

WOMEN IN SCIENCE AND ENGINEERING

The Department of Labour has published a report based on the records of 830 women who are qualified to practice in Canada as architects, scientists, engineers or in veterinary medicine and have completed questionnaires for the Technical Personnel Register of the Department. Only persons who received their Bachelors Degree prior to 1952 are included in the analysis. Graduates of the years 1952-1955, however, were asked to complete the questionnaire used by the Technical Personnel Register, and the records of these persons will be brought up to date three years after graduation, when a more reliable classification of their professional qualifications, as well as of their academic training, can be made. The Register does not include home economists, high school teachers or nurses.

The greatest concentration of women is in the science professions rather than in engineering, with biology and chemistry registrants accounting for about three-quarters of the total. By profession, the proportion of women to total registration is 23 per cent in biology; 12 per cent in geography; 8 per cent in mathematics; 4 per cent in chemistry; and 3 per cent in physics. In the remaining professions women account for less than 2 per cent of registrations. For the Register as a whole, women account for slightly more than 2 per cent of registrations. It is apparent that there is a higher percentage of women in those professions where research and laboratory work is important in comparison to those where greater mechanical or manual activity is required.

BIRTHPLACE DATA

Canada was the birthplace of 719 of the women covered in the report. Of the others, an unusually high proportion are of Continental European origin in comparison to those of United Kingdom and United States origin. The number of practicing women professionals who were born in Europe is more than the combined total of those born in the U.K. and U.S., whereas in some of the preponderantly male professions the reverse is the case. For example in geology the ratio from Europe to the combined total of U.K. and U.S. is 1 to 7 and in architecture 1 to 2.

The great majority of women scientists and engineers received their first degrees in Canadian universities, with five major universities accounting for about 60 per cent of first degrees and Canadian universities as a whole accounting for about 94 per cent. Only about one-half of the women registered as being born in the United Kingdom or the United States received their university degrees in those countries.

In almost all of the main professional categories represented in the Technical Per-

sonnel Register, the preponderant functions of women scientists and engineers are research; testing, inspection and laboratory services; and teaching. Although these three functions account for 87 per cent of all women in the Register, these functions are not represented in all professional categories. In biology, about 41 per cent of women are in research; 49 per cent in testing, inspection and laboratory services; and 13 per cent in teaching. In chemistry about 41 per cent are engaged in research; 44 per cent in testing, inspection and laboratory services, and 6 per cent in teaching. In physics about 37 per cent of women are in research and 31 per cent in teaching. These figures suggest that women tend to perform a relatively narrower range of functions than do men in the same professions.

NO DEFINITE PATTERN

In the remaining professions there is no definite pattern as regards function, except that teaching accounts for about one third of women in agriculture and mathematics and 70 per cent for women in architecture. The following functions are not performed by any women scientists and engineers included in the Register: installation and erection; construction; and lay-out and location.

Research work accounts for about 27 per cent of women bachelors, 61 per cent of masters, and 47 per cent of doctors. Testing, inspection and laboratory services account for about 50 per cent of bachelors, 11 per cent of masters, and 6 per cent of doctors. Teaching and related work account for 7 per cent of women at the bachelors level, 18 per cent of masters and 40 per cent of doctors. The conclusion from the available data is that the level of academic training appears to have only a slight affect on the type of function performed by women scientists and engineers, with the exception of the preponderance in testing and laboratory services at the bachelors level, and in teaching at the doctors level.

The majority of women included in the Register are employed in the service industries which are comprised of education, governments, consultants and personal service. In this group the main functions are research, and testing and laboratory work, and to a lesser extent, teaching. The next largest group are self-employed or unreported as to employer type. In this group the distribution by function is approximately the same as in services. In manufacturing, the third largest employer group, the relative importance of teaching and testing is the reverse of the proportion found in the self-employed and the services industries, with teaching and related functions in third place.