

holds the pursestrings. With Democratic control of the Senate strengthened, with the past year's record of occasions on which the White House has withheld funds appropriated by Congress and under the stimulus of protest at the renewed bombing of Vietnam, many members of Congress are up in arms about the constitutionality of the Administration's relationship with the Capitol.

Last week, for example, seventeen senators, including the chairmen of thirteen committees, majority leader Mike Mansfield and majority whip Robert Byrd joined with the state of Missouri in a suit against the Administration which alleges that the withholding of highway trust funds last year was illegal. A federal judge ruled in favour of the state last year, but the Administration has appealed. And a bill has now been introduced by Senator Sam Ervin, chairman of the Senate Government Operations Committee, which would require the President to inform Congress thirty days before any funds are impounded, thus allowing his decision to be overridden.

The debate on the pursestrings is

All Aboard

ONE of the first acts of the 93rd Congress was to appoint Senator Clifford Case to the board of the Office of Technology Assessment and to confirm that Senator Edward M. Kennedy will be the board's first chairman. In addition, Olin Teague of Texas, the new chairman of the House Committee on Science and Astronautics, is expected to be given the place vacated by the departure from Congress of Earle Cabell. Senator Case, a Liberal Republican from New Jersey, replaces Senator Gordon Allott. Allott and Cabell both lost their seats in Congress in the November elections.

The new board is, however, having some difficulty in getting together—all twelve members must be present for the first meeting so that a quorum can be fixed—and the first session is unlikely to be before the end of the month. And it will be April at least before the office gets under way, for the director and staff cannot be appointed until funds are made available by the appropriations committees. Although the bill which established the office authorized \$5 million to start it up, the money will not be available until a supplemental appropriations bill has gone through Congress, probably lumped in with other supplemental appropriations in the spring.

important to science and technology because the Administration is expected to withhold between \$6,000 and \$10,000 million of the money appropriated by Congress for projects in the 1973 fiscal year, now more than half way through (see *Nature*, 240, 247; 1972).

Congress and the Administration are also likely to be at odds over a specific piece of legislation involving science policy—Senator Kennedy's National Science Policy and Priorities Act. Passed last year by the Senate by a vote of 70-8, the bill failed to emerge from the House Committee on Science and Astronautics before the 92nd Congress dispersed. It was, however, introduced again by Kennedy last week, and stands a good chance of passing through the Congressional mill this session. President Nixon would, however, be certain to veto the bill because it calls not only for \$1,800 million to be spent over three years on research and development directed towards domestic problems and on retraining unemployed scientists but also for expenditures on research and development to increase faster than the gross national product.

In the more immediate future, Congress must conjure up an appropriations bill for the Department of Health, Education and Welfare which is acceptable to President Nixon. Although the 1973 fiscal year started on July 1, 1972, NIH and the other agencies in HEW are having to make do with the same level of funding they received last year, because Nixon twice vetoed 1973 HEW appropriations which he considered excessive. Congress can be fairly certain, however, that the Administration will impound any funds which are added on to its 1973 budget request for HEW. The fight for control of the pursestrings will thus be followed with close attention.

NASA

HEAO Shelved

by our Washington Correspondent

THE National Aeronautics and Space Administration announced last week that it has halted work on the High Energy Astronomy Observatory (HEAO) and on nuclear propulsion, that it is phasing out research and development on communications satellites, and sharply curtailing work on nuclear power. These casualties are direct consequences of President Nixon's campaign to hold federal spending down to \$250,000 million this fiscal year, and they indicate that NASA will be particularly hard hit by budget cuts.

Work on HEAO has been suspended for at least a year, while NASA officials study "ways to meet some of HEAO's objectives at lower costs", which is being

interpreted to mean that the satellite has been shelved, at least until the space shuttle is available to put it into orbit. The news has been greeted with bitterness by astronomers, who regard it as perhaps the most important satellite planned by NASA—it has consistently been given the highest priority by the Space Science Board of the National Academy of Sciences, for example.

NASA officials decided to apply the knife to HEAO rather than to other expensive projects for two reasons. Not much money will be wasted if it is scrapped, because the project is only just getting under way, and it is not tied to a launch date because it will be placed into Earth orbit. Only about \$18 million have been spent out of a total estimated cost of \$250 million for the project. Scrapping HEAO will, however, severely stunt the growth of high energy astronomy because although rockets, balloons and small satellites can be used for high energy experiments, heavy instrumentation is required for high sensitivity and resolution. So far, two high energy astronomy satellites have been launched—an X-ray astronomy satellite and a gamma ray astronomy satellite—and another satellite to study soft X-rays is scheduled for launch in 1975. Astronomers are now hoping that some of the experiments planned for HEAO can be flown on smaller and less expensive satellites.

As for communications satellites, NASA officials have decided that they should now be developed by industry. NASA has provided the initial costs of research and development on communications satellites, and the agency will launch the next in the series, ATS-F, in 1974. All work on ATS-G has, however, been stopped.

The decision to scrap research and development on nuclear propulsion and to curtail work on nuclear power systems was taken because "all prospective applications are in the very distant future". NASA in fact decided a year ago to scrap its development of a large nuclear rocket, and to concentrate on a smaller system, but that decision was greeted with some distaste, especially in Congress (see *Nature*, 235, 415; 1972). The decision to scrap all development of nuclear propulsion will, however, be more widely criticized because planetary scientists were hoping that nuclear engines would be capable of taking spacecraft to the outermost planets in the late 1980s. Without the Grand Tour and nuclear rockets, the outer planets are likely to be out of reach at least this century.

Although the cuts announced last week were made to save money in the present fiscal year, they provide some pointers to NASA's plans for 1974. The Viking mission to make a soft landing on Mars is likely to go ahead, for