Comments and Communications

Articulate Science

IN RECENT issues of SCIENCE there has been considerable interest in a number of problem areas, overlapping specialized fields, which are of concern to all scientists. The areas include, among others, scientific publications, ethics, monetary compensation, cost of research, loyalty oaths, combating pseudo-science, communication of scientific method and ideals to the public, public relations, religious limitation on science teaching.

The integrating factor underlying these areas is that they deal with human relations among scientists and with the scientist's relation to the social environment he encounters in his daily work. As such the problems are part of the broader field of scientific communication, which deals with all the media employed to facilitate the transfer of ideas in scientific fields.

John Pfeiffer, in his letter "Illiteracy Triumphant," in the July 13 issue of SCIENCE, asks very pointedly why individual scientists or individual scientific societies do not combat pseudo-science, such as is represented by Velikovsky's *Worlds in Collision*. He also asks whether there is an organization that can represent American science in this and similar problems.

The questions he asks are important and demand answers. The individual scientist, fully occupied with immediate professional problems, cannot devote much time to these areas. Individual societies are in a similar position. There appears to be a need for a new organization that will be primarily concerned with problems of communication. How shall such an organization be conceived so that it will become an important factor in furthering the aims of science?

In a narrow segment of the communications field, literature chemists were placed on an equal level with other chemists when the Division of Chemical Literature of the American Chemical Society was established in 1949. However, the communications field today must be broadened to include media of communication other than verbal, such as graphic, photographic, three-dimensional, auditory, and tactile. Associated problems of financing, freedom of communication, and extension of the media of communication to the general public must be considered. Communication is thus becoming a highly specialized field in itself, requiring specialized personnel and techniques.

Is the communications problem to be solved by forming, *ad infinitum*, a series of organizations to cope with each individual problem as it arises? Or can we form, on a broader and more systematic basis, one organization that could represent American science in combating pseudo-science and also in considering the related problems of effective media and public relations necessary for such a task? Could such an organization deal with problems in publications, ethics, etc.? An attempt to develop such an approach will be made at the AAAS meeting on December 30 at the symposium "Operation Knowledge." The author of this note will present a paper on "A Proposed Organization of Communications Scientists."

An effective organization of communications scientists might be in a position to analyze systematically the following suggested areas: Aims and objectives of scientific communication; evaluation and improvement of existing media; accessibility of the products; development of new media; reducing the communications time lag; manpower, personnel standards, and professional training; ethical standards; financing; the role of government and of industry in science communication; international aspects; language; translation needs; abstracting needs; communication's role in the diffusion of scientific knowledge to the public; communication and the unification of the sciences; educational aspects; freedom of communication; advertising in scientific fields; public relations for scientists; the trade magazine's role in science communication; the development of centralized scientific information services; propaganda and scientific communication; and communication needs of the armed forces.

Interested scientists are requested to submit their views on the proposed organization.

SAMUEL A. MILES

Technical Literature Division
Hagstrom Company, Inc.
311 Broadway, New York 7, N. Y.

Enzyme-Substrate Complexes

THE growing interest in the calculation of the dissociation constants for enzyme-substrate complexes makes it desirable to simplify the currently used methods. The original method introduced by Michaelis and Menton (1913) was greatly improved by Lineweaver and Burk (*J. Am. Chem. Soc.*, 56, 658 [1934]). Veibel (*Enzymologia*, 3, 147 [1937]) introduced an even simpler procedure, which seems to have been completely overlooked in current publications. The principal purpose of this communication is to point out that this improved method exists. Although Veibel apparently never published the derivations of the equations involved, an independent derivation has been published by the writer (W. Pigman and R. M. Goepp, Jr. *Chemistry of the Carbohydrates*. New York: Academic Press, 480 [1948]).

There is also considerable current interest in the nature of covalent, easily dissociable bonds, such as appear to be present in some types of protein-coenzyme and enzyme-substrate compounds. In this connection it may be noted that reactions between amino compounds and sugars provide at least an analogy. Glycosylamines are readily synthesized and dissociated under physiological conditions, and the position of the equilibrium is dependent on the nature