Letters

Jobs for Mathematicians

Although I am in general agreement with much of what is contained in Gina Bari Kolata's article "Communicating mathematics: Is it possible?" (Research News, 28 Feb., p. 732), one statement attributed to me appears to be neither a correct reflection of the situation nor an accurate interpretation of my comments. As I explained to Kolata, the employment situation for mathematicians is certainly not bleak. In fact, it was reported at a news conference at the national mathematics meetings in Washington, D.C., in January that the unemployment rate for Ph.D. mathematicians was only 1 to 2 percent and the unemployment-underemployed rate for mathematicians was only 3 to 6 percent.

The tighter job market for mathematicians, particularly in the academic world, has indeed given the mathematical community reason to be concerned. Whereas approximately 80 percent of mathematicians previously had academic employment, new programs are now being developed to prepare mathematicians for jobs in business, industry, and government. The general concern within the mathematical community for the present employment situation and for general societal problems has provided the impetus for the development of significant new applied mathematics programs in our universities across the country. With the development of relevant programs in mathematics and with the need for applicable mathematics continuing to grow, the employment picture for mathematicians in the years ahead looks promising.

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Religion and Scholarship

Kenneth R. Hardy's analysis (9 Aug. 1974, p. 497) of the differential origins of American scientists and scholars in terms of the value orientations of religious and other groups appears to be valid up to the period which his data cover (about 1960). However, he does not account for more recent trends which reflect current developments.

Thus, in 1957, a national survey of high school students showed no observable differences between religious groups with regard to their attitudes toward science (*1*). Similarly, Greeley (*2*) found that, among college students who plan to go on to graduate work, "there is virtually no difference between Catholics, Protestants, and Jews in their choice of the physical sciences. Catholics are a bit behind Protestants and a bit ahead of Jews in choosing biology. Jews are slightly ahead of both groups in the choice of social sciences, and Catholics ahead of the others in the choice of humanities." These attitudes are of course not directly translated into the production of Ph.D.'s—there are any number of intervening variables. The point is that religious and other values no longer have the impact of earlier times, or in other words, there is a general trend toward their secularization (*3*). In addition, Catholic colleges and universities have been very concerned about their lack of productivity in science and have made considerable efforts to catch up with other educational institutions.

Hardy does not discuss social class differences specifically, but they are relevant to his thesis. It is significant that, increasingly, holders of doctorates have been drawn from the lower socioeconomic strata. During the period 1935 to 1940, the number of professional workers among the fathers of holders of doctorates was eight times as high as it was for the general population; by 1960, the proportion had dropped to 5 to 1. The respective ratios for the unskilled labor population are 1 to 20 and 1 to 6. About 1960, 25 percent of science Ph.D.'s had fathers who were laborers (*4*). The "democratization" of science and other features of "big science" has caused some observers of the *o tempora, o mores* persuasion to assert that contemporary scientists no longer have a real commitment to the ethos of science—it's just a way of gaining prestige and making money. No doubt this is true for some segments of the "scientific community." An equally plausible hypothesis is that the underlying value system has lost its original religious impetus and that its secularized version is becoming more widespread. Whether or not the recent antiscientific manifestations will have more than a passing effect remains to be seen.

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References

1. *High School Students Look at Science* (Report of poll No. 50 of the Purdue Opinion Panel, Division of Educational Reference, Purdue University, Lafayette, Ind., 1957); *Science, Education, and Civil Liberties* (Report of poll No. 51 of the Purdue Opinion Panel, Division of Educational Reference, Purdue University, Lafayette, Ind., 1958).
2. A. M. Greeley, *Religion and Career; A Study of College Graduates* (Sheed & Ward, New York, 1963), p. 90.
3. R. Vaughan, G. Sjoberg, D. H. Smith, *Soc. Forces* **44**, 519 (1966).
4. W. Hirsch, *Scientists in American Society* (Random House, New York, 1968), p. 12.

Although Hardy's article on "Social origins of American scientists and scholars" is interesting in its descriptive statistics, it seems inadequate in its attempt to ascribe differential productivity in scholars among various American geographic regions, social classes, religious denominations, and educational institutions to presumed social values characterizing these subpopulations.

From where are the cultural value categories in Hardy's table 7 derived? From analysis of the religious documents of the various denominations, the uttered statements of their functionaries, questionnaire sampling of their members, or Hardy's intuitive feeling that scientists and scholars, or possibly certain religions, tend toward naturalism, liberalism, and seriousness?

The statistics demonstrate only a correlation between certain subpopula-