nominative case and it is always singular in number." I believe that Mast is here quoting or at least paraphrasing the rules of zoological nomenclature. The corresponding botanical code says that "Names of genera are substantives . . . in the singular number . . ." without allusion to their case. The difficulties adumbrated by the authors cited originate in a too servile adherence to these carelessly worded dicta. The botanical version has one solecism fewer than the zoological, but it is inconceivable that either represents the real thought of the framers of the codes. Obviously, the name of a genus is a nominative singular when taken by itself, or for entry in a catalogue or index; likewise the name of a family is a nominative plural. It can scarcely be the sense of any self-respecting code of nomenclature that such a name can not be treated as other names are treated when it is introduced into discourse. When a generic name is the object of a verb, it is no longer "in the nominative case"—rules or no rules.

Linnaeus wrote: "Cerealia sunt semina majora graminum . . .: *Oryza, Triticum, . . . Mays,* excepto forte solo *Lolio,* nisi arte praeparato." And again: "Semina minora *Phalaridis, Panici, Milii, . . .*" More than a hundred years later Bentham and Hooker wrote: "Genus potius *Sisyrinchio* quam *Solenomali* affine videtur." A modern writer, describing a new genus of algae, characterizes its thallus as "erectus ex fundamento radicato in cryptostomatibus *Cystoseirae* immerso." How else could you say these things? To say that a word is "always in the nominative singular" is tantamount to saying that it can not be used in a sentence except as the subject of the verb. Are we to pretend that the italicized words in these quotations are not names of genera but "common nouns"? In English we have no endings for genitives and ablatives; so we say "seeds of *Panicum*" and the like. But we do have plural forms, and we need not hesitate to use in an English sentence the plurals of Latin words, as we do those of *nucleus* and *alumnus*. *Crataegi* means members of the genus *Crataegus,* as "the Smiths" means members of the Smith family. If English had case-inflections, we should undoubtedly enjoy dative, ablative, locative and genitive Smiths, to say nothing of vocative Smiths ("O Smittee . . .").

Obviously, there is need here for clarification of the rules of nomenclature. To say that names can not be declined is not only without precedent in grammar or in science—it is without use. If our steed is to carry us surely and swiftly, it is inadvisable to hamstring him. What mirth would be provoked among the "fathers" of our science if they could see their successors laboring to render impotent the technical language which they devised!

H. W. RICKETT
THE NEW YORK BOTANICAL GARDEN

A NEW GENERAL TERM FOR MINERAL INDUSTRIES STUDIES

DURING the recent summer the undersigned received from Dean Edward Steidle, of The Pennsylvania State College School of Mineral Industries, a letter part of which follows:

> I am trying to find a word that will be all-embracive for earth sciences, mineral economics, mineral engineering and mineral technology, i.e. mineral service, mineral work or mineral utilization. If there is no word, I have in mind that a new word might be coined. . . .

The purpose of the present communication is to bring before earth scientists the term that the undersigned has suggested. It appears to embrace the techniques and studies involved, to be readily pronounced, to be easily recognized and understood, and to the writer, a Hellenist, to have the virtue of sound etymological formation. The new word is "geotechnology."

It is the considered opinion of the writer and of Dean Steidle that this is a new term, and we thus record it. Specific reference to contrary evidence will be greatly appreciated.

ROBERT E. DENGLER
THE PENNSYLVANIA STATE COLLEGE

SPECIAL CORRESPONDENCE

SUGGESTIONS FROM THE OFFICE OF SCIENTIFIC PERSONNEL OF THE NATIONAL RESEARCH COUNCIL

As soon as the Army and Navy training programs are in full operation there will be an unprecedented demand for teachers of physics and mathematics. The situation will be particularly critical in the field of physics where the teaching ranks of colleges and universities have already been seriously depleted.

It is the business of the Office of Scientific Personnel to assist in the placing of the scientific specialist where he can best serve the war effort. Because the present supply of physicists approximates zero and the supply of mathematicians is running low, perhaps this office can assist best by suggesting two sources of supply close at hand to the institutions which are so fortunate as to secure Army and Navy contracts.

The first source of supply is the near-by institutions which will not have Army or Navy training programs. Although these institutions should con-

tinue to teach physics to as many students as possible, some departments of physics will find it impossible to continue in operation and their staff members should be added to departments in need of their services.

The reason why all departments of physics which can possibly do so should continue in operation is that it is probable that the needs of the Army and the Navy will be barely satisfied through the training programs. The needs of war research, war industry and teaching must be satisfied, for the most part, by women and the physically unfit. In this connection it should be mentioned that there seems to be no possibility of meeting the need for competent teachers of physics in the secondary schools.

Accordingly, it is important that colleges which are not fortunate enough to secure training contracts should continue to teach physics to even larger numbers than before. So great is the need for men and women trained in physics that every effort should be made to recruit into departments of physics all students with the necessary aptitude.

These considerations make it clear that the more favored departments should not take men from other institutions unless it is necessary for these men to find employment elsewhere. The other source of supply, and the one that should be utilized wherever possible, is within the institution itself.

In any college or university there are teachers in other fields, including botany, geology, physiology, psychology and zoology, who have sufficient knowledge of physics so that, with a little brushing up and some observation of good physics teachers at work, they should become proficient teachers of beginning physics. These men and women should be found at once and encouraged to prepare themselves for the teaching service which they will almost certainly be called upon to perform either at their own institutions or elsewhere.

Similar adjustments, although on a smaller scale, will be necessary in the field of mathematics.

It is the hope of this office that most of the required readjustments in the staffs of physics and mathematics departments may be worked out by drawing in new staff members from near-by institutions or by adjustments within the institutions themselves. This office will facilitate such adjustments in every way possible if they can not be worked out locally and will be glad to receive information regarding institutional needs and available personnel but only with the understanding that we will attempt to prevent bidding of institution against institution in mad competition for personnel. It is to the interest of all concerned that a sufficient supply of teachers of physics and mathematics should be developed so that the necessary readjustments may be made easily and efficiently.

HOMER L. DODGE

DIRECTOR, OFFICE OF
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SCIENTIFIC BOOKS

ADVANCES IN ENZYMOLOGY

Advances in Enzymology. Volume II. Edited by F. F. NORD and C. H. WERKMAN. 374 pp. Interscience Publishers Inc., New York. 1942.

THE second volume of "Advances in Enzymology," this excellent successor to "Ergebnisse für Enzymforschung," edited by Nord and Werkman, has fulfilled the expectations of those who read the first volume, although there are some articles which have departed somewhat from the field a book of this kind is expected to cover.

The first article in particular, "Bacterial Viruses (Bacteriophages)" by M. Delbrück, seems to be outside the scope of enzymology. After calling bacteriophage a virus ("what's in a name?") Delbrück tells his readers that there are at present two aspects of the phage problem of particular interest: "the biochemical basis of the specific relation of the phage to its host" and "the problem of phage growth." Then he proceeds with remarks about "distribution in nature," "methods of assay," "the 'Life Cycle' of virus in sensitive hosts," etc., and leaves the reader with the same curiosity as when he started regarding the two aspects of particular interest. Neither of the two aspects is discussed in a manner to satisfy or clarify the mind of the student of enzymes.

The kinetics of hydrolytic enzymes has been presented by D. D. Van Slyke in the second article with his usual clarity. The assumption of substrate-enzyme complex formation first formulated by Michaelis and now generally accepted has been treated by Van Slyke with such unusual success that a study of this paper is recommended to any one interested in the kinetics of enzyme systems in general. The "Classification of Proteolytic Enzymes" by M. Bergman fills a need long felt. Professor Bergman must be congratulated for having resolutely discarded the outmoded but tenaciously retained classification of proteolytic enzymes in peptidases and proteinases. His tentative classification, based on two characteristics of proteolytic specificity, namely, that each proteolytic enzyme