News of Science

Hydrogen Emissions from Distant Galaxies

David S. Heeschen, astronomer at Harvard University, has announced the first detection of hydrogen emissions from very distant galaxies. Using the Harvard Observatory's 24-foot radio telescope, he has found hydrogen emissions from the Coma cluster of galaxies, 75 million light years from the Milky Way, the earth's star group.

Through study of hydrogen radiations from galaxies, astronomers can gain new data bearing on the evolution and structure of the cosmos. The amount of gas in a galaxy is believed to bear a relation to the galaxy's age.

The invisible clouds of neutral atomic hydrogen in our galaxy and in others emit radiations of 21-centimeter wave length. Heeschen found that the 21-centimeter radiations from the Coma cluster shifted in frequency according to the expected red shift. (The farther away the source, the more the waves are shifted toward longer wave lengths.)

Small radio telescopes are not powerful enough to be of great help in such research. But the Harvard Observatory's new 60-foot telescope—Heeschen was speaking at its dedication—will provide much more power. The findings gained will be of great importance for knowledge of the evolution of the universe.

Secondary-School Enrollments

The AAAS Science Teaching Improvement Program has issued a report on secondary-school enrollments in the 2-year period 1953–55. The study involved 1.15 million students in 39 states and 80 school systems. It is hoped that the results are representative of the situation in the country as a whole, for if this is so, the downward trend in science and mathematics enrollments has ceased and enrollments in these courses are increasing at a faster rate than total enrollments.

Science enrollments showed slight annual increases in 47 school systems in both 1954 and 1955, rising in 1955 to 55.8 percent of the year's enrollment. In 1953 the mathematics enrollment in these same school systems was 50.4 percent of the total enrollment (470,477 students), and in 1955 the percentage rose to 51.6 percent (494,947 students). These increases were in addition to an over-all increase in enrollments of 5.2 percent (24,470 students) during the 2-year period.

Of the 80 school systems, those that showed the greatest increase in science enrollments in 1955 over 1953 are Little Rock, Ark., which had a 33.5 percent increase within a student population of 2593; Muncie, Ind., 47.6 percent increase and 1870 students; Fort Thomas, Ky., 39.2 percent increase and 400 students; Bangor, Me., 33.6 percent increase and 486 students; Oneida, N.Y., 56.3 percent increase and approximately 250 students; Grand Rapids, Mich., 50.5 percent increase and 645 students; and Platteville, Wis., 52.7 percent increase and approximately 500 students.

The schools that had a large percentage of increase in mathematics enrollments included Midwest City, Okla., 86.7 percent increase and 790 students; Belleville, Ill., 79.6 percent increase and approximately 1500 students; Opelousas, La., 48 percent increase and 486 students; Tampa, Fla., 43.7 percent increase and approximately 2000 students; Omaha, Neb., 35.7 percent increase and approximately 1500 students; Fort Thomas, Ky., 34.9 percent increase and 400 students; New Albany, Ind., 32.1 percent increase and approximately 1800 students; and El Centro, Calif., 30.3 percent increase and 1080 students.

Nine of the 80 school systems reported a decrease in the number of science enrollees between 1953 and 1955. The decreases ranged from 3 fewer students in Harrisburg, Pa., to 583 fewer in Philadelphia, with a total enrollment decrease of 899 science students.

Ten of the 80 school systems reported a decrease in the number of mathematics students. The total decrease was 1290 mathematics students; this loss ranged from 655 less in New York to one less in Beloit, Wis.

Only 14 schools sent data on enrollments in individual science courses, and in these the total enrollment increased by 8.4 percent during the 2 years. The percentage of those taking biology was the same in 1955 as in 1953, but physics enrollments increased by approximately 17.5 percent, chemistry enrollments increased by 22.4 percent, and general science enrollments increased by 24.1 percent. Although the number of students (122,673) is small in this group, it is interesting that physics, chemistry, and general science enrollments rose more than twice as fast as total enrollments, while biology held its 1953 position.

In mathematics, geometry enrollments in 8 schools were up an average of 12.4 percent, trigonometry enrollments in 4 schools were up 17.9 percent, and in all 14 schools algebra enrollments were up an average of 29.6 percent. While these reports indicating small increases in the percentages of secondary-school students interested in science and mathematics are encouraging, it is obvious that much remains to be done if the anticipated scientific-personnel needs of the next decade are to be met.—I.E.W., J.R.M.

Legendary Thai Tribe

A tribe of Thai nomads that were formerly thought to be only legendary were found by an American Museum of Natural History expedition that has just returned from Thailand. The group, which was led by Robert W. Weaver, spent more than 2 years in the interior of Thailand making a survey of the distribution of the minor ethnic groups that inhabit the remote wilderness areas. Weaver was accompanied by geographer Thomas L. Goodman, a Thai interpreter, and several bearers. Elephants, ponies, and donkeys were used to help carry equipment.

Weaver reports that the high point of the trip was the meeting with the Phi Thong Luang, or the "Spirits of the Yellow Leaf." The expedition had heard many tales about a strange tribe of nomads whose women had never been seen and who were able to fade away at the approach of hunters. These primitive people earned their name because it was believed that they deserted their lean-tos when the leaves used as cover turned yellow. After many weeks of walking through hot, arid bamboo thickets and dense jungles, the party finally met two members of the Phi Thong Luang who agreed to lead the expedition to the campsite of their clan.

Only eight Phi Thong Luang still survive—six men, one woman, and a small boy. Through pantomime and the limited use of the Laotian dialect, the museum group discovered that the rest of the women and children had been killed by tigers. Weaver comments:

"Our first strong impression was of a deep feeling of melancholy that seemed