

times surpass the number of racial complaints. At the same time, activists in now and other women, particularly Congresswoman Martha Griffiths (D-Mich.), began pressing the EEOC to implement Title 7 of the Civil Rights Act as regards sex.

As a result of the pressure, the EEOC this year agreed that sex-segregated job advertising should not be legal. As of Dec. 2, employers cannot list job openings under separate "men" and "women" headings unless they want to risk violating Title 7.

"Sex discrimination can no longer be laughed off so easily," says Mrs. Friedman. Factory women appear to have caught the message.

"**There has** been a real awakening," says Marguerite Rawalt, a Washington lawyer and former president of the Federal Bar Association, as well as the National Association of Business and Professional Women. "They have worked beside men for years watching them earn the overtime and become the supervisors." Labor statistics show that in the past decade, the median yearly income for women rose by \$900, but the income for men went up \$2,000.

Several cases under Title 7 have now reached the courts, where they are running up against state protective codes. Some 44 states have labor laws, dating from the last century, which restrict the hours a woman can work or the weight she can lift (often limited to 25 or 35 pounds).

The laws appear to be invalidated by Title 7 and this year the EEOC makes that clear in its argument filed in support of a California woman. The EEOC argued that Title 7 overrides California's protective codes and the court agreed. Los Angeles District Judge Warren J. Ferguson ruled in September that the Southern Pacific Company violated Federal law by refusing a promotion to Leah Rosenfeld, who had bid for a job as station agent-telegrapher for which she had seniority. The case is the first to be decided, and if upheld in higher courts, it will signal the end of state protective laws.

**Several women** are suing their unions as well as their employers and industry does not mind passing the blame along.

In an Indiana case still pending, the Colgate-Palmolive Company admitted that "for many, many years in our contracts with the union and in our practices, we did have sexual discrimination. Why did we do it? Because the union wanted it that way.

"Colgate couldn't care less whether these jobs were occupied by women or men," said the company's counsel. "We just don't care, assuming, of course, that the job can be performed adequately."

## EARTH AND SUN

### The space board reports

Out of the decade spent so far in exploration of the space near the earth, among the more significant findings is that it is far from the empty void that scientists used to think it. It is filled with subatomic particles, generally protons and electrons. These stream off the surface of the sun, forming the solar wind that flows to the outermost reaches of the solar system.

Surrounding the earth is a sphere of such material, the magnetosphere, which is bound by the earth's magnetic field.

In the magnetosphere, and at its boundary with the solar wind, are many questions, including the number of the particles, how they move and affect the earth's atmosphere and how they relate to the solar wind.

**In the next** decade scientists want to make detailed studies of these and other questions. So advises the Space Science Board of the National Academy of Sciences in the report *Physics of the Earth in Space*, which Board President H. H. Hess of Princeton University has presented to the National Aeronautics and Space Administration.

The report summarizes the deliberations of 31 scientists who met during August at Woods Hole, Mass., under the chairmanship of Dr. Herbert Friedman of the Naval Research Laboratory. He was assisted by Dr. Francis S. Johnson of the Southwest Center for Advanced Studies.

"The past decade," says the report, "has given a tantalizing glimpse of the microscale processes that occur in the magnetosphere, but our knowledge is very incomplete."

What is needed are more detailed measurements, as well as simultaneous measurements that can distinguish between qualities that change as time passes and those that vary with location in space.

Two proposals for getting simultaneous measurements are made. One would provide small subsatellites to the large Interplanetary Monitoring Platforms that are now used. These would orbit at short distances from the IMP.

The second method would be to launch a cluster of satellites into eccentric orbits with the same booster. These would go out to about 75,000 miles from the earth. After launch they would be separated by about 300 miles, and in six months they would spread to about 8,400 miles.

At the other extreme, the scientists recommend satellites with a capability for dipping rather deep into the atmosphere—as low as 75 miles. This would



Navy

*Dr. Friedman: tantalizing glimpse.*

require them to have boosters aboard that could give them kicks to compensate for air drag. The subject here is the structure of the upper atmosphere and the gross, world-wide circulation of the air.

**The other** major target of these observations is the sun, which is the ultimate source of the particles that fill the space around the earth, and of the energy that keeps life, the weather and other terrestrial activities going. Indeed, because of its intimate connection with the earth, the sun is of more interest nowadays to geophysicists than it is to most astronomers. "To an astronomer," says one geophysicist, "the sun is just another medium-sized second rate star."

The scientists want to continue the program of Orbiting Solar Observatory satellites, along with other satellites that specialize in monitoring solar radiation. They endorse planning for a solar probe to penetrate to within three-tenths of the earth's distance from the sun—less than 30 million miles—to investigate the solar wind as close to its source as possible.

Close and continuous watching of the sun, they hope, will compile enough data to determine indices for predicting solar disturbances—sunspots, magnetic storms, solar flares. These occurrences have important terrestrial effects such as enhanced auroras and short-wave radio blackouts. They also present a severe radiation hazard for manned lunar flights.

**How much** of the detailed plan the scientists have presented will be carried through depends on opinion in the space administration and on fiscal considerations and priorities established by the new President and his appointees. The present plan—which goes to 1976—would spend about as much per year on these activities as has been spent in each of the last five or six years, something approaching \$130 million.