

**Senior faculty scientists do not flee to research, but there is still difficulty finding a teacher for every class.**

# No flight from the classroom

by Dietrick E. Thomsen

An old undergraduate grumble, that professors won't teach, has lately become a shout. Rebellious students on a number of campuses are demanding changes in the system that leaves the classroom to ill-prepared graduate assistants, while professors devote their time to research.

Meanwhile, the graduate assistants, who have long been irked by their neither-fish-nor-flesh position in the academic hierarchy, want clarification of their status and opportunities to improve their teaching ability.

According to Drs. Robert Dubin and Frederic Beisse of the University of Oregon, an undergraduate's chances of seeing a professor are not very good. They give the following odds:

- One in three that an undergraduate will get a graduate assistant as teacher in any course he may choose to register for;

- In the first two years the odds go up to two in five;

- If the undergraduate seeks a small class for intimate contact with a professor, the chances are only one in three that he will find a professor in the class he registers for.

Concerned by the growing picture of the professorless classroom, the American Chemical Society's Committee on Chemistry and Public Affairs invited

Prof. Frank Westheimer of Harvard to see if there really has been a flight from teaching on the part of research chemists and scientists generally.

In chemistry, particularly, and in other sciences, Prof. Westheimer finds no evidence of a faculty flight. On the contrary he finds distinguished research chemists lining up to teach undergraduate courses.

When the University of Chicago years ago tried to separate research and teaching by setting up a series of research-only institutes, Enrico Fermi would accept the chairmanship of the Institute for Nuclear Studies only on condition he be allowed to continue to teach freshman physics. His example was followed by other members of his institute, in what Prof. Westheimer calls "a spectacular example of the flight to teaching."

Research professorships are rare. In a survey of 13 large universities Prof. Westheimer says he could find only six research professors among 200 faculty chemists. Data on absenteeism—one of the charges often made against senior faculty—for 20 of the professors at universities surveyed by Prof. Westheimer show the number of undergraduate lectures missed for reasons other than illness is between one and two a year per lecturer.

Prof. Westheimer marshalls other evidence, including the names of people teaching undergraduate courses in various universities, to show that research scientists not only teach but like it. In general, he says, good researchers make the best teachers and students prove it by lining up for their courses.

But even if the senior professors in the sciences are not running from the classroom, graduate assistants are coming in in larger numbers. And here Prof. Westheimer, like others, sees a problem: "The undergraduate should feel the excitement that research brings to most graduate students and this excitement should permeate the laboratory. Somehow," he finds, "it doesn't."

And that itself is a problem.

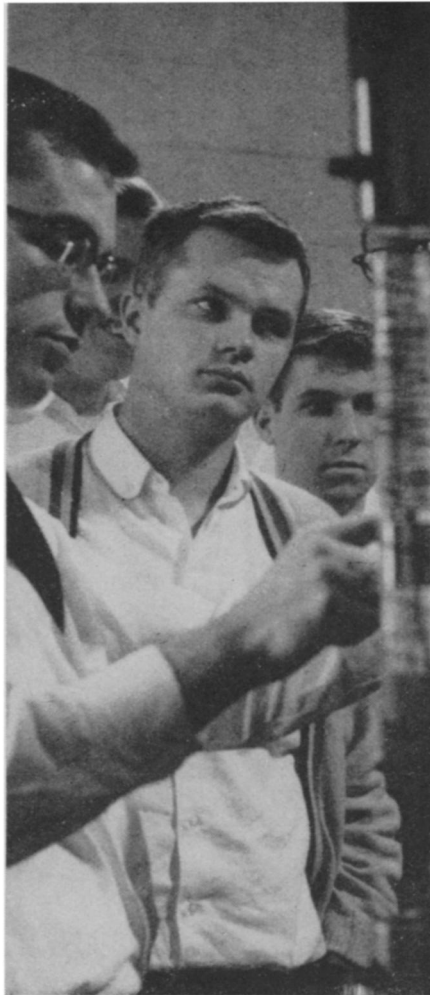
Many are the complaints that teaching by graduate assistants is dull, routine and listless, and a number of Prof. Westheimer's colleagues are trying to see how they can change the situation.

What is really the best thing to do is a matter of some disagreement.

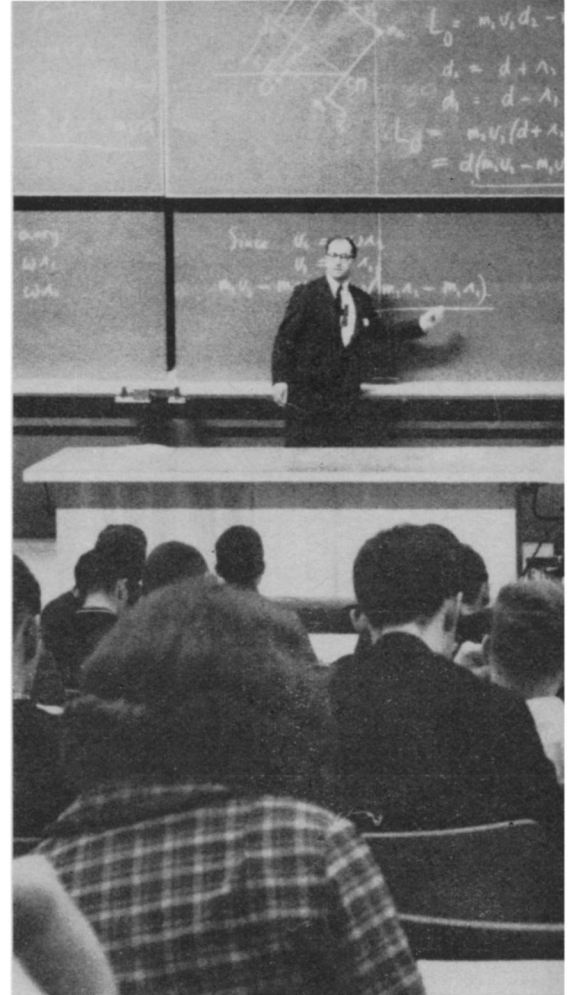
Proposals that graduate teaching assistants simply be abolished are unrealizable, says Prof. K. B. Wiberg of Yale. There just aren't enough senior faculty members to cover the laboratory sections traditionally taught by assistants. Whatever it may mean for the assistants' own education—and this part



*Fermi: Flight to teaching.*



*Frequently there's no professor.*



*MIT's A. P. French before a class.*

of the question has agitated people too—they simply must be used as teachers.

One of the contributing factors that Prof. Wiberg sees is that since about 1950 a two-class system has been growing up among graduate students. Before that time most supported graduate students had teaching assistantships paid out of university funds. There was competition for these posts and if the recipients proved incompetent to teach, they were dismissed and had to look out for their own support.

Then, says Prof. Wiberg, came the National Science Foundation, the National Institutes of Health and other Government agencies with large research grants that permitted a great inflation in the number of research fellowships available. When Prof. X got a research grant, he could hire several graduate students to assist him, and the Profs. X multiplied.

The research fellowships—which often paid more—came to be regarded as first class and went to the students with the best academic qualifications. Teaching assistantships went to those that “staff members feel are so bad they don’t deserve research assistantships,” says Prof. Wiberg.

A possible remedy, which is being tried at Yale and a few other universities, is to set up a classless society. All

the money for fellowships and assistantships is pooled. It is used to support a number of graduate students, all of whom are expected to teach and to do research. Thus the distinction is broken down and the better students are brought into the classroom. Prof. Wiberg says this system has improved the quality of undergraduate instruction in the Yale chemistry department.

But a biologist who has been much concerned with the teaching assistant problem, Dr. Richard F. Gaufin of Cornell, dissents quite strongly from this pool approach. He feels there is too large a possibility for abuse of pooled funds—their diversion to uses not contemplated by the donors. “People should not have personal research funds pulled out from under them by a departmental chairman,” he says.

More important, in Dr. Gaufin’s view, is that the blanket approach to the graduate students is wrong: Not all good students are suited for teaching responsibilities.

Rather teaching assistants should be recruited from among students with the desire and the capability to perform as teachers. A training and supervision program should be set up that can guarantee high quality instruction to undergraduates, and to graduate instructors a meaningful experience in their prepara-

tion as classroom teachers.

About a year ago the Commission on Undergraduate Education in the Biological Sciences decided to find out how many universities actually had some sort of training program for graduate assistants. They circulated a questionnaire to 100 universities that produce 80 percent of the Ph.D.’s in biology and discovered, to their dismay but to no great surprise, that only a few were doing anything about the problem.

In question is not only the short-term effectiveness of the teaching assistants, but the quality of university teaching generally. The commission’s director, Dr. Edward Kormondy, points out that 70 percent of the people who get Ph.D.’s eventually wind up as college teachers. Their only opportunity for apprenticeship or training in teaching is usually the time they spend as graduate assistants.

Dr. Kormondy’s commission determined to start an attack on the problem by sponsoring three regional meetings of university representatives to discuss the kind of training program that might be best and then to see about working one out. But now their budget has been severely cut. Something has to go, and it may have to be these meetings, and whatever might have followed from them.