

credit, present one deterrent. Registration in freshman and sophomore courses with much younger students, some of whom may be former students of the teacher enrollee, presents another. Questions, sometimes embarrassing, from colleagues and friends back home become still another. In our secondary schools, as in our colleges and universities, the degrees earned by a staff member are important to the teacher's status and, indeed, to his self-respect.

There is almost universal agreement that the status of teachers in the community and the recognition of the importance of their work for the national welfare should be generally enhanced. The National Education Association and other professional organizations of teachers are working toward the essential goal of the general recognition of teaching as a profession. Graduate credit and the master's degree provide objective evidence of professional and personal achievement. Although this may not be wholly dependable, these objective measures are in a sense comparable with the objective measure of grades earned, also not wholly dependable. Teachers should be encouraged to seek this kind of evidence, in addition to many other kinds of evidence, of their professional accomplishment.

No one seriously proposes that graduate credit be given to teachers for a regularly offered undergraduate course, particularly at the freshman or sophomore levels. If a teacher finds that he has been assigned to teach a physics class, and he has had no work in college physics, he should, in practically all cases, be required to take the first college course in physics. The teacher who has had some undergraduate work in physics, possibly a major in physics 20 years ago, or perhaps 10 or 15 hours in physics 2 or 3 years ago, is in a different situation. Quite a number of colleges and universities are finding it possible to offer special subject-matter courses in science and mathematics for teachers which carry graduate credit, usually to be counted only toward a master's degree in science teaching. Prerequisites for these courses include teaching experience and, usually, some undergraduate course work in the subject. Although the content might be of a scientific level lower than that in other graduate courses leading to the master's degree in the science and to research, it has still been found possible to offer such courses at a reasonably respectable level. The danger of "downgrading graduate credit in subject matter" by this practice seems to many less serious than the danger from a situation in which teachers, who may be weak in subject matter, continue to take all of their graduate work in education.

The Science Teaching Improvement

Program has tried, and will continue to try, to promote the acceptance on the part of controlling and influential agencies at the national level of the principle "that increased competence earned through taking appropriate courses be recognized and rewarded by increased salaries," as is urged by Kollros. This activity has been supplemented by support and encouragement given to efforts to bring about the highly desirable goal of merit salary increases for teachers. As of 1 August 1955, there were 27,992 high schools in the United States. The influence of the Science Teaching Improvement Program directly on salary schedules of this very large number of schools is of necessity negligible. Scientists throughout the country can assist by making their views known to school boards in their own communities, and they can be encouraged in these efforts by the example of the good work now going on at the local level in the Washington area.

In disagreement with Kollros, it seems safe to assume that members of school boards and school administrators will readily accept the definition of graduate credit by colleges and universities. These people, devoted to the welfare of the schools, surely would welcome adjustment in traditional patterns of science offerings, which are planned specifically to increase the competence of their teachers. The change in quality and nature of the course work would be welcomed as a change to better quality for the particular job and need of their teachers.

The endorsement of Kollros of first-hand experience with research for secondary-school teachers is highly commendable. This sound proposal points out another way in which scientists in higher education can make a real contribution to the improvement of science teaching in our schools.

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## Meriones

I have noted the article regarding a new laboratory animal, *Meriones libycus*, in *Science* [123, 790 (1956)]. The following information regarding other species of *Meriones* may be of some interest.

In 1952 at a Symposium on the Leptospiroses sponsored by the Veterinary Division, Walter Reed Army Institute of Research, Washington, D.C., J. Van der Hoeden reported that a rodent belonging to the group *Meriones* and native to Israel had been found to be extremely susceptible to infection with *Leptospira*. These rodents (*M. crassus sacramenti*) and the smaller type gerbil *M. shawi* have been used in Van der Hoeden's laboratory for

the isolation of *Leptospira* from suspected materials since 1950. In a recent report [*J. Infectious Diseases* 95, 213 (1954)], Van der Hoeden recommended *M. crassus sacramenti* as a valuable test animal for both routine and research studies of *Leptospira*. Several pair of this species were obtained from Van der Hoeden's laboratory in Israel by the Leptospira Research Unit of the Communicable Disease Center in December 1954. Unfortunately, breeding has been unsuccessful.

A colony of *M. unguiculatus* has been established at Tumblebrook Farm, Brant Lake, N.Y., for commercial production. According to Floyd and Hoogstraal [*J. Hyg.* 52, 516 (1954)] and others, the *Meriones* will breed under laboratory conditions, but the smaller gerbil (*Meriones pyramidium*) and the jerboa (*Jaculus orientalis*) do not breed in captivity.

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## Crucifix and Dagger

Charles F. Richter's letter entitled "Dangerous dagger" [*Science* 123, 723 (27 Apr. 1956)] confuses the crucifix with a dagger. Perhaps he could claim justification by referring to Louis IX of France, Saint Louis, who is said to have made his sword a cross by holding it aloft by the blade. I believe that American printing custom is to use first an asterisk as a reference mark and next the dagger (sometimes called an obelisk). The cross as used by the continental printers in obituary notes and to indicate posthumous publications has no relation to the religious beliefs of the deceased but is a mark of respect. Respect is certainly not implied by the American custom of putting "deceased" in a footnote. The continental printer's cross is not pointed like a dagger.

In the catalog of French monotype faces before me (Ets. J.-B. Abrate, 153, Boulevard de la Gare, Paris—XIII), I find neither the asterisk nor the dagger, but the cross is figured among the "signes" (see figure). Even in the small type size, the lower limb is not pointed. I have seen the pointed cross in German heavy (bold) Gothic type face titles, for letters and characters with a straight bottom do not exist in this type face. The same German pages will carry a regulation cross in the text, printed in a Roman type face.

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