cologist cannot be expected to subscribe to the several hundred or more journals that from time to time may carry a paper of interest to him. Even the Department of Agriculture library cannot cover the field. Reprints of long or heavily illustrated papers can be requested from the authors, although there are difficulties in such a procedure. So far as journal subscriptions are concerned, however, it makes no difference whether an article is copied or a reprint is obtained. It appears highly improbable that there is any general photocopying of entire numbers of scientific periodicals. The cost would far exceed the subscription or membership fee.

JOHN A. STEVENSON
*4113 Emery Place, NW,*
*Washington, D.C. 20016*

It may be of interest to American scientists that in Great Britain there exist penalties for infringement of copyright by photocopying. In order that scientific work shall not be impeded, the Royal Society has drawn up a "Declaration on Fair Copying," which sets out the conditions under which the supply or use of reproductions shall be considered permissible. The declaration reads as follows:

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R. M. ORGAN
*Royal Ontario Museum,*
*University of Toronto,*
*Toronto 5, Canada*

. . . My experience as a librarian has been that engineers in particular will photocopy anything and everything without much regard for copyright or other restrictions. I worked in an industrial concern where in a very small library, measuring 25 by 25 feet, we averaged over 3000 pages of reproduction each month serving a fairly small staff. . . . I have doubts about the value of Lodwick's proposal that a "code of ethics" be established regarding photocopying. Although the rules and laws governing reproduction leave much to be desired in helping the librarian decide what should be copied and when, in my experience no restrictions could be applied intelligently, because alternative methods could be, and were, found to circumvent them. . . .

ROBERT G. CHESHIER
*Chicago Medical School,*
*711 South Wolcott Avenue,*
*Chicago, Illinois*

## Half-Truth and Consequences

In his editorial "The profits and risks of simplification" (22 Oct., p. 439), Henry Eyring remarks that "one of the greatest hindrances to scientific discovery is the necessary preliminary uprooting of the hallowed simplifications that everyone knows but that just happen to be untrue." It is likely that many oversimplifications that deter scientific progress linger on in lectures and texts. A young graduate is in no position to choose what precepts to question, and it would be most unwise for him to doubt them all. The capability for competent criticism should lie in the older and presumably wiser members of the scientific community.

I propose a permanent committee under the auspices of the AAAS which

would have the task of identifying and exposing those specious bits of misinformation that are perpetuated from textbook to textbook. They seem innocent enough, but once learned they more often than not serve as a roadblock to understanding. And, as a starter, someone should take a long, hard look at the paragraphs—which seem to grace every text on physical chemistry—describing the co-deposition of metals as the product of equivalent deposition potentials.

FRANK E. AMMERMANN
*1827 Chandler Street,*
*Ann Arbor, Michigan*

## Animal-Care Legislation: Why Should Scientists Object?

Scientists are fond of explaining to the lay public that they (scientists) are really no different from anybody else. An excellent demonstration of this truth is the indignant response of the biomedical research community to proposed federal regulation of the use of laboratory animals in research. This response, exemplified in part by the letter of Eugene D. Jacobson (23 July, p. 375), parallels almost embarrassingly the reactions of businessmen, labor unions, and other special-interest groups to any legislation that attempts to control excesses in their own bailiwicks.

The general form of the reaction is this: First, it is said, the behavior of the majority of scientists (or businessmen, or labor unions) is beyond reproach. Why should they be penalized by bureaucratic regulations for the sins of a very small minority? Second, the special-interest community knows how to take care of its own. Disapproval of one's peers, self-regulation, and so on readily control the few aberrations that may occur. Lastly, government bureaucracy impedes progress, if it does not actually destroy the industry or science.

Analogies must be approached cautiously, but we have ample evidence in this country that neither labor nor business, to take two prominent examples, has been destroyed or seriously hampered by government regulations administered honestly and in good faith. What about the first two points? Will they stand objective examination?

According to manpower figures tabulated by *Bioscience* (May 1965), 36,661 biologists and agricultural scientists responded to the canvass of the National Register of Scientific and Technical Personnel. The American Institute of Biological Scientists estimates that this represents only about a 50-percent response, so one may consider that there are on the order of 70,000 individuals working in biological laboratories, not counting lower-ranking personnel (caretakers and technicians). Scientists being, by their own admission, no different from anyone else, would it be unreasonable to say that at least one in a hundred is likely to be unconcerned with humane considerations, or is callous to pain inflicted on his experimental animals? On this assumption, there are at least 700 individuals whose handling of animals would leave something to be desired, and a considerable percentage of these would actually be working with animals at any given time. Are humane scientists in this wealthy and humane American society prepared to disregard what is going on in the hundreds of laboratories of this small percentage of scientists?

In the spring of 1963 the Washington, D.C., newspapers reported that a commercial animal-supply company in Virginia housed hundreds of cats and dogs, in the wintertime, in a barn without heat, and with inadequate food and water. Dead animals were mixed with live ones. This outfit supplied animals to the National Institutes of Health, the Naval Hospital, and other large, prestigious institutions. The operation was terminated after a visit by a representative of a humane society and others, but not as a result of pressure from NIH. In my own 20-odd years as a laboratory worker, I have never heard a director caution his people on humane treatment of animals, although I have seen examples of outright cruelty practiced by senior investigators or their assistants. I am sure that this statement can be made by many workers. How much self-regulation does this imply?

I submit as self-evident that, in view of the large numbers of people working nowadays with experimental animals, in view of the large investments in time and money such animals represent, and in view of the lack of humane concern shown by some working biologists, even if they are a small percentage, careful and sensible legislation to protect vertebrate laboratory animals against abuse is absolutely necessary. The biomedical community should accept this as a responsibility, not as an indictment, and should actively cooperate in the drafting of suitable laws for the protection of laboratory animals against frivolous and cruel usage, for improving knowledge concerning the handling of these creatures, and for improving the facilities in which they are kept.

MORRIS GOLDMAN
*7939 Orchid Street, NW,*
*Washington, D.C. 20012*

## Social Science in Population Control

I laud Hofmann's proposal (Letters, 8 Oct., p. 145) that a "large, multidisciplinary institute" be established to conduct research on population control. But in addition to the biochemical, physiological, and pharmacological scientists mentioned by Hofmann, the plans should include social and behavioral scientists. The most effective techniques—effective, that is, from a biological standpoint—are of little value unless they are used, and whether they are used depends on attitudes, values, and behavior rather than on internal bodily chemistry. Sociologists, demographers, psychologists, anthropologists, and social psychologists should have a significant role to play in such an institute—and from the beginning, not as an afterthought.

E. H. VOLKART
*8403 Thornden Terrace,*
*Bethesda, Maryland*

## Owner of Notebooks Sought

Five laboratory notebooks of research on DNA have been delivered by the post office to the Illuminating Engineering Society. They were wrapped with an undelivered copy of the journal *Illuminating Engineering* which had been mailed to a subscriber in Memphis, Tennessee. There is no positive identification in the notebooks, but there is a name on the covers which can be read as "Ouchterlong." The identity of the post office where the wrapping occurred cannot be determined. I shall be glad to mail the notebooks to the owner.

L. J. BUTTOLPH
*Illuminating Engineering Society,*
*345 East 47 Street, New York 10017*