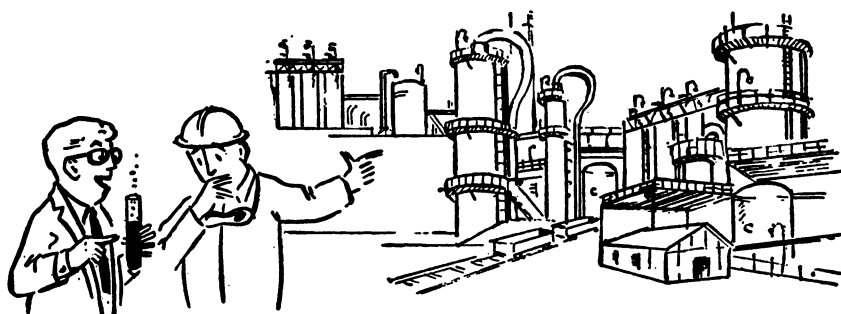
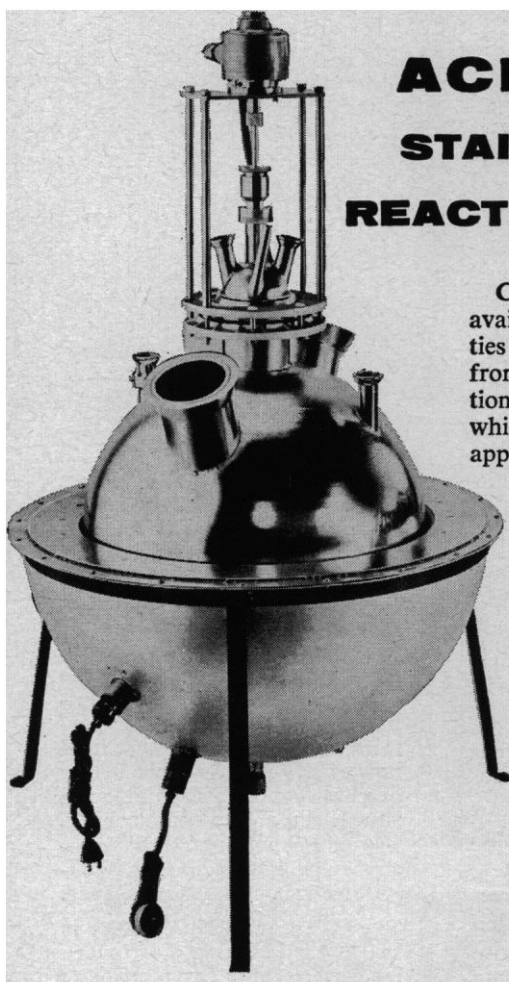


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question this. I have found that men may disagree with George but that his standing as a scientist is unimpeachable. To speak of George's views as hokum is as unwarranted as it would be for me to refer to the views of Herskovits and Dobzhansky as balderdash—in fact I am compelled to say it is less warranted. Moreover, the time is coming when the American people must rouse themselves to the deception in talking about "great majorities" and in taking ballots, secret or otherwise. Instead, let them examine the evidence. Let them begin to read the books of the equalitarian scientists and try to find their proof. It will be one of the most disillusioning experiences of our generation. I have warned the public that these scientists will try to hide behind the screen of numbers in order to mask the emptiness of their arguments, and I reiterate my assurances that the emptiness is real.

CARLETON PUTNAM

4415 Kirby Road,
McLean, Virginia

I wish you might have brought out the fact that the question of racial differences, whatever the criteria of differentiation, is irrelevant to the question of segregation. The fact is that Negroes are citizens and for this reason deserve equal opportunity. I am not certain that integration is the necessary solution to the problem of equal opportunity, but since the Supreme Court has so decreed, so be it!

I would hope that the AAAS and perhaps the American Anthropological Association could help separate and isolate the question of racial differences from the problems of segregation.

LEROY VORIS

Food and Nutrition Board,
National Academy of Sciences—National
Research Council, Washington, D.C.

Questionable Linguistics in "Bergey's Manual"

The system of nomenclature used in the current edition of *Bergey's Manual of Determinative Bacteriology* includes an innovation that can hardly escape the attention of readers having some knowledge of classic Greek. This is a procedure of transliterating Greek into Latin, described on pages 26 and 27 of the *Manual*. After spending some time evaluating the claim that this pro-

cedure is "probably the most readily understood" by the student, I must confess that I cannot see any such advantage.

Personally, I view handling of a classic language for purposes of expediency as an undesirable practice, partly because, far from helping the uninstructed, it usually adds to the confusion created by previous manipulations.

In this connection I should like to discuss a few typical cases, some of which are cited in the *Manual* in support of the new procedure. Let us take first the Greek noun *theion* (sulfur), which on page 27 is analyzed letter by letter and finally transliterated into *thium*. In paragraph 2 of that page (last sentence), it is stated that *thi* is the stem from which a great number of Latin names of taxa have been constructed, such as *Thioploca*, *Thioderma*, and *Thiocystis*. To the reader who knows little or nothing of Greek this would mean that the above names are composed as follows: *thi-oploca*, *thi-oderma*, *thi-ocystis*. The fact is that they are not so composed. The stem of these names is *thio-*, which represents the Greek noun *theion*, now spelled *thion*. Why would this factual explanation be less easily understood by the student than the elaborate procedure leading to the nonexistent word *thium*?

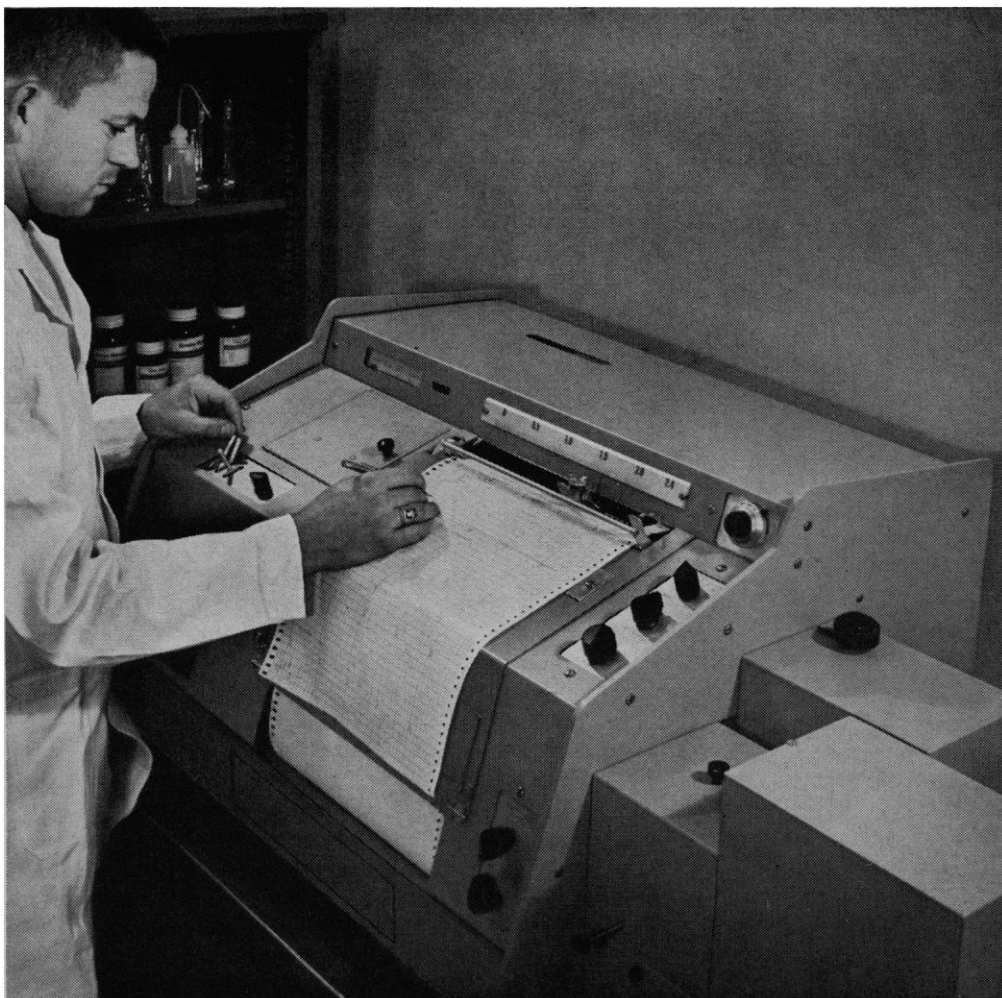
Let us consider another example. On page 48 it is stated that the name *Rhabdomonas* derives from the Greek nouns *rhabdus* (rod) and *monas* (unit). This explanation confronts the uninstructed reader with the question of why the name is not *Rhabdmonas* or *Rhabdomonas*. If he were told that the name derives from the real Greek noun *rhabdos*, then he would have no problem.

Another interesting application of the new procedure is the suggestion regarding transliteration of *lysodeikticus* (p. 27). After a detailed analysis of this name, the *Manual* writer concluded that the correct transliteration would have been *lysodicticus*. Probably it escaped him that the Greek language includes, together with the adjective *δεικτικός*, the adjective *δηκτικός*, pronounced the same but differing both in spelling and in meaning. The first, with *ε* (epsilon, iota), means "indicating," and the other, with *η* (eta), means "biting." Consequently, the transliteration of *lysodeikticus* to *lysodicticus* would have concealed the etymology of the name and, as a result, would have been incorrect. This ex-

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ample may serve to indicate the kind of pitfall one may step into in trying to force a sophisticated language like Greek into an artificial pattern.

Further, I notice that in certain cases in which the Greek noun could not be latinized, the genitive form of the noun has been changed, regardless of the confusion this entails. On page 262, for instance, we read that the family name Chlamydobacteriaceae derives from the Greek noun *chlamys*, *chlamydis* (cloak). In fact, this family name derives from the real genitive of

this Greek noun, which is *chlamydos*—hence *Chlamydo-*, and not *Chlamydi-* bacteriaceae. The genitive form of the Greek nouns belonging to the third declension, such as *chlamys*, serves as the root of words derived from these nouns. Any change of the original genitive form, therefore, leads to confusion.

As a result of the procedure discussed here, the Greek nouns *bios* (life) and *zōon* (animal), from which derive many everyday English terms such as “biology,” “biochemistry,”

“zoology,” and “protozoon,” are deformed into *bius* and *zōum*. The fallaciousness of the procedure could not be more clearly illustrated than in the case of the name *Peptostreptococcus micros*. On page 537, with reference to this name, the real Greek adjective *micros* (small) is explained as deriving from the made-up “Greek” adjective *micrus*.

In summary, the procedure of transliteration applied in the current edition of *Bergey's Manual* may be characterized as an arbitrary mass latinization of Greek words that puzzles the proficient and perplexes the uninstructed.

Fortunately, there is an easy way to remedy the situation, and that is reversion to the system applied in the preceding, 6th edition of the *Manual*. This is the system used in the standard English dictionaries.

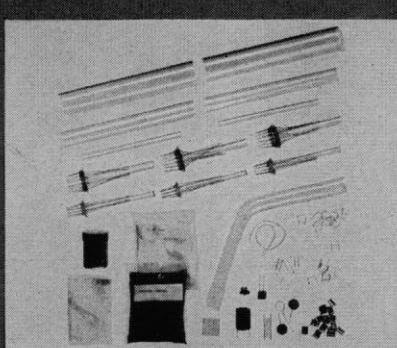
D. A. SOULIDES
U.S. Soils Laboratory, Agricultural
Research Service, Beltsville, Maryland

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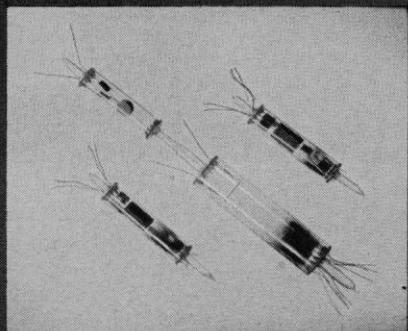
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Electro-Magnetics of Matter

Transistors and telescopes have a lot in common. Our modern culture depends heavily upon our use of myriads of gadgets—gadgets which often depend in turn upon the interaction of matter with electric or magnetic fields. It is my belief that our present educational arrangements leave a wide gap and do not adequately prepare our college graduates to deal with this situation. I intend to show that this gap can and should be filled, preferably and simply by giving deserved emphasis to a broad discipline which one may term the “electromagnetics of matter.”

I submit that a proper function of an education is to prepare the student to enter his contemporary culture well prepared both to participate in and to develop it. Centuries ago it was sufficient, for example, to study history, philosophy, the arts, several “universal” scholarly languages such as Latin or Greek, and a smattering of mathematics, and the individual emerged rather well equipped to grapple with the then current culture. Since then, the times have witnessed large advances in the scientific areas of our culture. Therefore, a well-educated person must also possess at least a modicum of understanding of science to fit the modern culture. Similarly, the