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The High-School Science Teacher

For the past 8 years, Ray Maul of the National Education Association's Research Division has published annual reports on the supply of new school teachers and the demand for such teachers. Because the studies have been made on a nation-wide basis, because comparable figures are now available for a continuous period of years, and because of the detail of breakdown by school level and subjects taught, Maul's figures have become the most valuable existing source of information on teacher supply and demand trends.

The eighth annual report (printed in *The Journal of Teacher Education* for March 1955) contains some discouraging figures for those concerned about the future supply of scientists in the United States. A little extrapolation of Maul's figures indicates that in the fall of 1954 some 5700 new teachers were employed to teach high-school science and mathematics courses. Some of them had to teach other courses, but their major assignments were in science and mathematics. Where did they come from, and what was their preparation?

Maul's figures indicated that only 2300 were new college graduates who had prepared for work as high-school teachers of science or mathematics. Among the other 3400 were some with excellent preparation who returned to teaching after a longer or shorter absence, due, perhaps, to a period of military service, to an interlude in graduate school or in some other type of work, or to having earlier retired from teaching to raise a family. Others were hired simply because no better qualified candidates were available. Maul's figures do not tell how many were in each of these categories, but the testimony of many school officials indicates that the really well qualified were in the minority.

More disturbing than the figures for a single year are the continuing trends. High-school enrollment dropped during the decade prior to 1952, is now beginning to increase, and will soon start a rapid expansion. The supply of new teachers of science and mathematics has been dropping sharply for the past several years, and, although it may rise in the future, short of a severe economic depression it cannot possibly rise as rapidly as will the demand.

The same month that saw the appearance of Maul's most recent report also brought publication of a report on the *Supply of Teachers of Mathematics and Science in Scotland*. The Scottish report discussed in some detail the current shortage and the larger shortage anticipated for the future. As in the United States, the changing birth rate of the past few decades is partly responsible. Again as in the United States, low salaries and the keen competition of industry and government persuade many a young man or woman who had considered science teaching to cast his lot elsewhere.

The shortage will be too great to remedy by any single or easy solution. A variety of adjustments will be necessary, and there may be major changes in the whole organization of high-school teaching, such, for example, as the widespread use of teaching films or closed-circuit television. While such solutions are being considered, one of the potentially most valuable reactions to the shortage has been the reaction of scientists. By and large, there has been a considerable gulf between research or academic scientists and teachers of high-school science. The gulf is being bridged. University departments of science, major scientific associations, including the AAAS, and a growing number of industrial scientists are recognizing that the problem concerns all scientists, for the quality of high-school teaching affects the number and quality of future scientists.—D.W.