
Letters to the Editor

On the Need for Social Engineering

The article, "Physical thinking and social problems" (*Science*, 1946, 103, 717), like many other articles today that tender a solution to the threat of the atom bomb and war, is somewhat beside the point. While the rigorous and quantitative mind may be able to aid in developing social science, such development is superfluous so far as preventing war is concerned. The fundamental knowledge of social structure necessary to bring about peace is relatively simple and well known. What is needed is not so much new theory as social engineering.

Large areas on the face of the planet already enjoy peace because within them there is no point in fighting: each person within the area has more or less the same rights and privileges as the others and may obtain what he wants by his own peaceful efforts within the framework of law that guards the rights of all. Peace is thus shown to be an accomplished fact of social engineering. As soon as we extend this mutuality of opportunity to cover the whole world there will be no cause of war.

The call, therefore, should not be for physicists to help out with social theory, as useful as that may be for other purposes, but for all scientists to take a more active part in social and political engineering.

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Abbreviations of Generic Names

The practice of using abbreviations for generic names is admissible only in cases where it does not lead to confusion. In preparing a review of yeast-like fungi I had occasion to refer to a paper published in the *Journal of Dairy Science*, 1940, Vol. 23, in which the following organisms were discussed: "*O. lactis*," "*Myc. lipolytica*," "*Ach. lipolyticum*," "*Alc. lipolyticus*," and "*Ps. fluorescens*." Nowhere in the paper were the full generic names given. The author may have been certain of the identity of his organisms, but it is doubtful if many of his readers knew for certain what he had in mind. This paper is not by any means an isolated case, but it serves unusually well to illustrate my point.

"*O. lactis*" undoubtedly meant *Oidium lactis* or *Oospora lactis*, as anyone familiar with the field would deduce. "*Myc. lipolytica*" gave more difficulty. After some consideration it was decided that neither *Mycobacterium*, *Myceloblaston*, nor *Mycoderma* was meant, since *lipolytica* is feminine and each of these genera is neuter, although the last is often but improperly used as feminine. It probably was not *Mycoplasma*, *Mycogone*, *Mycocandida*, or *Mycotoruloides*, but this could be ascertained only after a considerable search to find combinations of one of these generic names with *lipolytica* failed. There are many other generic names beginning with "Myc" but only those familiar to me were considered. Prob-

ably, but not certainly, the author meant *Mycotorula lipolytica* Harrison. Why did he not so state and why did the editor not insist on it?

"*Ach. lipolyticum*" gave almost as much trouble. Was *Achromatium* or *Achromobacter* among the bacteria or *Achorion* or *Achlea* among the molds meant? These were the only generic names beginning with "Ach," with which I was familiar. Unfortunately, three of them are neuter, as is the specific name. By means of elimination *Achromobacter* was tentatively decided upon.

In the same way it was decided that "*Alc.*" meant *Alcaligenes* and "*Ps.*" meant *Pseudomonas*. The fact that so many bacteriologists use "*Ps.*" to mean *Pseudomonas* and that the combination *fluorescens* is so familiar made this last deduction easy, although there are very many generic names in biology which commence with "*Ps.*"

Either the author of this good paper or the editor of the journal in which it appeared should have seen to it that the full scientific names were spelled out once in the interests of scientific accuracy. Thereafter, abbreviations could well have been used, preferably single capital letters. Many bacteriologists seem to assume that we have official generic abbreviations. We have not.

This sort of thing has been discussed previously in the scientific press, but it can bear repetition. After all, many of us do read scientific papers, and we should like to know what organisms are being discussed. Finally, concerning a certain paper of my own, published about 20 years ago, the only thing that I can say in this regard is: "I acknowledge my transgression, etc."

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"The Little Researcher"

At last, and rightly so, the "Little Researcher" is being accorded some measure of credit and distinction. Carl G. Hartman (*Science*, 1946, 103, 493-496) speaks strongly on behalf of the too frequently forgotten small-college teacher.

Briefly, Dr. Hartman suggests that one or two per cent of the \$100,000,000 recommended for the annual budget of the National Science Foundation of the new Kilgore-Magnuson Bill be allocated to the "Little Researchers." He also calls attention to the fact that the universities and colleges are the training schools for research personnel. In his paper, as would be expected, the writer gives considerable space to the contributions made by the small colleges.

It is my firm belief that in the biological sciences, unless one carries on some scientific investigation especially, in a small college the setup becomes stagnant. The teacher who uses and holds his college lectures in-violate in teaching his own students leaves no outlet for