authors of this recent biography are bent on making the story glamorous and the language colorful, with the result that the important ideas are not clearly presented. Diesel's original conception is not made clear, nor is the reason why the engine diverged from this conception. The book has much scattered information about varieties of engines and the comings and goings of men, some of it wrong, and a good deal of it unintelligible. It provides background scenery but no explanation of the technical and economic forces at work in the Diesel engine's recent conquest of the fields of marine and railway propulsion.

The book is a reworking of biographical materials already published, mostly by Eugen Diesel, the inventor's son, with irritating artificial coloring added. It has a good index and a full bibliography, but no footnotes. It is an excellent piece of book design and manufacture. I wish it made more of a contribution to our understanding of Diesel and his engine.

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On Form and Style

Style Manual for Biological Journals. Prepared by the Committee on Form and Style of the Conference of Biological Editors. Published for the Conference by the American Institute of Biological Sciences, Washington, D.C., ed. 2, 1964. x + 117 pp. Illus. $3.

The first edition of this manual was published in 1960. The second, appearing only 4 years later, attests to its general acceptance. It is the most useful book of its kind for the biological author, editor, and referee. Nearly half of the volume is devoted to "Writing." Here one finds suggestions, accompanied by examples of good and bad style, for making one's writing a better vehicle for transmitting scientific information. Simple rules for word usage, punctuation, and spelling all have the goal of brief and clear expression. But it does give one a surrealistic feeling to read the first sentence: "Learn to write effectively." Does any author truly believe that he writes ineffectively? I would wager that he has little trouble communicating with himself even in the first rough draft. It would be equally useful to have said: "Learn to be wise."

One also finds in this same section the statement, "Describe your materials and methods in sufficient detail so that another worker can repeat the procedures exactly." Would many editors accept without modification a paper so prepared?

I should like to enter a mild protest with the philosophy that permeates this and similar style manuals. There is too much concern with little things. Considering the problems of scientific writing and publishing today, does it really matter if we write "anesthesia" and not "anaesthesia," "base line" and not "baseline," "eyeball" and not "eye ball," "Florence" and not "Firenze?" Does the gain of a little space warrant a great effort to standardize abbreviations? Abbreviations save space but, when unfamiliar, they waste the reader's time. How many of these standard abbreviations are familiar to *you*: A, a, bl, cor, d, f, f., n, p, p., and T? "Agr" is the accepted abbreviation for Agraire, Agralia, Agrar-, Agrarnyi, Agricol-, and Agrikult- when used in the titles of journals. But conceivably it would assist one in finding the journal if the whole word were given. The finest scientific editor known to me has a simple rule for abbreviations: avoid them.

Style manuals promote uniformity. When the result is improved (and less expensive) communication, fine. But far too often the goal seems to be uniformity for the sake of uniformity. In preference to concern with the latter, I would prefer to have a committee of editors dealing with the bigger problems. Having been an editor myself, I believe that our breed tends to be pica wise and manuscript foolish. Should we not devote our major efforts to more pressing questions? How are we to reduce the number of publications? Cannot we prevent the repeated publication of essentially the same information, and frequently by the same individuals, on the topics of the moment? How should we regard the rapid succession of brief and preliminary notes that form the running diaries of some of our busier biologists? Neither the libraries nor the biologists of today can cope with the deluge of scientific publication—and for this situation we bear a major responsibility.

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Theoretical Physics

Elements of Quantum Electrodynamics. A. I. Akhiezer and V. B. Berestetskii. Translated from the Russian edition (Moscow, ed. 2, 1959) by A. Sen and R. N. Sen. Israel Program for Scientific Translations, Jerusalem; Davey, New York, 1964. viii + 301 pp. Illus. $15.25.

Quantum electrodynamics is the theory of the interaction of photons, the quanta of the electromagnetic field, with electrons and positrons. It is without question the most successful of the theories yet formulated to describe the domain of elementary particles. Consequentially the theory plays a central role as a guide to the development of future theories and as a stepping-stone in the education of future theorists.

Akhiezer and Berestetskii's book is not a new offering in this field. The first edition appeared in Russia in 1953, just four years after the theory took a giant step forward in the work of Schwinger, Feynman, and others. The book was therefore one of the first comprehensive treatments of the subject, and in the late 1950's many graduate students cut their field-theoretic teeth on the English translation provided by the U.S. Atomic Energy Commission. The AEC translation of the complete 1953 edition is still available in practically all physics libraries across the country.

The book under review is a translation of roughly half of the second Russian edition (1959). The translators claim that major portions of the second edition were "virtually rewritten." However, it appears that it would be more correct to say that the material was rearranged; most of the topics treated in this volume are also considered in the AEC translation. More importantly, because in the volume published by the Israel Program for Scientific Translations only half of the second edition was translated, a large number of illuminating applications of the formalism are omitted. It is by no means obvious that this is a pedagogical advantage.

Although *Elements of Quantum Electrodynamics* is a venerable text, it is unlikely to assume a prominent position in the classroom. The treatment of the subject matter is extremely concise and little motivation is provided in its development. Furthermore, a number of excellent textbooks on quantum electrodynamics have been pub-