

The dismantling of the astronaut corps: Some questions

What is currently occurring at NASA's Manned Spacecraft Center (MSC) illustrates poignantly a criticism frequently made of NASA and, as frequently denied: NASA is too oriented to machines and not enough to people and to science. The question asked is whether NASA has been able to make the most creative and most effective use of all its personnel.

Astronauts—men who have sat atop a Saturn 5 rocket—are being asked to find other jobs. About a third of the 45 active astronauts have been so approached. Two, James B. Irwin of Apollo 15 and Edgar D. Mitchell of Apollo 14, announced last month they were retiring. The implication is that, at least, in their cases, they wanted to leave. Others, however, have also been asked to find jobs, and have been given a few more months. A few with seniority, when asked, said they would not leave.

The situation is complex, but the reasoning of MSC is not: Cuts in the space program have required a reduction in personnel. Donald Kent Slayton, head of the astronauts' training, explains: "We have too many guys to fly the missions that are left." The astronaut corps is being reduced to the ones that have been assigned to Apollo 17, three Skylab flights and the joint docking mission (SN: 6/3/72, p. 356).

"The problem is not what is happening to a group of space heroes or prima donnas," says one observer. "It is with the way NASA has viewed the role of the astronauts and the job they were to do. It is a close-ended instead of continuous career."

Training an astronaut takes enormous time and money, but the end product is a man with multidisciplinary skills in pilotry, engineering and science. His expertise is unique and not readily transferable. With the exception of a few astronauts who quit early in the program, all readily say that their jobs have been (and are) "a fantastic experience," one they were lucky to get, and one they would

accept again even if they were fired tomorrow.

The nature of the training is not the problem. It is how to use them once they have been trained. The current conception is mission-oriented. An astronaut flies, then he is through. His task is viewed as a once-in-a-lifetime shot rather than a life-time commitment that NASA could use—one way or another—with the shuttle, with earth resources, or in management. "If a guy is making a useful contribution, whether he is going to fly or not," says one astronaut who is staying, "use him. Don't count the number of couches left [seats in space] and turn him out to pasture." This sentiment is shared: "My main criticism is that NASA takes careers from everyone of us without replacing them. It's like being tossed in the garbage can."

"All of us—pilots and scientists alike—came here with what now appears to be an ill-conceived picture of how NASA would use us," another who is staying told SCIENCE NEWS. "The pilots thought they would be able to maintain their skill in test-pilotry. The scientists thought they would be able to stay current in science, provide expertise in their own discipline while getting trained." It has not turned out that way. "We found ourselves put in a homogeneous group with no particular attention given to our expertise. The idea is to learn to fly a spacecraft and if you make a flight, then you are through, and if you don't fly, you are through. Then you start over again in the career you dropped 10 years ago, or find a new one."

What should be done with a man who has been or could have gone to the moon? This is a problem NASA appears not able—in some instances—to deal with. On the other hand, the men themselves develop a certain elitism that makes it difficult for them to adjust. After their training, most other jobs tend to lack apparent challenge.

The astronaut corps is being reduced. The logical next question is, will it be built up again, with all new people, when the shuttle becomes operational?

Getting technology to the states and cities

Last year, an ambitious cloud-seeding project attempted to alleviate a severe drought in Florida. In New York, a new electrical switching system is expected to significantly reduce housing construction costs. A county in Michigan is seeking ways to use municipal sewage for fertilizer.

These are all examples of public technology—technology applied to the goals and needs of civil governments. Unfortunately, according to two reports issued this week, such examples are few. For a number of reasons, state and local governments are making little use of science and technology, though they are faced with a widening spectrum of problems, such as pollution control and housing needs, that require scientific knowledge and judicious application of technology. The reports, one prepared by the Council of State Governments and the other by the Federal Council for Science and Technology's Committee on Intergovernmental Science Relations, agree that

much of the blame for this lack rests with the Federal Government.

The Federal Government currently spends \$17 billion a year for research and development; combined expenditures of all 50 states amount to less than two percent of that amount. But the Federal Government makes little effort to disseminate the results of research to the states or to include state and local government representatives in planning research projects. The irony is that much of the federally funded research is applied to problems that are basically the responsibility of state and local governments. "The assumption has been," says the CSG, "that Federal agencies can design innovative approaches to housing, transportation, or health care that fit the settings of 50 states."

For their part, state governments simply don't have the resources to fill the need for public technology by themselves. States do not have the funds to hire the large numbers of professionals needed, nor can they offer the benefits, such as opportunities for advancement and job mobility, that would attract scientists and technicians.

To fill the gap, the CSIR recommends that the White House Office of Science and Technology name a Federal agency to make sure that the views of state and local governments are incorporated in national policy decisions bearing on state and local needs and to help state and local governments develop and coordinate their own science and technology programs. Federal agencies should try to identify possible public technology applications of their research and development programs. A task force established by the FCST would survey state and local governments to determine which problems should receive priority. Other recommendations include intergovernmental exchange of scientific and technical personnel, joint Federal-state-local research projects, and a central data bank.

The CSG is more specific in its recommendations and would place a greater share of the burden on the Federal Government. The National Science Foundation, says the CSG, should create a Public Technology Task Force composed of state, local, Federal and industry representatives.