J. Archibald, H. G. Downie. Williams & Wilkins, Baltimore, ed. 4, 1959. 943 pp. $12.50.

Exploring Biology. The science of living things. Ella Thea Smith. Harcourt, Brace, New York, 1959. 731 pp. $5.20.

A Field Guide to the Birds. Giving field marks of all species found east of the Rockies. Roger Tory Peterson. Houghton Mifflin, Boston, Mass., ed. 2, 1959. 314 pp. $3.95.

The Flight of the Small World. Arnold Eiloart and Peter Elstob. Norton, New York, 1959. 255 pp. $4.50. This is the story of the journey across the Atlantic of four Britishers—half way by free balloon and halfway by sea when they were forced down by a violent storm.

Food. The yearbook of agriculture, 1959. U.S. Department of Agriculture, Washington 25, D.C. (order from Supt. of Documents, GPO, Washington 25). 748 pp. $2.25.

Gas Chromatography. A. I. M. Keulemans. C. G. Berver, Ed. Reinhold, New York; Chapman & Hall, London, ed. 2, 1959. 255 pp. $7.50.

Jan Evangelista Purkyne. Czech scientist and patriot, 1787–1869. Henry J. John. American Philosophical Soc., Philadelphia, Pa., 1959. 105 pp. $3.