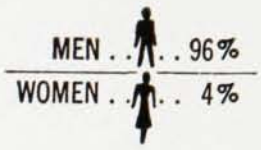
Young Professiona

From 1936 to 1948 approximately 20,000 doctorates in the natural and applied sciences were granted in the United States. Of these, nearly 1700 were in physics. What has happened to these young people? In what types of work are they now engaged? Have they remained in physics or some very closely related discipline?

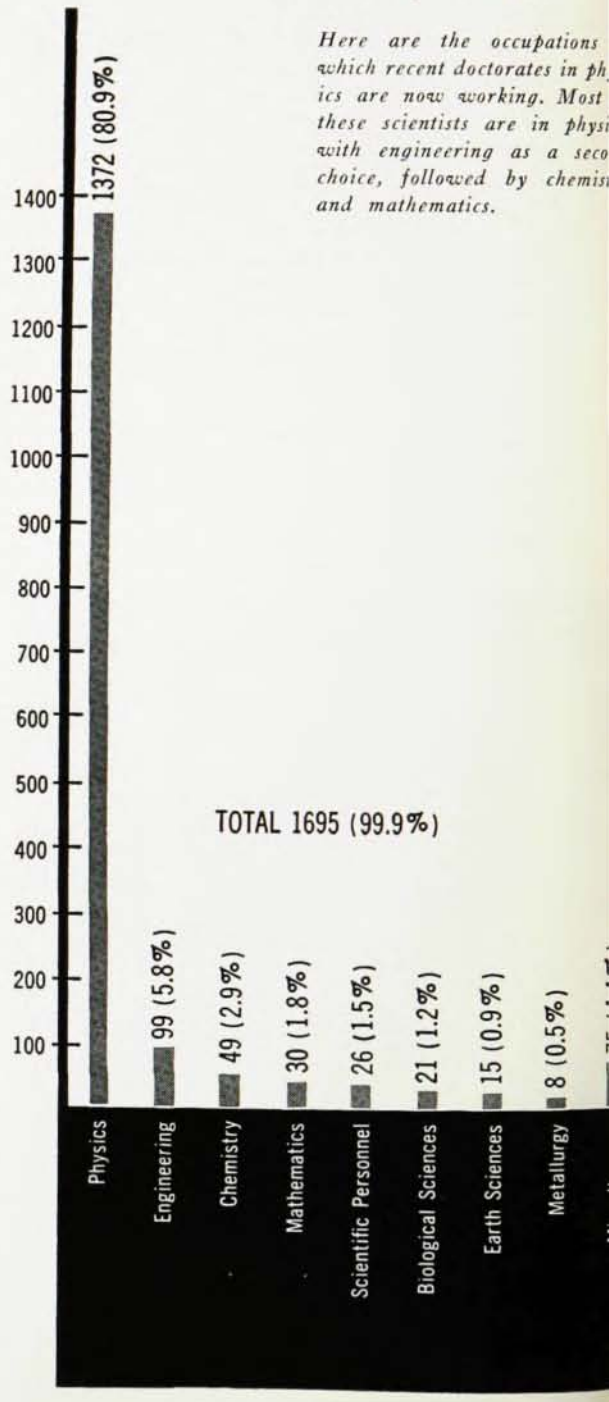
Under a contract with the Office of Naval Research, the American Council on Education in January, 1949 began work on a project to make certain detailed studies of these recent doctorates. The study made by Dr. Bernard C. Murdoch, was under the general direction of Dr. Douglas E. Scates, Director of Research in Scientific Personnel for the American Council on Education. This contract has been supervised by Dr. Ralph M. Hogan, head of the Man Power Branch, Human Resources Division, Office of Naval Research. The results of these researches are now being prepared for publication but the facts concerning physicists have been made available prior to the release of the complete report.

These studies include only those physicists who received their doctor's degree between 1936 and 1948; hence, what is presented here does not refer to the entire group of professional physicists. A similar study is now being made by the Bureau of Labor Statistics of the U. S. Department of Labor based on the physicists included in the *American Men of Science* population, and it is hoped the results of this work will be reported soon.



What They Do . . .

Here are the occupations which recent doctorates in physics are now working. Most of these scientists are in physics with engineering as a second choice, followed by chemistry and mathematics.

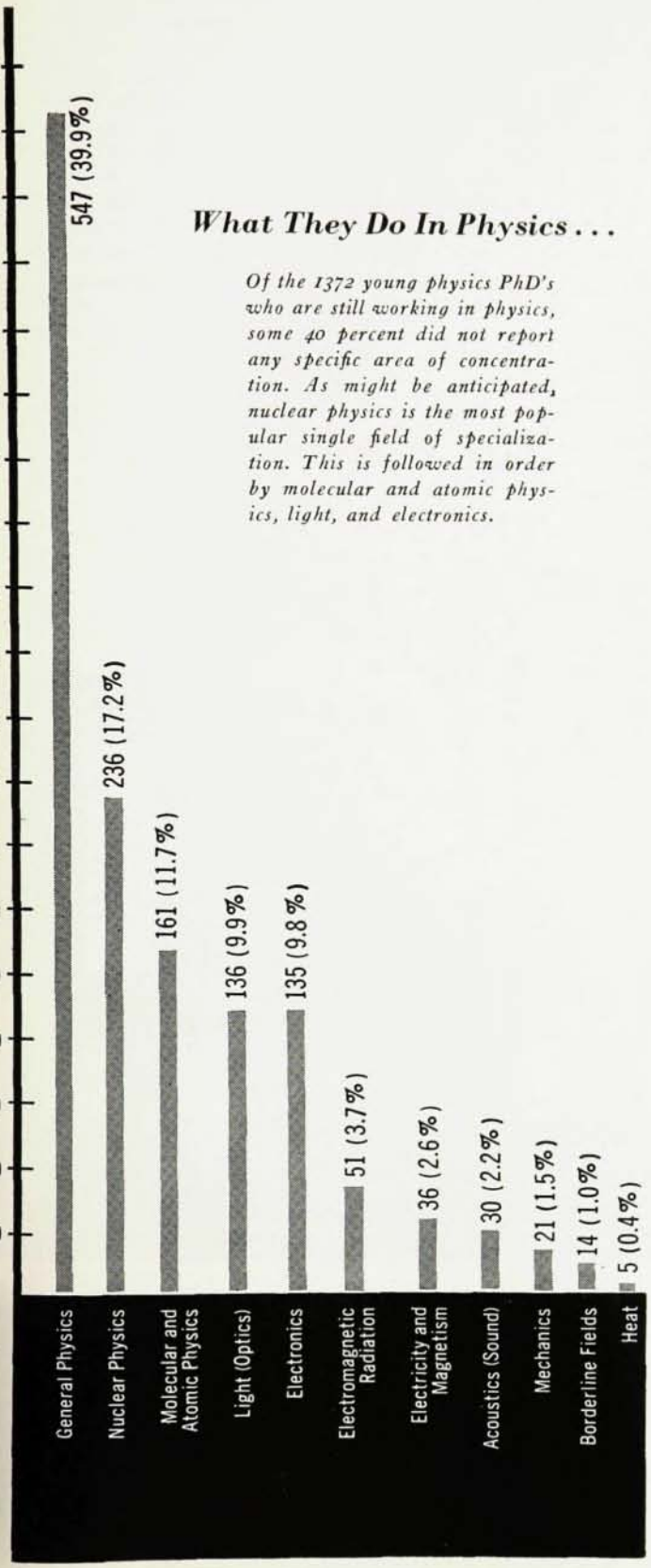


Physicists

by **Bernard C. Murdoch and Marsh W. White**

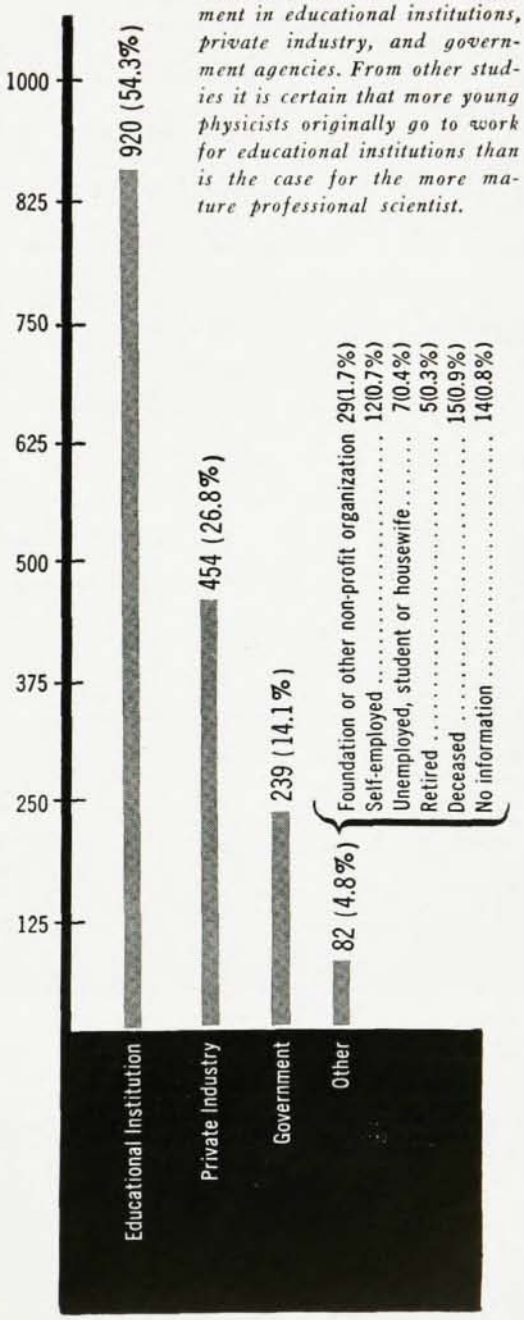
What They Do In Physics . . .

Of the 1372 young physics PhD's who are still working in physics, some 40 percent did not report any specific area of concentration. As might be anticipated, nuclear physics is the most popular single field of specialization. This is followed in order by molecular and atomic physics, light, and electronics.



For Whom They Work . . .

A majority of the young physicists here studied find employment in educational institutions, private industry, and government agencies. From other studies it is certain that more young physicists originally go to work for educational institutions than is the case for the more mature professional scientist.

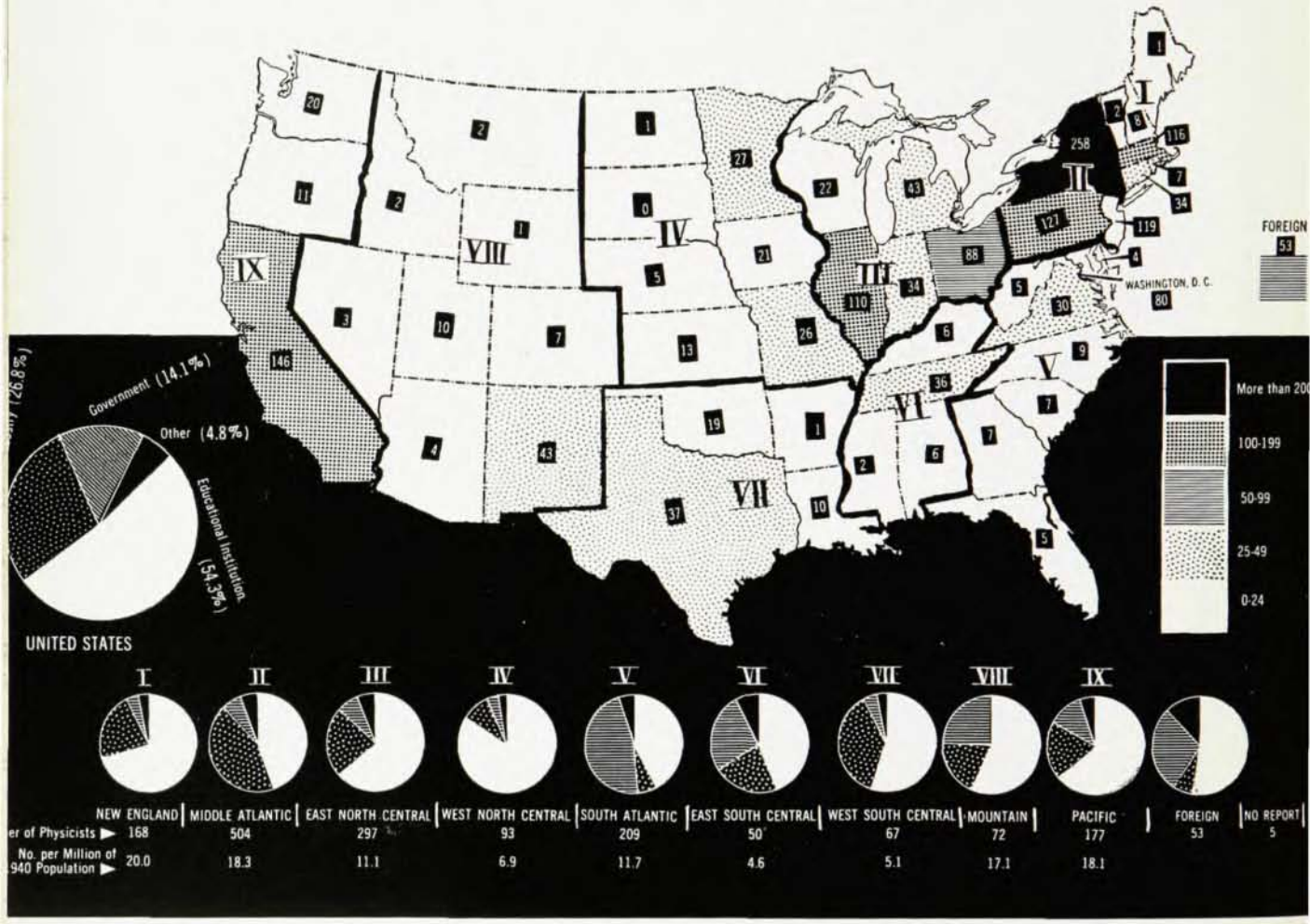


Where They Are . . .

Geographically, the young physicists included in this survey tend to locate mostly in the Middle Atlantic and bordering states. Other concentrations are found in California and Illinois. The number of physicists per unit of population shows some marked differences in comparison with the actual number of physicists: the New England States have the largest number per million of population, followed by the Middle Atlantic and Mountain States. The Southern States are relatively low on either basis.

Many of these young physicists have not settled in metropolitan districts. About 30 percent live in communities of less than 50,000 population. The median metropolitan district has 1.5 of these physicists and 64 of the 149 metropolitan districts do not even have one. But there are 22 metropolitan districts which have 10 or more of this group. The New York district and the Washington area seem each to be a mecca; Boston, Chicago, and Los Angeles are the other centers of large groups. The cities of the South, and the Mountain States, are conspicuously void of these young PhD's in physics.

The various geographical divisions of the country vary markedly in the kinds of work which is being done by these physicists. For example, 71 percent of the physicists in New England work for educational institutions. In the Middle Atlantic division, more (46 percent) are employed in industry than by any other type of employer. The government employs more (48 percent) in the South Atlantic division than is found in any other type of employment.



Marsh W. White, professor of physics at Pennsylvania State College and executive secretary of Sigma Pi Sigma, national physics honor society, has written for *Physics Today* before. He is consultant on scientific personnel to the Department of the Army and became interested in these studies when he found a dearth of information available concerning the origins of young physicists and the productivity of various physics departments in the identification of talent for prospective physics majors.

Bernard C. Murdoch, dean of Muskingum College in New Concord, Ohio, writes that the impetus for this work was the need for more information on human resources in science. He found much of the existing information was meagre and confusing. Information of the kind gathered here, he says, should be valuable not only for national emergencies but for long-range planning as well.