News of Science

Congressional Recommendations to Promote Scientific Interchange

The executive committee of the Federation of American Scientists has issued a statement endorsing three proposals to promote scientific interchange that are included in a report released on 29 July by the House Government Information Subcommittee, which is headed by Rep. John E. Moss (D., Calif.). The FAS committee agreed with the subcommittee that

1) *The Export Control Act of 1949 should be amended to exempt unclassified scientific information from export regulations now administered by the Commerce Department.* Many U.S. scientists are "unwittingly violating the law" in their ignorance of a Commerce Department requirement that all unclassified scientific correspondence sent abroad be marked on the envelope with an export license "symbol," the FAS committee stated. When the labeling requirement is observed, however, it interferes with technical progress by discouraging the "flow of information" so vital to creative scientific thought.

2) *The State Department's science attaché program should be reactivated.* "The scientific community views with alarm the curtailment of the State Department's attaché program," which at its peak had 10 science attachés in U.S. embassies abroad. The FAS also urged "strengthening of the Science Adviser's Office in the State Department." This office has had only an acting head and skeleton staff since 1953, while the State Department has been reviewing the program begun in 1951.

3) *The Commerce Department's Office of Strategic Information should be abolished.* In this connection, the FAS committee stated: "Peacetime attempts to extend voluntary controls to any unclassified information are unrealistic and fraught with dangers far greater than the presumed benefits."

Mars Approaches Earth

On 7 Sept. Mars will come closer to the earth than it has been at any time since 1924. A few days later, on 10 Sept., Mars will be in opposition to the sun—that is, the earth, traveling in a smaller orbit than that of Mars, will catch up with Mars as the two revolve around the sun. Both planets will then be in line with the sun, with Mars on the night side of the earth and the sun on the daylight side.

Mars always makes its closest approach to the earth near times of opposition. Because of the periods in which the two planets revolve around the sun—earth, 1 year; Mars, slightly less than 2 years—oppositions occur at average intervals of about 2 years and 2 months. However, since the orbits of Mars and the earth are not circular, but elliptical, opposition distances between the two planets may vary from slightly less than 35 million miles to more than 62 million miles.

Mars is farthest from the earth when it is on the opposite side of the sun from us, called conjunction. The distance at such times may be as great as 235 million miles. The opposition next month will bring Mars to a distance of about 35,-120,000 miles, about 5 million miles closer than its last previous opposition in 1954. The most favorable opposition in recent times took place in 1924, when Mars was 34,700,000 miles from the earth in the month of August. It will be several centuries before Mars comes that close again.

Because of the planet's close approach to earth in this year's opposition, Mars will be a conspicuous reddish object in the sky. As seen from New York, it will be in the southern sky from early evening until sunrise. One other feature that can be observed only at times of opposition is the retrograde or apparent backward motion of Mars. From 11 Aug. to 12 Oct. it will appear to move westward against the rather faint stars of Aquarius.

In order to insure an integrated program of 24-hour observation, the International Mars Committee was formed before the 1954 opposition, with E. C. Slipher and A. G. Wilson of the Lowell Observatory as cochairmen. Seventeen observatories in ten countries scheduled programs to investigate the dark markings and the temperatures of the Martian surface, the intricate network of "canals," the motions of the satellites Phobos and Deimos, the diameter of the planet, and many other problems in nearly all areas of planetary knowledge. Such observatories as Lamont-Hussey in Bloemfontein, South Africa; Pic du Midi in France; La Plata in Argentina (formerly Eva Peron); and McDonald, Lowell, Yerkes, and Mount Wilson and Palomar in the United States took part in the program.

Reports on the 1954 opposition by Slipher, who used the 27-inch refractor at the Lamont-Hussey Observatory, indicate the scope of the current observation project. At that one station, 20,000 photographs of Mars were taken over a period of 130 nights, only six of which were lost because of poor weather conditions. Atmospheric conditions on Mars itself were unusually favorable, and the equatorial cloud belt on Mars was photographed for the first time.

During the 1954 study period photographs revealed that a huge area, roughly twice the size of the island of Madagascar, had changed from its normal orange-red color to a dark green. Since the green areas are possibly regions of vegetation, this change may be significant of a change in the distribution of moisture and other factors which would encourage the growth of vegetation.

A strange cloud formation shaped somewhat like the letter *W* appeared above the surface of Mars every afternoon for about a month.

Intensive studies of Martian temperatures were made at the Palomar Observatory. The daily maximum temperature on Mars occurred from 15 to 30 minutes after local noon, and amounted to 77°F. However, the sunrise temperature in the same location was −58°F.

More important than any of these and other less spectacular discoveries was the experience in observation techniques gained at the 1954 opposition. This experience has permitted the best possible preparations for the 1956 approach, when Mars will show us 97 percent of its maximum possible apparent diameter.

Boshyan Down, Lysenko Up?

Soviet Minister of Agriculture Vladimir V. Matskevich has, according to a dispatch to the *New York Times,* denounced the work of the Soviet biologist, G. M. Boshyan, who was praised in the Soviet press in 1950 for experiments that were said to have revolutionized knowledge about viruses, bacteria, and immunization. Boshyan claimed in 1950 that bacteria and viruses were different forms of the same organisms and could be transmuted into one another, thus challenging the views held generally about the immutability of species since the time of Pasteur and Ehrlich. Matskevich said, in part:

"Experiments have been carried out without sufficient repetition, without the