"Unfaculty" a Growing Factor in Research

The demographics of academic science are changing with the increase in the number of doctoral level researchers who are excluded from the traditional faculty tenure track, but hold research posts on open-ended terms.

As nonfaculty researchers grow more numerous and important and, therefore, more conspicuous, questions are being raised about their status and career prospects. Nonfaculty researchers are generally shut out of the institutional decision-making in which faculty senates and university committees participate. Salaries are lower for the nontenured researchers; in some cases they are excluded from pension plans and other university fringe benefits. In the social hierarchy prevailing on most campuses they are relegated to second-class citizenship.

Nonfaculty researchers are not a new phenomenon on campus. Until recently, however, they tended to form a small group of persons with special characteristics—those with narrow technical specialties, spouses of regular faculty members, individualists who recoiled from the demands of teaching and committee work. But now the ranks of what Clark Kerr once called the "unfaculty" have swelled as the low-growth era takes hold in the universities and the demand for research manpower cannot be met adequately in some specialized research areas by the existing academic labor force of faculty, graduate students, and postdoctoral fellows.

The rise of this new group is documented in a study* of "nonfaculty doctoral research staff" by a National Academy of Sciences panel chaired by MIT physics professor Lee Grodzins. The study provides the first solid data on what it calls "this hard to define, poorly understood, but increasingly important group."

The report puts the number of doctoral researchers at about 4000, or 3 percent of Ph.D. scientists and engineers now employed in academia. The percentage is not large, but between 1975 and 1977 the growth rate of nonfaculty researchers was two and a half times that for faculty.

Distribution of these researchers varies widely. More than half are employed in physics and biosciences. Significantly, but not surprisingly, more than half of the group is employed in the 25 universities with the largest total of R & D expenditures. These are among the factors which lead the study panel to comment that the group, "while small in total number, is disproportionately important for research."

Nontenured doctoral staff also includes postdoctoral fellows and doctoral staff not engaged in research. The definition might be stretched to include researchers in the so-called FFRDC's (federally funded research and development centers) such as Brookhaven, which have close ties with universities, but they are not included in the study.

The report shows that the nonfaculty researchers spend only 5 percent of their time on teaching; 75 percent of them did no teaching at all.

The existing salary differential was shown to be decidedly in favor of faculty, with the median annual salary for nonfaculty researchers being $18,050 in the 1977 period when the data were collected, compared to $23,650 for faculty. The lower age of nonfaculty researchers, however, complicates the comparison.

The aging of the professoriat, which is assumed to adversely affect research productivity, is affirmed by a recent study by the American Council on Education which shows that the proportion of faculty who earned their Ph.D.'s within 7 years has dropped by nearly half since 1968. Percentages are lowest in the fields of physics, botany, biochemistry, and chemistry.

The expansion of the cadre of nonfaculty researchers is attributed in part to the obvious effect of the decrease in openings for faculty and in the number of graduate students, the footsoldiers of research. But a major factor is also seen in the continued growth of Big Science, the large-scale projects which require both team efforts by researchers and substantial investments in scientific hardware. Grodzins sees the demand as being particularly heavy in physics and biomedical research. Increasingly, postdoctoral fellows are perceived as too "transient" to be useful in such Big Science projects so that doctoral researchers with open-ended appointments are preferred.

As the reliance on nonfaculty researchers grows and their tribe increases, the research universities, which employ most of them, are being forced to confront the question of whether this group is being treated fairly. In the future lies a potentially serious problem of who will do the research if universities are unable to compete successfully for the smaller pool of research scientists and engineers, which the declining birthrate has destined for the market in the late 1980's and the 1990's.

A few institutions have taken steps to provide more formalized career opportunities for nonfaculty researchers. For example, MIT, which has had considerable experience with such staff, has established four ranks for professional research staff, each with specific qualifications, responsibilities, and benefits.

Further development of a career structure in academe at large will depend heavily on trends in federal funding of university research and on prospects for the eventual opening of faculty positions to nonfaculty researchers. In the latter case, extension of the federal statutory retirement age and action in some states to lift all mandatory retirement provisions have clouded the issue.

Meanwhile, there are plenty of complications and uncertainties to be confronted. A sore point for nonfaculty researchers is that they have much less chance than their faculty colleagues of becoming principal investigators on grants and contracts, which is the way scientific reputations and careers are made. Some institutions now prohibit nonfaculty researchers from serving as principal investigators, and in other respects the system throws formidable obstacles in the way.

This is only one example of the sort of problem which most research universities are reluctantly and belatedly facing. For, as the report indicates, the universities are being forced to come to grips with the question of whether the nonfaculty research staff is to be an alternate route in academic science or a dead end.—JOHN WALSH

*_Nonfaculty Doctoral Research Staff in Science and Engineering in United States Universities_. A limited number of copies are available from: Commission on Human Resources, National Research Council, 2101 Constitution Avenue, NW, Washington, D.C. 20418.

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