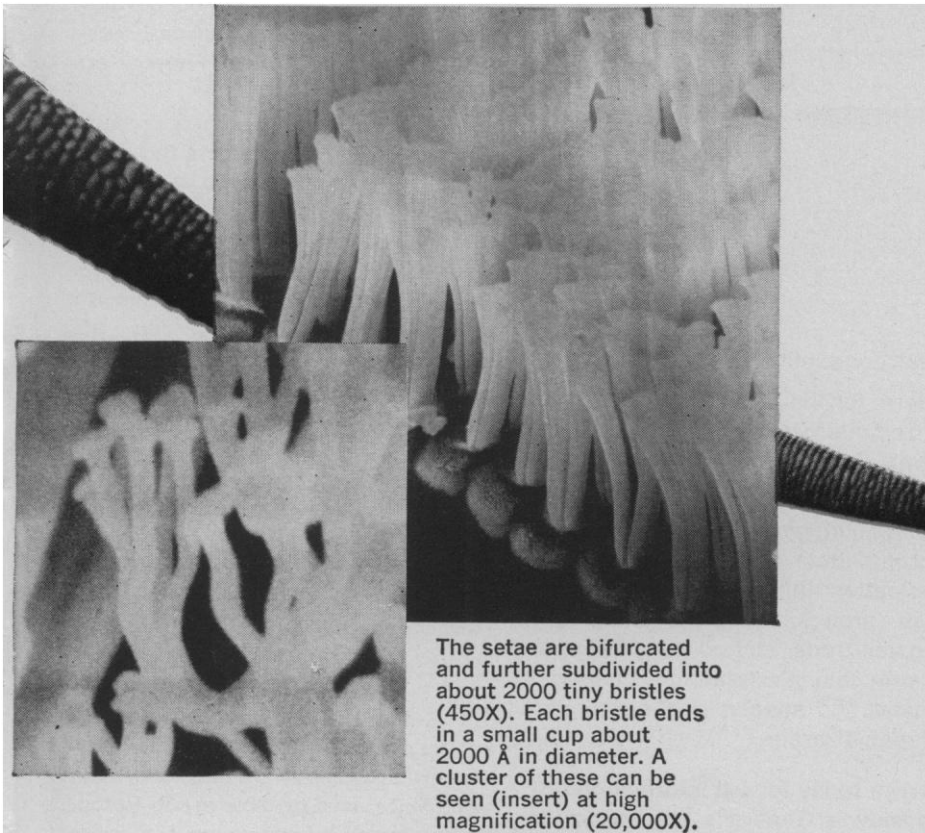
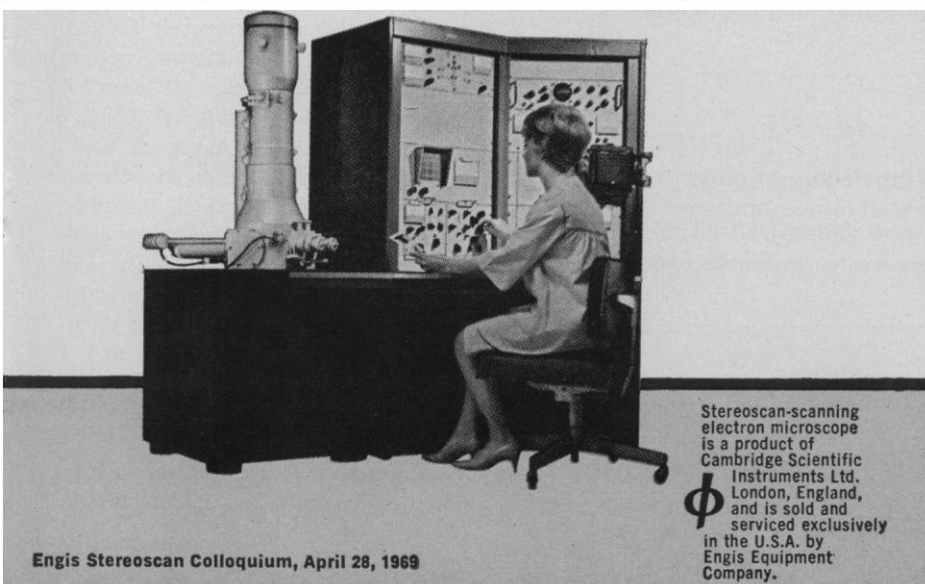


A detail of a single row of setae on one lamella showing their great number and regular arrangement (200X).



The setae are bifurcated and further subdivided into about 2000 tiny bristles (450X). Each bristle ends in a small cup about 2000 Å in diameter. A cluster of these can be seen (insert) at high magnification (20,000X).



Engis Stereoscan Colloquium, April 28, 1969

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high temperatures, wind and solar drying of soil, and low vegetation during dry seasons and to drying of springs (1). The adverse effects of deforestation and desiccation for humans and animals occur even where annual rainfall shows no change. The problem is that moisture supplies are lost or become irregular, not that total rainfall decreases. Defoliation, as a kind of deforestation, probably produces similar effects.

As for the effects of defoliation on animals, I have found, in working on neotropical birds, that many species of the forest interior die off and are replaced by species of more open areas if deforestation occurs. Presumably this happens in Vietnam. McClure noted many specialized species of the forest interior in nearby Malaya (2). I have repeatedly noted that birds of the forest interior disappear even if patches of undisturbed forest remain, because many such birds are at such low densities that they apparently must have large areas of forest for sufficient population sizes. Probably medium-to-large animals, with low densities, die off faster than insects and small animals, which can survive in tiny patches of forest; this is contrary to Tschirley's suggestion. The large animals he mentions as surviving in defoliated areas probably are not forest animals but those of low growth; such species may increase.

Population increases and nondefoliatory deforestation will eventually eliminate many of the forest-adapted species, presumably. But hastening extinctions by defoliation is not desirable. Even if species of open country increase in numbers, loss of the many more species adapted to forests would be unfortunate. Future studies should pay attention to the forest-adapted species, not to the open-country ones.

EDWIN O. WILLIS

Department of Zoology, University of Washington, Seattle 98105

References

1. P. Sartorius and H. Henle, *Forestry and Economic Development* (Praeger, New York, 1968).
2. H. E. McClure, *Wilson Bull.* 79, 131 (1967).

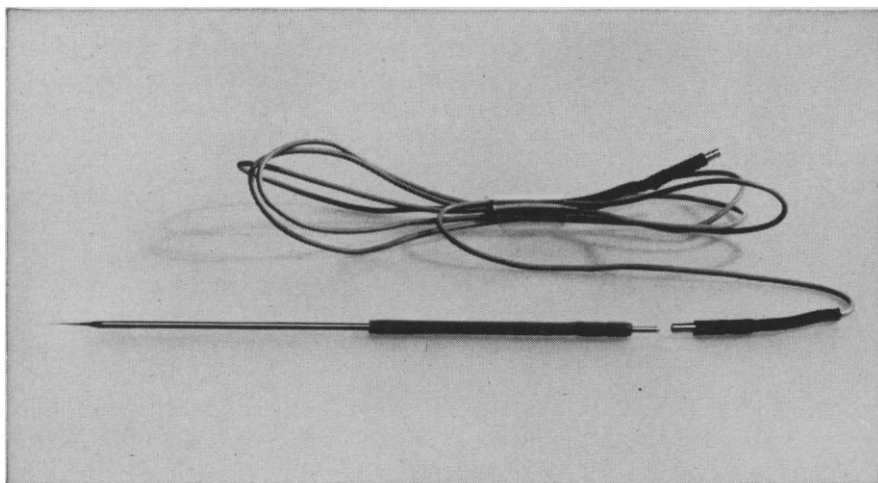
NATO Science

Greenberg's informative article on NATO science (28 Feb., p. 915) is misleading in two respects. He identifies the NATO Science Committee as the

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direct predecessor of the Scientific Affairs Division. Actually, the latter is a permanent part of the International Secretariat. Its director, Assistant Secretary-General Gunnar Randers, reports to the Secretary-General of the Organization. Randers follows Ramsey, Seitz, Nierenberg, Allis, and McLucas in this position. The Science Committee, which is still very much in existence, meets three times per year and is composed of distinguished scientists serving as official representatives of the 15 member nations of NATO. It provides policy guidance and program authorization to the Scientific Affairs Division. Isidor Rabi has normally represented the United States on this committee. The confusion may have resulted from the peculiar NATO practice of having a Secretariat official simultaneously serve as the chairman of an intergovernmental committee.

More serious is Greenberg's conclusion, that the U.S. considers this aspect of NATO's activities to be of diminishing importance, based on the fact that Randers is the first non-American to hold the position of chief science officer. On the contrary, the U.S. has taken the lead in urging an even more purposeful program with a wide international base of interest and support. Randers' appointment is evidence that the Europeans are today equally able to provide distinguished and effective leaders—perhaps in itself a tribute to the programs of the committee.

EUGENE G. KOVACH
*Office of General Scientific Affairs,
Department of State,
Washington, D.C. 20520*

... the NATO Advanced Study Institutes Program provides partial or full support for about 50 institutes each year. Since most of these are in Europe, the degree to which young U.S. scientists can participate is severely limited. To help alleviate this situation and to insure U.S. representation at some of these institutes, the National Science Foundation since 1959 has made available each year a number of international travel grants for U.S. scientists. NSF generally limits support to graduate and postdoctoral students and younger faculty members who are still in the formative stages of their scientific careers. The program is thus one of the few sources of international travel support for scientists who are not yet professionally established.

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the various institutes in Europe. Those who are interested should address inquiries to the directors of the institutes, in accordance with the information which is published in this country on academic bulletin boards and in appropriate journals. Approximately 70 travel grants are made annually to about 30 NATO institutes.

TERENCE L. PORTER
Division of Graduate Education in
Science, National Science Foundation,
Washington, D.C. 20550

Sorcerer's Apprentice in Academia

As part of a large-scale survey of opinion on vital questions in the field of higher education, the Carnegie Commission on Higher Education sent me, as a university professor, questionnaire number 29,872, containing 89 questions divided into some 230 separate parts. Since "the information . . . will be of help to . . . bodies concerned with public policy in this area . . ." it presents two real problems.

The secret or Australian ballot has demonstrated inherent advantages. Consequently I hesitate to complete a questionnaire which asks not only for my voting record and my preferences among convention candidates, but also for the political views of my father. When the depth of the questions continues, as in this case, to the point where I must state whether or not I have changed religions, I must consign it to the wastebasket, rather than to the "National Computer Systems Processing Center" as Clark Kerr requests.

The first problem arises as one detects in the questionnaire itself a screening device which automatically eliminates responses from those who react as I do. Although I am tempted to attribute a tendency toward conformity or even naivete to the majority of respondents, one must certainly caution that the results of the survey will contain a considerable bias, introduced by the very depth of the questionnaire itself.

Second, as a computer scientist concerned with invasion of privacy, such extensive probings of academia cause me to recall Norbert Wiener's fear that our computers might fall under the control of the sorcerer's apprentice.

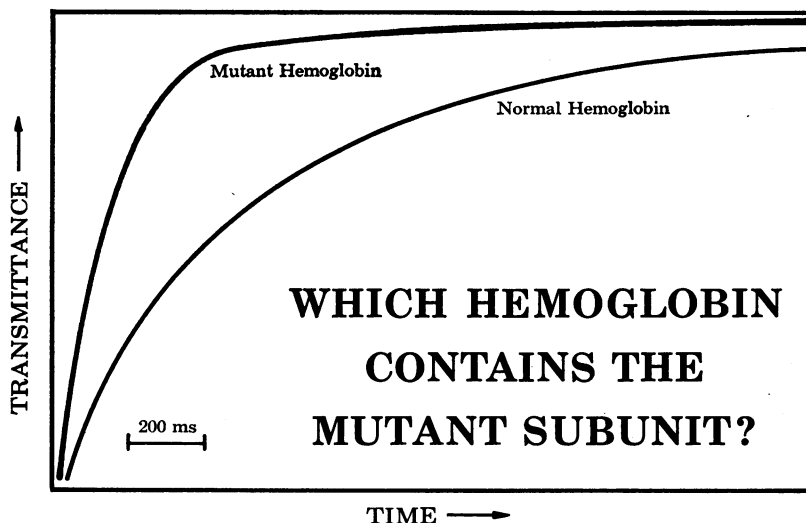
M. H. HALSTEAD

Purdue University,
Lafayette, Indiana 47907

25 APRIL 1969

CHEMICAL PROFILES

... drawn by Durrum

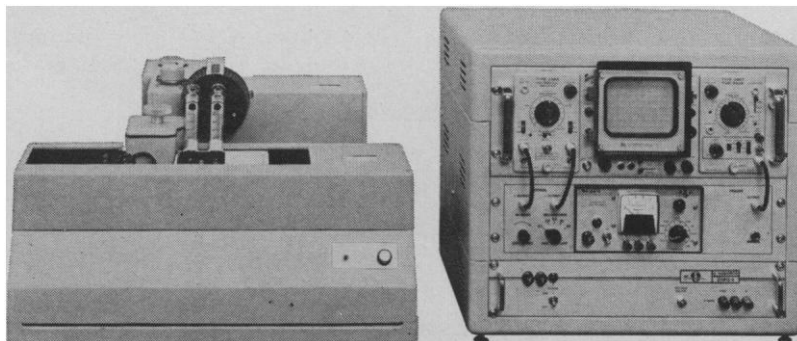


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*AS REPORTED BY HENRY F. EPSTEIN AND LUBERT STRYER IN VOLUME 32 (1968) OF THE JOURNAL OF MOLECULAR BIOLOGY.

D DURRUM

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