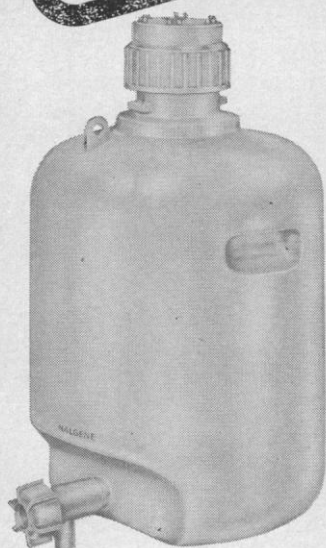


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coucang? Can it be that, in the latter half of the 20th century, we are still on Aristotle's *Scala Naturae*?

CHARLES A. REED
*Departments of Anthropology and
Biological Sciences, University of
Illinois at Chicago Circle, Chicago*

I have noted that in the recent literature on immunology there is a tendency to replace the word antigenic by immunogenic. May I suggest that this is a mistake. Immunogenic surely implies that the substance referred to will make animals immune. But not all antigens produce immunity; in fact, some produce hypersensitivity, more or less the reverse of immunity. Would it not be better to retain the older and more general term, or if the word immunogenic is to be used at all, to restrict it to organisms or substances that actually produce immunity?

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Early Vision of Public Education

Recent development of the State University Center in Albany ("News and Comment," 24 Mar., p. 1521) reminded me that Theodoric Romeyn Beck proposed such a center over 100 years ago. His remarks before the Literary Convention and the New York State Legislature on 30 March 1854 urged the state to establish the university center as an alternative to the proposed National University in Washington, which he believed would not be built. He was right. The following excerpts from his statement proved him to be over 100 years ahead of his time:

I beg to say the plan presented by our respected president is one which meets my hearty approbation. It includes many of the subjects required to be taught in the proposed University—all of them called for by the wants of the times and of the country. . . . What shall be the system of instruction? Are the Latin and Greek languages to be taught? Certainly not. . . . We have already in this state alone, some 160 academies, some 7 or 8 colleges, in which the study of these is pursued. And if the teachers are competent, we do not need a University for that purpose. But it is desirable to have professors who are perfect masters of these languages. . . . You cannot expect that they will be attended by large classes, and this renders it more imperative to endow professorships for them.

Beck went on to say that the future of transportation, building, and such depended upon knowledge of physical and chemical composition of materials. He suggested an independent professorship on *Iron*, its chemical characteristics, its manufacture and its application. He mentioned microscopy, which was "already successfully applied to the development of the intimate structure of man and of the inferior animals." He suggested a professor of physical geography and meteorology, justifying it by the needs of navigation. "It has been asserted of late years, that a ship can outride a storm. Certainly we know, that if the barometer was generally studied, many dangers might be avoided."

He also proposed professorships of public hygiene, medical jurisprudence, statistics, comparative law and legislation, and physical astronomy and pleaded for "a number of free seats" to be made available for students in order to meet the "wants of the masses" to study in such an institution, it being understood that "the necessity of increase in knowledge is recognized in every right minded man until the day of death."

Beck was a physician-educator in Albany during the first half of the 19th century. He was principal of the Albany Boys Academy for almost 50 years, professor of medical jurisprudence at the College of Physicians and Surgeons at Fairfield, New York, 1816-39 and professor of physics at the Albany Medical College 1840-54. The State of New York is now developing, hopefully, an outstanding graduate school. Although different chairs from those proposed by Beck might be more appropriate now, his principles are still sound.

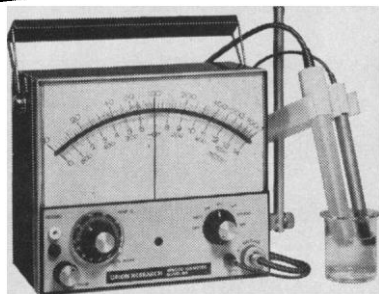
WILLIAM A. BRUMFIELD
*Department of Health, County of
Westchester, White Plains, New York*

CB Weapons:

Powder Keg or Deterrent?

It seems to me that the letters (9 June) on moral issues of chemical and biological warfare have missed the main point which is that the vast majority of the earth's population regards science and technology as an increasingly mortal threat to their lives; they feel powerless at the mercy of a few, as if they were on the operating table in the hands, not of healers, but of

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irresponsible playboys driven by curiosity, if not by the desire for prestige and promotion.

I learned this, to my surprise, more than 10 years ago when I traveled from Paris to Rouen. Opposite me sat a very intelligent lady who was a staff member of UNESCO. During our conversation on the world situation, she remarked that mankind could escape annihilation only if all scientists were executed. Concealing my vested interest in the matter, I applied the strategy of the new intern whom the chief of the psychiatric hospital had left with a patient convinced that he was Louis XIV; when the chief returned, the exultant intern told him that he first had persuaded the patient that he was only Louis XIII, and then continued until the patient agreed that he was only Louis I. "If you had arrived a few minutes later," the intern said to the chief, "he would have been cured." Similarly, I first persuaded the lady that biologists were a harmless lot (I see from the correspondence on CB warfare that I was wrong), and then I continued until finally she restricted her demand to nuclear physicists. I could have saved the lives of these too, but we arrived in Rouen and I had to leave.

It would be a good thing if scientists realized that they are dancing on a powder keg. The best of them are more aware of the situation and of the responsibility involved than anyone else; unfortunately, dangerous individuals are jailed or hanged not because of moral issues, but in order to eliminate the danger.

EGON OROWAN

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Belmont, Massachusetts 02178

The clear inference running through Langer's presentations is that it is wrong for the U.S. Defense Department to maintain a chemical and biological capability ("Chemical and biological weapons: once over lightly," 26 May, p. 1073). We have a defense department for the purpose of using force to protect our national interests and our welfare should other rational and peaceful means fail. Once reason fails and the United States is required to rely for continued existence on force, it seems to me that we should have the fullest possible range of force options at our disposal. By the same token, isn't it highly dangerous to expect our defense establishment to deny itself, for purely idealistic reasons, the potential



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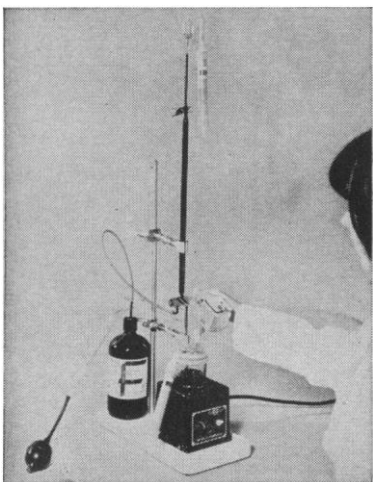
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of weapons which our current and most realistic opposition has openly indicated he will use, and in fact is now using?

I might point out that even Aesop, who was admittedly more of a social than physical scientist, in his fable about the boar sharpening his tusks, recognized that being prepared for a conflict was the best way of avoiding one. . . Langer fails to realize that in this bipolar world the only benefactors of a unilateral renunciation of CB weapons by the United States would be the Soviet Union and its fraternal associates.

D. RICHARD MCKEEN
8416 Porter Lane, Alexandria, Virginia

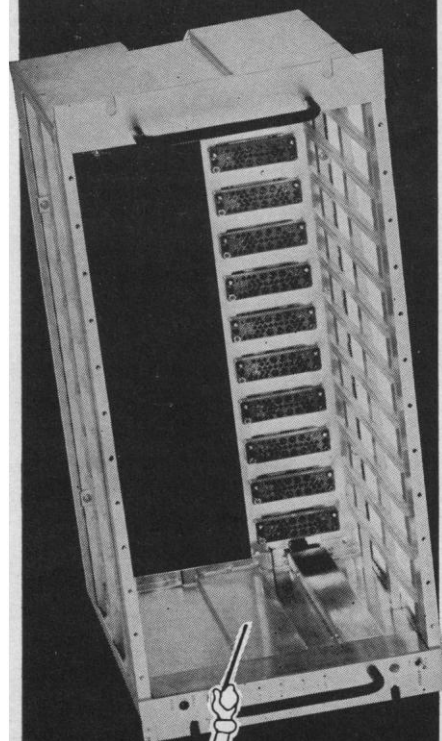
Tactful Editors and Bad Authors

May one more editor describe how he deals with bad authors? Most of my authors write badly, but I do not find it necessary to tell them so, as Trigg quite rightly fears to do (Letters, 7 July). If, after considerable correspondence, an author appears to have a sense of humor, I may perhaps tell him he is "a noun piler-upper" but nothing sharper than that.

I correct all the English on one copy of the paper. If I am uncertain about the meaning, or if the meaning is completely obscure, I fix up a passage that means *something*. Then personally with my own hand, I transfer all the marks to another copy of the paper, which I send to the author. In a covering letter I explain the reasons for some of my changes, but by no means all. The author usually accepts nearly all my changes, and often thanks me for making them. And he has the pleasure of correcting me very firmly on any technical inaccuracies I may have made.

I unsplit infinitives, when this is desirable—the easy way—the adverb goes at the end. "Our object was to completely prevent . . ." does not become "Our object was completely to prevent . . ." which is almost as awkward; it turns into "our object was to prevent . . . completely." If an author writes "basic" where it could be mistaken for "alkaline," I change it to "fundamental." If he says "anticipate" when he means no more than "expect," I change it to "expect." But if he writes "due to" where orthodox British usage (and American pedantry) require "owing to," I leave it. After all, what does it matter? American usage is one syllable shorter, and nothing is

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