words from other related fields," I fail to see why, for example, the following terms are listed, sometimes with incorrect equivalents: *Eisenbahngelände* (railway territory), *Fördereinrichtung* (ticket distribution system), *Grenzverkehr* (frontier traffic), *Pickel* (pick axe), *Unternehmer* (contractor), and the like. The inclusion of the names of elements, chemical compounds, minerals, and other classes of terms, which often have similar spellings in both languages, also seems superfluous in a physics glossary—for example *Neon, Cadmiumarsenid, Renardit, Ulrichit,* and *Chromosom.*

Listing terms under their adjectival modifiers is not the best lexicographic practice, especially if the modifier does not alter the meaning; *elektrisch* and *magnetisch* have more than 40 entries each, and *mechanisch* has 19.

Many terms are poorly translated: *Kaltemission* (the translation is autoelectric emission, but should be field emission); *Ultraschalldickenmesser* (supersonic thickness gauge should be ultrasonic). Other dubious translations are: *Netzebene* (atomic plane), *Nullindikator* (null detector), *elektrisches Feld* (field of force), *gedämpfte Wellen* (type B waves), and *Brennzeit* (conducting period).

That specific areas of physics to which the terms apply are seldom indicated may cause misunderstanding—for example, *Blitzlicht* (flashlight). No distinction is made between British and American usage—for example, valve versus electron tube. Even casual perusal turns up omissions: *Elektret, Kraftarm, Lichtfluss, Messkreis,* and *Sendevermögen.*

The components of multicompound words are often not listed separately; for example, *Brennstoffvorratsmesser, Sonderrechenstab,* and *Gitterwechselspannung* appear, but *Vorratsmesser, Rechenstab,* and *Wechselspannung* do not. Misspellings and typographical errors are too frequent: "chrystal," nuclear "magic" moment, cubing "formular," "Hammerarbeit." The latter term has the double distinction of being both misprinted and incorrect; it should be *Hämmerbarkeit* (malleability).

The format and paper are satisfactory; the type, while legible, should have been larger.

Despite these shortcomings, the compilation has merit for the physicist and student not conversant with German, since most terms are pertinent and are rendered in accurate and idiomatic English. For the translator who does not have special knowledge of physics, the dictionary would seem to be less than authoritative.

I hope that a new edition will be more rigorously edited so that it will be comparable to the authors' other fine lexicographic contributions.

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Introductory Textbook

Botany: A Functional Approach. Walter H. Muller. Macmillan, New York, 1963. xvi + 486 pp. Illus. $7.50.

This addition to the available textbooks for general botany courses should be well received. It is intended for a one-semester course and follows a conventional organization. In approximately the first quarter of the book, Muller treats introductory material and fundamentals of structure. In the second quarter functional processes, their correlations, and their importance to plant distribution are considered, with a meaningful chapter on soils. Next, a chapter on inheritance and variation is followed by a section (nearly 150 pages) concerned with a survey of the plant kingdom. Final chapters treat evolution, growth and flowering, populations and their problems, and the origin of life.

The use of a single-column format, with wide outer margins, gives a pleasant typographic effect. Key terms are set in bold face type. Margins are used extensively for illustrations, most of which are drawings. More illustrations, including greater use of photomicrographs, would probably be helpful to students. A few comments on specific drawings may be noted. The extent of apical meristems and the distribution of immature vascular tissues are not handled accurately in the drawings that depict structural development in stem and root. Bundle sheath is omitted as a label in the drawing of leaf structure. No mention of this structure and its function is made in the text, but it is included in the glossary. In the illustration of *Ulothrix,* flagellae may well have been added to the spores produced from the zygote. A probable omission of text material is obvious at the top of page 35.

The coverage of the text is extensive and up to date, but its treatment of many aspects is abbreviated in conformity with the limitations of a one-semester course. Knowledge and full appreciation of variability is thereby limited, and in some cases accuracy is sacrificed. An appealing feature is the emphasis given to the application of fundamental subject matter to problems of significance for mankind. The author believes, and rightly so, that "botany lends itself more readily to the teaching of biological concepts of general educational value than do other biology courses." This belief finds expression by taking the subject out of the classroom and giving it effective application to conservation, dust bowls, plant distributions, plant diseases, population growth, and food problems.

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Physical Meteorology

An Introduction to Atmospheric Physics. Robert G. Fleagle and Joost A. Businger. Academic Press, New York, 1963. xii + 346 pp. Illus. $12.

Current textbooks on physical meteorology tend to be limited to a few standard topics—meteorological optics, acoustics, solar and terrestrial radiation, and one or two others—that are immediately associated with obvious meteorological phenomena. The authors of this book have been more ambitious. In their discussion of atmospheric physics, they have included introductions to gravitation, atmospheric thermodynamics, and geomagnetics and, in two appendices, a review of mathematical functions and operations pertinent to meteorological physics as well as a few paragraphs on units, dimensions, and significant figures (the latter are misleadingly titled physical topics).

With this coverage, the authors have produced a text adapted to a two-semester course for either of two groups: (i) nonscience undergraduates who desire a single earth science course of balanced breadth and depth and (ii) first-year graduate students who are beginning their professional study without any undergraduate preparation in meteorology. Each subject is developed clearly, carefully, and in considerable detail, without immediate reference to other related phenomena. For this reason, the book is not particularly convenient for use as a refer-