

Space, recently began another review of space policy in conjunction with the National Security Council. Last July members of the House subcommittee on space science and applications criticized OSTP for giving little guidance or support to Fletcher and NASA. It is no secret in Washington that OSTP's director, William R. Graham Jr., has been at odds with Fletcher on NASA policy. Graham had suffered a frustrating period at NASA just prior to and immediately after the Challenger tragedy when he found himself elevated to acting administrator after James M. Beggs was forced out. Beggs had been indicted in a case involving a General Dynamics contract. When Fletcher was reappointed last year to head NASA—he served before in 1971-77—

one of his first decisions was to remove Graham as his deputy. Their differences became apparent recently on ABC TV's "Nightline" program when Fletcher admitted to Senator John Glenn, the Ohio Democrat who was the first American to orbit the Earth, that he and Graham are effectively out of touch on most space matters. In the circumstance, it is not likely that the Ride report will lead to meaningful corrections that will put the space program on course in the remaining 15 months of this Administration. What some observers believe will happen during this period of internecine warfare between NASA and OSTP is that the Defense Department will dominate the space frontier.

—IRWIN GOODWIN

Washington Ins and Outs:

Musical chairs at NASA and Smithsonian

Since the Challenger shuttle tragedy on 28 January 1986, NASA has experienced about a 60% turnover at its upper management levels. Of 33 NASA offices and other headquarters units that report directly to the administrator, now James C. Fletcher, 21 are headed by new managers since the Challenger explosion.

Musical chairs is apparently one of the games played at NASA's highest reaches. Among the latest changes:

Frank B. McDonald returned in August to NASA's Goddard Space Flight Center, which he left in 1982 to become the agency's chief scientist at headquarters. At Goddard, he is associate director and chief scientist. McDonald, who got a PhD from the University of Minnesota in 1955, taught physics and astrophysics at the University of Iowa before joining NASA in 1959. He was chief of Goddard's high-energy astrophysics laboratory and project scientist for the Explorer satellite series and the high-energy astronomical observatory.

On 22 June, **Noel W. Hinners**, who had been Goddard's director, became associate deputy administrator of the agency's management matters—a new position originated on the recommendation of an internal NASA management study group. In this job, Hinners is boss of bosses over some 22 000 NASA employees at all nine field centers, whose R&D budgets in fiscal 1987 ranged from \$12.5 million at the National Space Technology Laboratories to \$656.9 million at the Marshall Space Flight Center. Upon McDonald's departure, Fletcher named Hinners NASA's chief scientist.

After receiving his PhD in geochemistry and geology from Princeton Uni-

versity in 1963, Hinners climbed the career ladder at Bellcomm Inc, where he eventually headed the lunar exploration department. In 1972 he joined NASA as director of lunar programs, and in 1974 he became the agency's associate administrator for space science. He left NASA headquarters in 1979, striding across Independence Avenue in Washington, DC, to be director of the Smithsonian Institution's National Air and Space Museum. In 1982 he returned to NASA's fold as director of the Goddard Center.

The day Hinners departed Goddard, **John W. Townsend Jr** arrived to direct the center. Townsend had been executive vice president for corporate development at Fairchild Industries, in suburban Washington, DC, but he was no stranger to NASA or to Goddard. After getting an MA in physics from Williams College in 1949, he began working at the Naval Research Laboratory. He left in 1958 when his branch, which was responsible for the Navy's troubled Vanguard Project, shifted to the newly organized space agency. Townsend was appointed chief of NASA's space science division. A year later he became assistant director for space science and satellite applications at Goddard, and in 1965 its deputy director. In 1968, he was named deputy administrator of the Environmental Science Service Administration in the Commerce Department; when ESSA was absorbed into the National Oceanic and Atmospheric Administration in 1970, Townsend was appointed associate administrator. He ended 30 years of government service in 1977 to go with Fairchild, and he returned to NASA after only a decade.

Anthony J. Calio left the Commerce Department's National Oceanic and Atmospheric Administration in September to become senior vice president for management and operations at Planning Research Corp, a consulting firm in McLean, Virginia. Calio, who did graduate work in physics at Caltech in the mid-1950s, was a nuclear physicist at Westinghouse's Atomic Power Division and American Machine and Foundry before he joined NASA in 1963. Until 1984, he held a variety of jobs there, including deputy associate administrator for space science and associate administrator for space and terrestrial applications. He went to NOAA in 1985.

The Smithsonian Institution's National Air and Space Museum, which attracted some 9 million visitors last year, also attracted a new director on 17 August when **Martin O. Harwit** came on board. Harwit, an astrophysicist, was chairman of the astronomy department at Cornell University from 1971 to 1976, as well as professor of astronomy and codirector of the History and Philosophy of Science and Technology Program. Born in Prague, Harwit earned a PhD in physics from MIT in 1960. In the following decade he established research groups at the Naval Research Laboratory and Cornell that built the first telescopes cooled to liquid helium temperatures. These were launched by rockets to detect infrared radiation above the Earth's atmosphere.

Next 1 January, **Robert Hoffman**, director of the Smithsonian's National Museum of Natural History, will become the institution's assistant secretary for research—an important post for oversight of such research facilities as the Smithsonian Astrophysical Observatory (operated jointly with Harvard University) and the Smithsonian Environmental Research Center, as well as the organization's Office of Fellowships and Grants. Hoffman succeeds David Challinor, who served in the job for more than 20 years.

A zoologist who got his PhD from the University of California at Berkeley in 1955, Hoffman taught and served as associate and acting dean of arts and sciences at the University of Kansas until he was appointed director of the Natural History Museum last year. He has considerable experience in international science policy, having served on the US-USSR Joint Commission on Science Policy for the National Academy of Sciences between 1974 and 1982. Earlier, from 1970 to 1975, he was a member of the NAS advisory committee on the USSR and Eastern Europe. Hoffman speaks and reads Russian.

—IRWIN GOODWIN □