Nevertheless, the National Science Foundation concluded, women with the aptitude and desire to become scientists should be given ample opportunity and encouragement to consider careers in science. Even if science is not a career for them, however, "a general familiarity with matters scientific would seem to be of importance to the wife and mother meeting family responsibilities in an economy with growing dependence upon science and technology."

Even though women are becoming an ever larger proportion of the total labor force, relatively few women enter science. The loss of potential talent begins early, when course choices are made in high school. Further losses occur at later stages—between high school and college, in college, and between college and employment or graduate school—and later still when women leave the labor force for marriage and child care.

Although more girls than boys graduate from high school, numerically and proportionately fewer of them continue to college. The loss of talent between high school and college shows up particularly when high-ability boys and girls are considered separately.

A study by the Educational Testing Service showed that less than half of the upper 30% of the high-ability girls continue their education, although some 60% of the boys of the same ability level do so. This, the National Science Foundation reports, is one place where it is possible to gain some measure of the loss of potential talent in science among women.

The factors accounting for so few women in science are complex and mutually interacting. In our advanced industrial society, most scientific and technological jobs require long and rigorous training, and women generally have found employment mainly in those fields where less training is required.

During the last 20 years, the distribution of employed women by occupational groups has not changed greatly, except that there has been a reinforcement of the trend toward an increasing proportion of clerical workers and a declining importance of private household workers.

Professional, technical and kindred workers as a group have constituted about 13% of all women workers during this period.

Of the eight women born in the U. S. whose biographies appear in "Women of Modern Science," author Edna Yost notes that five had no intention of majoring in science when they entered college. This, Miss Yost points out, is a "high percentage in a group whose outstanding talents were undoubtedly in this realm." Each of the eight is now an outstanding and respected leader in her chosen field.

Three of the five had omitted physics and chemistry completely, and mathematics except for the minimum, from their high school curricula. Something in their environment, according to Miss Yost, had made it easy for these girls to remain ignorant of their own high gifts and potentialities.

With today's increased emphasis on science, it is likely that each of these five women would have discovered her own talent for science at least in the early years of high school if not before.

• Science News Letter, 81:138 March 3, 1962

SPACE

Satellite Observatories

➤ THE UNITED STATES will launch its second astronomical satellite soon.

It will be called the orbiting solar observatory, or OSO, and will look at the sun with its instruments to detect the ultraviolet and gamma ray radiation in space since these radiations do not penetrate the earth's atmosphere. Gamma rays are believed to hold the secrets about the elements making up the universe. They are the products of collisions of cosmic ray particles in outer space.

When cosmic rays strike atoms, the atoms fly apart, producing small particles that also pop apart and leave gamma rays. Such rays travel in straight lines through untold billions of miles of interstellar space, unaffected by magnetic fields or other influences. By determining their origin, scientists can learn about the source of cosmic rays.

The first astronomical satellite was Explorer XI, launched April 27, 1961. It carried a gamma ray telescope and was the first step in a U.S. program to use orbiting observatories to study the moon, sun, other planets, other stars, the Milky Way galaxy and other galaxies.

After the second astronomical satellite is launched, the U.S. plans to keep them coming regularly, Dr. Nancy G. Roman, director of the geophysics and astronomy programs for the National Aeronautics and Space Administration, said in Washington, D. C. The third astronomical satellite will also be a solar satellite, she told the Astronomical Colloquium meeting at Georgetown University. After that, solar satellites are expected to orbit at the rate of about one a year.

A major undertaking, expected within the next two or three years, will be the launching of a two-ton satellite with an optical telescope 36 inches in diameter. It will be capable of tracking stars very accurately.

Before that, however, the U.S. will launch several satellites carrying telescopes with diameters from eight to 16 inches.

The EGO, or eccentric geophysical observatory, scheduled for launching in 1963, is expected to carry a low frequency radio receiver for detecting radio waves from the sun and other heavenly sources in the two to four megacycle range. Such radio waves are blocked by the earth's atmosphere. The Ego will have an orbit taking it as far as 60,000 miles from earth, then back again close to earth.

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