[HEW] in the way that he could in a university. Since our principal competition for good scientists is in the university, this would very seriously damage our ability to compete."

One very high official of the National Institutes of Health, who is not a member of the career board, reiterated that apprehension in a conversation last week:

"This doesn't make a long-range career in government seem very attractive. It won't make much difference to the people who won't get beyond GS-15. But it's likely to drive out the best people. You'd be exposed to shifts in Administration, and, as a man gets older, he may begin to wonder. A lot of our guys are offered [university] chairmanships with faculty tenure, you know."

Although a grandfather clause in the FES plan allowing incumbent supergraders to remain under the present system would delay the impact of FES, the career board gloomily predicted that within a decade the changeover could "mean the virtual end of high quality science programs in the department and [would] make impossible real careers in science for our outstanding scientific leaders within the department."

Of seemingly equal concern to a variety of research directors would be the abolition under FES of "unrestricted" hiring of scientists and engineers qualified for supergrade rank. Since 1962, Congress has allowed agencies to hire and promote researchers without regard to quotas it set on supergrade hiring. Several high-level administrators, who asked to remain anonymous, said they feared that, under the FES, an agency head would be likely to treat research as a dispensable luxury when faced with the choice of hiring a man for a research job or a man for his own staff and still stay within his allotted manpower budget.

By way of rebuttal, CSC's Berlin says the scientists' fears may seem plausible but that experience doesn't support them. As for unrestricted supergrade hiring, he maintains that this privilege, as a vestige of Congress' less thrifty days, may not survive long anyway. He insists that renewable contracts will neither jeopardize job security nor oblige career men to "curry favor with the political guys" around renewal time.

"For a scientist to say that he'd have to curry favor is a self-denigration of the principles of science," Berlin said in an interview. "It conflicts with what

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Non-Race in Space

The competitive reflexes of congressmen, it appears, have become as dulled to space spectaculars as those of the American public. The Soviet Union's latest—and seemingly most ambitious—venture into space late last month has stirred barely a ripple of concern on Capitol Hill, despite the prospect that Russia may establish a manned laboratory in near-earth orbit 2 years before the United States.

This is not to say that interest in the space race has vanished altogether. In a floor speech on 29 April, Senator James B. Allen (D-Ala.) found the dual mission of Soyuz 10 and the unmanned workshop Salyut "extremely alarming." Senator Allen said he wondered whether the nation had forgotten the "tremendous shock we faced in 1957 when Sputnik went beeping around the world to give us warning that another country was challenging our position of technological leadership."

But the spirit of one-upmanship in high technology has long since diminished. And to a Congress that has seen fit to limit the scope of the nation's antiballistic missile system and to block funds for a supersonic transport in the face of Russian competition, three cosmonauts and a small laboratory circling the earth did not, as one staff member of the House Science and Astronautics Committee put it, "amount to another Sputnik."

Certainly there was little evidence that Salyut signaled a major leap of space technology. Both the three-man crew aboard Soyuz, and the Salyut they intended to board, seemed plagued with problems from start to premature finish. Difficulties with telemetry from Salyut, which preceded the crew into space, apparently delayed the mission by nearly a month according to Agence France Presse. (The AFP is said to have become an increasingly reliable source of such information since the warming of Franco-Soviet space relations.)

Once in orbit, rookie cosmonaut Nikolai Rukavishnikov experienced what he later called ". . . unpleasant feelings as the result of increased blood flow to the head." Then during their second day in space, having docked with but not boarded Salyut, the cosmonauts turned abruptly back to earth.

The mission's brief duration suggests that it was aborted, and so does the timing of reentry: Soyuz 10 dropped out of orbit at the earliest possible time on the second day that allowed a landing on Soviet territory, despite the necessity of making the first nighttime landing of the Soviet manned space program. As it was, a gust of wind at the last moment of parachute descent reportedly was all that kept Soyuz 10 from plopping ignominiously into a lake in Kazakhstan.

Salyut and Soyuz "probably achieved their most limited objectives, but fell short of all that was hoped," says Charles S. Sheldon, II, the chief of science policy research at the Library of Congress and a veteran observer of the Soviet space program (U.S. space officials used similar language to describe Apollo 13, which succeeded chiefly in that the crew survived). But perhaps the aspect most disappointing to the Russians was the fact that Soyuz 10's troubled mission coincided with the fourth anniversary of cosmonaut Vladimir Komarov's death in the crash landing of Soyuz 1.

Despite their setbacks, the Soviets have talked consistently about building stations in space and ultimately using them as points of departure for exploring the moon and planets, Sheldon says.

But the Salyut appears to be only a preliminary step toward such a station. Weighing about 50 tons—a figure based on the estimated lifting capacity of its Proton booster—Salyut comes equipped with four docking ports and has about 1400 cubic feet of living space.

By this description, Sheldon says, Salyut is probably a modest counterpart of the American Skylab—an orbital workshop "too expensive to call make-

I've always thought a scientist to be. Would a guy who's a good manager of research prostitute himself every 3 years like that?"

Fixed tenure would expedite the weeding out of inadequate managers and researchers, but the unrenewed contract would be a rarity, he said. As evidence, Berlin notes that half of all supergraders have 16 years of civil service behind them at the time of their elevation from GS-15, and that nearly 70 percent rise to GS-16 within the same agency—all implying that an employee's competence would be thoroughly demonstrated by the time he became a candidate for the FES.

A third major complaint about FES is its seemingly indiscriminate lumping together of "pure" researchers, "pure" administrators, and all shades in between. But CSC contends this arrangement would help scientists "go to the top" as researchers or as managers, and to ply back and forth between the roles with ease.

"It's hard for scientists to see this," Berlin says. And indeed it was for the Committee on Federal Laboratories, an arm of the Federal Council for Science and Technology made up of about 40 laboratory directors. The committee is said to have asked the White House last summer to find some way of singling out researchers and exempting them from the FES.

Six days after the President proposed his reform in February, Representatives Thaddeus J. Dulski (D–N.Y.) and Robert J. Corbett (R-Pa.), who has since died, introduced the plan in the House. Senators Hiram L. Fong (R-Hawaii) and Gale McGee (D–Wyo.) followed suit late last month and have scheduled hearings for this week.

Despite this burst of senatorial activity, the Federal Executive Service is likely to languish in Congress for many months. Dulski, and his powerful Post Office and Civil Service Committee, are said to be "cool" toward the President's bill and "skeptical" about many of its provisions. Congressional sources say the committee has ignored the CSC's request for hearings and is likely to continue until a task force created by the employee benefits subcommittee finishes developing a job-ranking system applicable to the full range of civil service, including the supergrades.

Since the task force deadline is 10 months away, the prospect of civil service reform is likely to rankle the federal research community for at least that long.—ROBERT GILLETTE

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shift, but meant mainly for proof of concepts."

America's Skylab, capable of sustaining three men for up to 56 days, is scheduled to be launched from Cape Kennedy in late April 1973. Formerly called the Apollo Applications Program, it is intended to follow the last moon-landing mission in mid-1972. Space agency officials hope that experience gained from Skylab will lead toward building a large, permanent space station at the turn of the decade to house a dozen men at first, and later to accommodate 50 to 100 scientists and crewmen for months at a time. Such a station would be supplied by reusable space shuttles, the development of which is currently a point of controversy (*Science*, 12 March).

Now under construction, the Skylab is being fashioned from the cylindrical third stage of a Saturn-5 rocket. When equipped with an elaborate cluster of solar telescopes, a two-port docking mechanism, and an airlock, the 118-foot-long workshop will weigh 90 tons and contain 12,700 cubic feet of habitable space.

Skylab is expected to remain in orbit for at least a year, circling the earth at an altitude of 270 miles. During its first 8 months in space, three successive teams of astronauts will ride in Apollo capsules to and from the lab at 1- and 2-month intervals to conduct biomedical, earth-resources, weather, communications, and astronomy experiments.

Since Skylab is more or less locked into a construction schedule, congressional observers see little chance for Salyut to affect the program's pace—even if Soviet fortunes were to improve during a rumored second try at boarding the workshop this month. (How long the Soviets will keep trying isn't known. Shortly after Soyuz landed, Salyut boosted itself to a higher orbit and postponed its reentry into the atmosphere until mid-June.)

Soviet success could, however, help lubricate congressional passage of President Nixon's 1972 budget request for Skylab of $535.4 million. Further attempts to work with Salyut may also influence a decision Congress has yet to make on the use of a backup Skylab. On 1 April, well before the Soviet exploit began, the House space committee tacked an extra $45 million on the 1972 Skylab request, earmarking $15 million to study the feasibility of using the extra lab to extend the program and fill a potential hiatus of 4 years between the end of Skylab I and the launching of a permanent space station.

Traditionally, the Senate space committee has declined to cooperate with its House counterpart in exceeding White House requests. But enough of the old Sputnik reflex may remain in Congress to make the difference this year.—R.G.

Whaling Farewell

The American whaling industry will exist no more following a ban by the Interior Department which prohibits the taking of all whales on the Endangered Species List of the Environmental Protection Agency as of 31 December. On the list are the sei, finback, and sperm—the only species sought by American whalers—plus bowhead, blue, humpback, right, and gray whales.

Affected by the order is America's last whaling company, Del Monte Co. of Richmond, California, which has three whaling vessels and has been taking fewer than 200 beasts a year—for fine machine oil and pet food.

The Commerce Department has already prohibited the importation, as of the end of the year, of any whale products, which means no more sperm oil, no more whale meat for Tabby, and no more scrimshaw—decorative articles made from carved whales' teeth or whalebone.

Whaling has not been much of a business in the United States since the early 1920's when whaling operations off the New England coast ceased. Japan and Russia, followed by Norway, are the world's only major remaining whalers.—C.H.