were universally respected, but something went wrong.

In 1859, Charles Darwin hit him in his postulates, and he found his basic assumptions under attack. That Agassiz did not know at first what had happened to him is clear from his reactions. Later on, when he began to suspect, he was dazed and puzzled. He made an honest effort to understand the newer developments and to evaluate the evidence on which the theory of evolution was based, but he failed completely, as he showed by a paper he wrote just before his death.

A character as complex as Agassiz' is hard to depict, but Lurie has succeeded brilliantly. His treatment of Agassiz is both sympathetic and critical. He fits Agassiz into the intellectual climate of his time, but he also (and rightly) judges him from the vantage point of today. Historians of science, of course, must observe their subjects from these two viewpoints. It is only a truism to state that science changes drastically and continually, but that the scientists themselves are altered only with the slowness of organic evolution. A considerable number of our active, productive, and creative contemporaries furnish evidence that Agassiz was not a *lusus naturae* but that he was unique, perhaps, only in the way that all human beings are unique. He accomplished a great deal, advanced the science of his time, and rose to the top of his profession. He was unfortunate in that the science to which he had contributed so much left him behind some years before he died. The whole story of this interesting man is well told. All in all, Lurie has written a distinguished biography.

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Control Systems Engineering. William W. Seifert and Carl W. Steeg, Jr., Eds. McGraw-Hill, New York, 1960. xiv + 964 pp. Illus. $15.

There are many treatments of specific aspects of control system engineering; few attempt as encyclopedic an account of the ancillary mathematical techniques as the present volume. There are chapters, written by various authors, on the mathematics suitable for the analysis of linear systems—that is, linear differential equations, linear integral equations, transform techniques, and matrix methods. In addition, there are chapters on nonlinear differential equations, statistical theory and applications, optimization of linear systems, sampled-data analysis, numerical analysis, and an introduction to game theory.

While there are many sloppy mathematical statements in this book, a more serious objection is that it tries to cover too much ground and pays the price in superficiality. Although the volume is not likely to be considered suitable for use as a textbook, it can be rather valuable as a reference for the practicing control engineer.

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Radioisotopes and Radiation in the Life Sciences. 2nd Inter-American Symposium on the Peaceful Applications of Nuclear Energy, Buenos Aires, 1959. Inter-American Nuclear Energy Commission and the Argentine National Atomic Energy Commission. Pan American Union, Washington, D.C., 1960. 264 pp. Illus.

This symposium, jointly sponsored by the Inter-American Nuclear Energy Commission (IANEC), and the Argentine National Atomic Energy Commission, reflects the great progress achieved by the American States in the field of nuclear energy since the first inter-American symposium was held at Brookhaven National Laboratory in 1957.

The 38 papers presented by scientists from the 21 member countries of the organization dealt with 10 topics, among them problems of basic botany and zoology, radiobiology, clinical applications, animal studies, agriculture, entomology, and food preservation. Special emphasis was given to research of practical value to the Americas, such as tracer studies in the coffee plant, soil fertility studies, the use of radioisotopes and radiation in plant physiology, mutations produced in flowering plants, and milk formation in cows (studied with radiocarbon as a metabolic tracer). General aspects of the field, administrative problems, and radiation protection questions were discussed by experts in the introductory speeches, as well as between and at the end of the sessions. An attendance of about 100 scientists from the Americas, and abroad (including observers from Canada) underscored the importance of this stimulating event in the history of the Americas and made possible its success.

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A History of Metallography. The development of ideas on the structure of metals before 1890. Cyril Stanley Smith. University of Chicago Press, Chicago, Ill., 1960. xxi + 291 pp. $8.50.

This beautifully illustrated book covers much more than the specialized history of metallography; it should be of interest, as the author hopes, to those concerned with the broader aspects of the history of science. Cyril Stanley Smith, former director of the Institute for the Study of Metals at the University of Chicago, was so greatly interested in metallurgical history that he spent a full year in England, on a Guggenheim fellowship and a research grant from the National Science Foundation, following his avocation. The result of his research is this thought-provoking work covering the growth of concepts on the nature of all materials as well as on the structure of metals. The book will be especially useful for reference because of the extensive bibliographic notes that have been included. Most of the sources quoted have not previously been used in metallurgical histories and are not contained in any similar bibliography.

The book's first section outlines some of the artistic uses made by swordsmiths, armorers, and jewelers of surface phenomena depending on metal structure. Particularly interesting chapters cover the Damascus blade and the Japanese sword, considered by many to be the supreme form of metallurgical art.

A brief review of the rise of the corpuscular theory during the 17th century emphasizes the author's point that a proper balance between "applied" and "pure" science is required for the development of human knowledge. In the field of metallurgy, R. A. F. de Réaumur alone proceeded to develop corpuscular theory into something useful. In developing theories on the nature of steel and iron, he was able to