

Lieutenant Henry Shrapnel, R.A., in 1784 (page 166)—or on the amazing predictions by Roger Bacon (page 72) and Giovanni da Fontana (page 160 ff). A particular joy are the general remarks with which the book is liberally sprinkled: on scholasticism (page 64) or on governments and history (page 187).

This rich and many-dimensional book is a highly valuable addition to Partington's outstanding historical work.

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**Metallurgical Society Conferences.** vol. 1, *Flat Rolled Products*. Rolling and treatment. T. E. Dancy and E. L. Robinson, Eds. xix + 128 pp. Illus. \$3.75. vol. 2, *Reactive Metals*. W. R. Clough, Ed. xiv + 610 pp. Illus. \$15. vol. 3, *Quality Requirements of Super-Duty Steels*. R. W. Lindsay, Ed. x + 309 pp. \$8.50. vol. 4, *Physical Metallurgy of Stress Corrosion Fracture*. Thor N. Rhodin, Ed. xiii + 394 pp. Illus. \$13. Interscience, New York, 1959.

Under the series title, *Metallurgical Society Conferences*, proceedings of technical conferences sponsored by the Metallurgical Society of the American Institute of Mining, Metallurgical and Petroleum Engineers are being published by Interscience Publishers. The first four volumes include: volume 1, *Flat Rolled Products*; volume 2, *Reactive Metals*; volume 3, *Quality Requirements of Super-Duty Steels*; and volume 4, *Physical Metallurgy of Stress Corrosion Fracture*. Additional volumes on recent and forthcoming conferences are scheduled for publication and the continuing series will cover the entire spectrum of metallurgy. Publication of the conference volumes serves to preserve and make widely available the scientific and technical information presented at the conferences.

The first volume contains four papers on rolling and annealing of steel, together with discussion of the papers and a panel discussion on the surface texture of flat rolled products; this is the proceedings of a conference-symposium held at Chicago, Ill., on 21 January 1959. The applied technical information presented at the conference and recorded in volume 1 is avail-

able in no other publication and will be of interest to anyone concerned with flat rolling of steel.

Volume 2 is the proceedings of the third Reactive Metals Conference, held at Buffalo, N.Y., 27-29 May 1958. Thirty-seven papers and the discussions that followed are presented. The topics cover a wide range of subjects on 11 reactive metals and the special processing techniques necessary for these unusual metals. Engineers concerned with nuclear reactor materials; moderately high-temperature, light-weight structures; and very high temperature structures will find the material in volume 2 useful in their work.

The proceedings of a technical conference on quality requirements of super-duty steels, held in Pittsburgh, Pa., 5-6 May 1958, are recorded in volume 3. Steels to meet special service requirements, such as very high strength, high temperature, or low temperature are considered. Four papers were presented in sessions on each of the following general topics: environment of use and required properties; relationship between composition structure and properties; air melting practices; special steelmaking practices. Volume 3 contains information helpful to both the producer-metallurgist and the consumer-metallurgist in understanding each other's quality requirements.

A symposium on the physical metallurgy of stress corrosion fracture was held at Pittsburgh, Pa., in April 1959; and the proceedings were published as volume 4 of this series. This volume contains 16 papers by well known workers in the stress corrosion field. It will be a welcome addition to the library of all those concerned with stress-corrosion.

O. CUTLER SHEPARD

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**Shots without Guns.** The story of vaccination. Sarah R. Riedman. Rand McNally, Chicago, Ill., 1960. 232 pp. Illus. \$3.50.

Man's war against his unseen enemies makes no less exciting reading than his battles against visible foes, especially when told by an author who combines insight into the scientific and human aspects of the fight against disease with a sense for the drama in-

involved in the adventures of the giants who waged this fight. Whether the inquiring Jenner, the genial Pasteur, the meticulous Koch, the imaginative Ehrlich, or the cautious Salk is pictured, the portraits are always impressive and lively. While we are fascinated by the life history of the heroes who conquered ignorance and disease, we refresh our memory or learn new aspects of bacteriology, virology, and immunology.

FRANCIS JOSEPH WEISS

Arlington, Virginia

**Anatomy of Seed Plants.** Katherine Esau. Wiley, New York, 1960. viii + 376 pp. Illus. \$6.95.

Katherine Esau is a plant anatomist of distinction, with a particular interest in the developmental anatomy of flowering plants. In 1953 her well-known *Plant Anatomy*, a book of 735 pages, was issued by John Wiley and Sons. The present briefer text is very welcome, for the older book, with all its many virtues, fell short, owing to sheer volume, of being an ideal text for a one-semester course. The present text is not a condensation of the older book but has been entirely rewritten, and fewer than 20 percent of the illustrations are from *Plant Anatomy*. The nature and sequence of the topics, after two short introductory chapters on the embryo and the development of the adult plant from the embryo, do not differ radically from those of the *Anatomy*: histology of tissues; primary and secondary growth in root and stem; the leaf, flower, fruit, and seed. The emphasis, wherever possible, is on development. The photomicrographs used as illustrations are scattered through the text instead of being concentrated at the end, as in the *Anatomy*. In general, the illustrations are of the high quality we have come to expect from Katherine Esau, but a few are too greatly reduced, and one plate of photomicrographs is poorly reproduced. The student who judges from the size of this relatively slender volume that his powers will not be taxed unduly will be badly deceived, for this is a tight, closely written book, into which the author has packed an astonishingly large mass of information. Among the innovations are a key to the microscopic identification of certain woods and a very extensive and useful glossary.