SCIENCE

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AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

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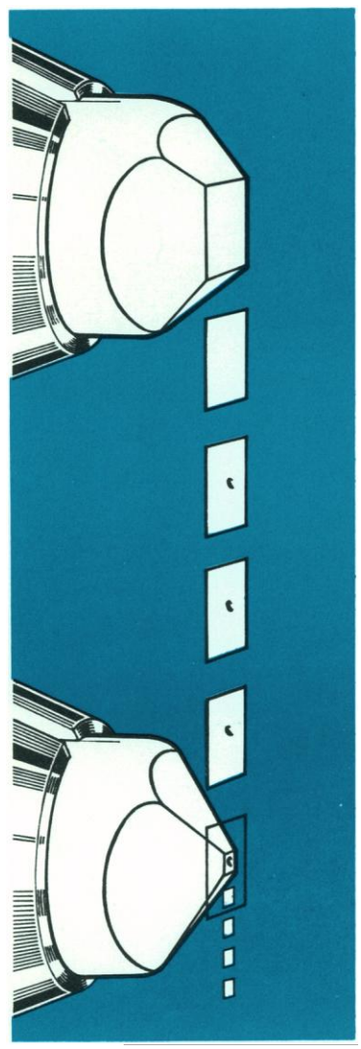

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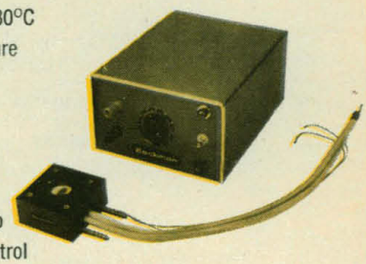

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COVER

Male golden hamster (*Mesocricetus auratus*) investigates the ear of a receptive female hamster prior to mating. After his olfactory bulbs are removed, the male hamster loses almost all interest in the female and his mating behavior is eliminated. See page 302. [Michael R. Murphy, Massachusetts Institute of Technology]

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The compact new Brinkmann Fraction Collector collects fractions assembly-line fashion directly into an unlimited number of standard test tubes for chromatography or routine separations. Instead of a conventional round tray with limited capacity, you start with a rectangular tray containing four racks of 40 test tubes each. If 160 test tubes aren't enough, you just attach extension tracks at both ends and add on additional trays of test tubes.

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of General Medical Sciences project for the separation of biological macromolecules. The following transfer RNA's from *E. coli* K-12 MO7, fMet (97 percent), Arg (70 percent), Phe 2 (78 percent), and Glu (~95 percent), and Glu (~85 percent) are fMet (~95 percent), Arg (100 percent), and Glu (~85 percent) are ready for distribution. The values in parentheses are the activities, expressed as amino acid acceptance per terminal adenosine. The arginine tRNA's contain more than one iso-accepting species; all of the others represent a single chromatographic peak. In addition, valine tRNA from *E. coli* K-12 MO7 will be available shortly.

Qualified investigators in the United States or other countries may request samples of these tRNA's by writing to G. David Novelli, Oak Ridge National Laboratory, P.O. Box Y, Oak Ridge, Tennessee 37830. The letter should include a brief justification and explanation of planned experiments as well as an indication of the quantity needed. These requests will then be reviewed by a committee appointed by the National Institute of General Medical Sciences, and samples will be shipped in accordance with their recommendations.

A. D. KELMERS
M. P. STULBERG
Oak Ridge National Laboratory,
Post Office Box X,
Oak Ridge, Tennessee 37831

Well-Rounded Egghead

Bohannan's letter entitled "Fest me no schriften" (14 Nov.) reminds me that the custom of *Festschriften* comes from Continental university systems along with the more common tradition (thank goodness!) of conferring honorary degrees within the framework of commencement and convocation ceremonies in modern colleges and universities. . . . Bohannan is right that *Festschriften* are expensive, space-consuming, and may leave long-lasting effects on the inches (or centimeters) of library shelves to which they are relegated. Perhaps they should all be reduced to microfilm so that they could be retrieved on demand by consulting published index lists.

Bohannan's negative approach to these historic and traditional customs leaves a little to be desired. He says, "Because I am the kind of egghead who cannot look at only one article in a book, I also looked at the rest of them (I did not say read—I am not *that* kind of an egghead)." But what kind of an egghead is he? The reader is entitled to know since he chooses that appellation, and at Northwestern, Bergen Evans takes seriously his thesis that words mean what he means them to mean. I would only point out that most truly macroscopic eggs have two ends, a rounded one and a pointy one. While the latter gets there first (when laid), it is the well-rounded one that has in it the most stuff.

S. R. M. REYNOLDS
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Lancaster, Pennsylvania 17601

Eskimos' Language Links

In Dumond's article on the prehistory of the Alaskan Eskimo (28 Nov., p. 1108), he has elected to propagate the myth that the Eskimo-Aleut linguistic stock is "genetically distinct" from any North American Indian language. He does, however, correctly relate the Eskimo-Aleut languages to the languages of northeast Asia, presumably to the Aral-Altaic languages. His citation of Swadesh's 1962 article (*1*). for placing the Eskimo-Aleut languages "distinct" from North American Indian languages is interesting in that Swadesh states, in 1969:

> It was long thought that Eskimo-Aleut had no relationship with American Indian languages, despite a few points of similarity (such as the dual suffix *-k* of Eskimoan and the *-ki* plural of Algonkin). Evidence was brought forward in the late 1950s, however, to show systematic agreements pointing toward a common origin, particularly with the Wakashan stock Algonkin-Wakashan phylum of the northwest coast of North America (*2*).

It appears that the Ural-Altaic, Korean-Japanese, Eskimo-Aleut, and Algonkin-Wakashan languages represent a vast language spectrum of greater diversity than the Indo-European language family, with a prehistoric geographic spread of three continents, and a buried insight into the histories and cultures of a multitude of races and peoples.

CHARLES F. FROMME, JR.
218-39 112th Avenue,
Queens Village, New York 11429

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1. M. Swadesh, *Amer. Anthropol.* **64**, 1262 (1962).
2. ———, "Eskimo-Aleut languages" in *Encyclopedia Britannica* **8**, 706 (1969).

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Social Responsibilities of Scientists

A few decades ago, most scientists held the view that their principal duty was to advance the frontiers of knowledge. Correspondingly, the scientific societies limited their activities to publications and meetings centered on their chosen fields. During the past few years, the activities of scientists have expanded. Many of the principal symposiums at the recent Boston meeting of AAAS dealt with public policy aspects of science and technology.

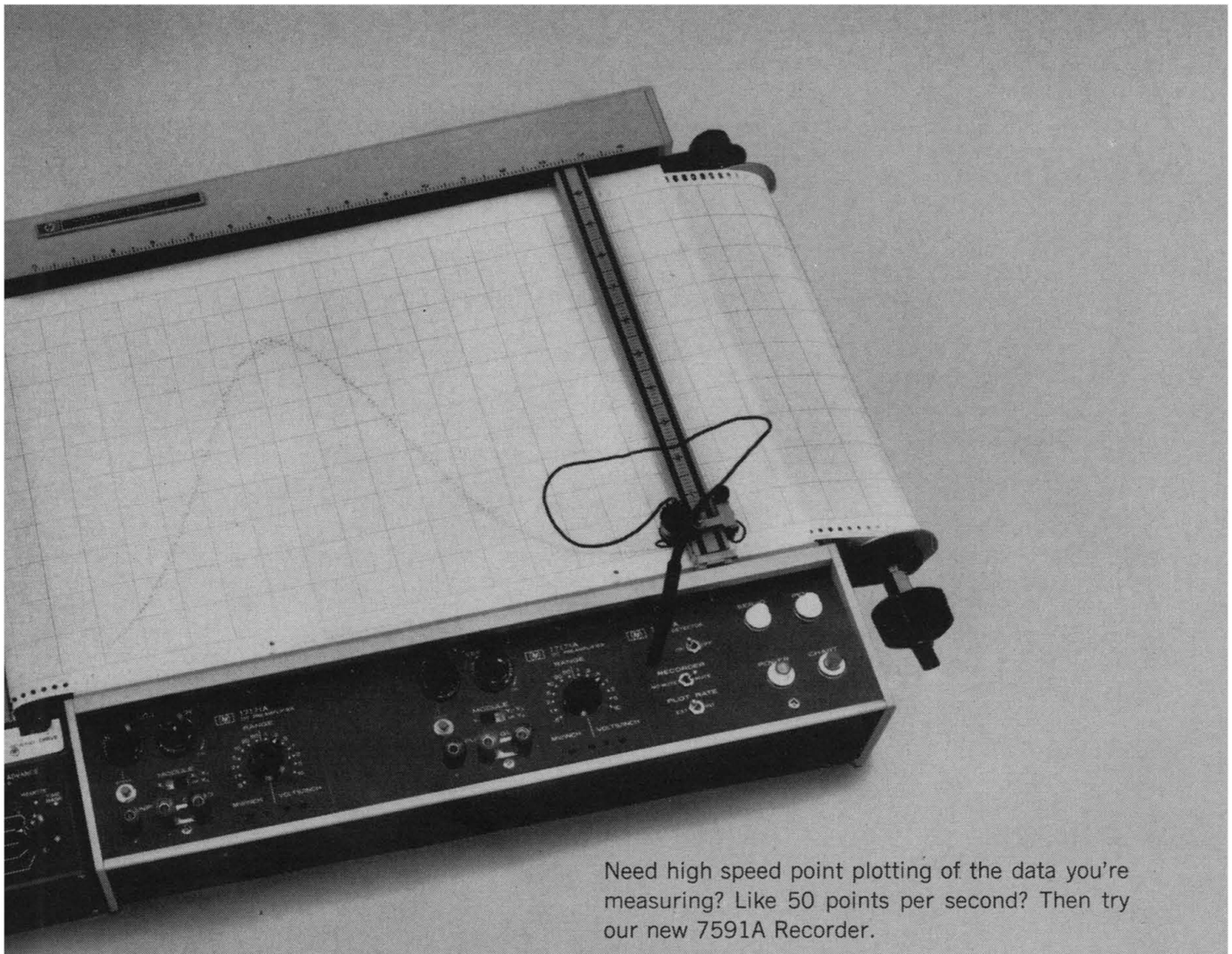
Scientists have not unanimously approved participation in policy matters by their colleagues. Some have objected that spokesmen certainly did not speak for them personally. Others have pointed out that once facts have become generally known, the scientist can no longer determine how his discoveries may be applied. To some degree, this argument is valid. Nevertheless, scientists will have continuing and important roles in determining how science is applied. One important function is that of watchdog.

In exploiting scientific discoveries, humanity will squander resources and unwittingly conduct profoundly important experiments on itself and on the environment. Who will evaluate such experiments and be alert to emerging problems? The man in the street can scarcely fill such a role. Government might, but its leadership is in the hands of politicians who rarely act until an issue is crystallized by others. Scientists or engineers in government service might act as watchdogs, but in general, politicians prefer that the bureaucrats speak only when spoken to. Employees of industry are in much the same circumstance. Thus academic scientists and the scientific societies have responsibilities that they cannot escape.

In attempting to convert opinion into action, scientists should avoid internal conflict. They form only a tiny fraction of the electorate, and at best their prestige is not such as to give much weight to partisan exhortations. In matters that are more political than scientific, members of societies are likely to be divided in their preferences. When a society attempts to achieve a monolithic position on such issues, it does so over strong objections. The outcome convinces no one, serves little purpose, and leaves debilitating wounds. The societies are more effective when they employ leverage furnished by other opinion makers. During the past decade, AAAS has met this challenge by providing forums in which technological problems that affect all of us were discussed. These presentations have been well covered by the mass media.

After the mass media begin to devote attention to a problem, public awareness increases, and politicians become interested. However, in helping to create judicious public opinion, the scientific societies can have an important role. Especially useful are fact-finding commissions and committees. Thus the Air Conservation Commission of AAAS served a valuable function in early delineation of facts concerning air pollution. Reports from committees organized by the National Academy of Sciences have been helpful in crystallizing public opinion on such issues as birth control. In general, the reports have had an effect roughly proportional to the level of scholarship and objectivity which characterized them.

The goal of opinion-making should be constructive action. A prerequisite for this is thorough planning based on an adequate fund of knowledge. Scientists can make imaginative contributions to planning, and they can help ensure that the factual bases for decisions are as sound as possible.—PHILIP H. ABELSON



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