

Rockfest 12 and Other Symptoms

"Want a prediction?" said one of the 600 participants in the five days of Rockfest 12 last week. "In three years, 40 percent of these people will be out of the business."

The Rockfest is not a marathon of heavy-metal guitar players, roadies and record-pluggers, and "the business" is not music. It is planetary science—the study of planets, moons, meteorites, cosmic dust and the origins of the solar system—to whose practitioners "Rockfest" is the unofficial name for the Lunar and Planetary Science Conference, held every year at the National Aeronautics and Space Administration's Johnson Space Center in Houston ever since the Apollo 11 astronauts brought back their first precious moonrock samples in 1969.

It has been a bleak time for planetologists, with cuts in the NASA budget leaving many of them uncertain about where their tomorrows are coming from. Since the Mariner 2 spacecraft opened the interplanetary gates with the first successful visit to Venus in 1962, researchers and NASA officials point out more and more often these days, there has never been a span of more than 12 months during which some U.S. probe was not providing new data about another world. But following Voyager 2's flight past Saturn in August, there will commence a "data gap" of half a decade or more, which no amount of budget-patching can reduce. Only the Pioneer orbiter circling Venus and the Viking 1 lander on Mars, most of whose major goals are already behind them, are in positions to provide even limited data during that time, and the gap could be even longer if Voyager 2 malfunctions before it achieves its hoped-for rendezvous with Uranus in January of 1986. A U.S. flight to comet Halley at about the same time would take a last-ditch budget shuffle in the next few months to become reality, and the Galileo orbiter-and-probe of Jupiter and a proposed Venus-Orbiting Imaging Radar spacecraft (if, again, it survives the budget process) will not reach their objectives until the late 1980s.

"To continue the science," said JSC planetary division chief Michael Duke at the Rockfest last week, "you need new sources of data." Duke's demeanor when making such comments is rather less cynical than that of the grim predictor quoted above, but he is as aware as his colleagues of the crunch. In the case of earth's much-studied moon, for example, he notes that the limited data on lunar seismology have "just about been mined out," and feels that even the moonrock samples themselves are beginning to draw less interest from the scientific community than are meteorite studies with implications for the solar sys-

tem's earliest days. A proposed Lunar Polar Orbiter mission to provide global remote-sensing data about the moon faces a future about which "uncertain" would be considered an optimistic appraisal.

One Rockfest attendee related how half a dozen of his long-term space-program associates are transferring almost en masse to jobs with Exxon, and a high-ranking scientist on the Voyager team (fresh from the startling data about Jupiter and Saturn) has remarked at least half-seriously about a possible future in oceanography. Some space scientists are motivated more by interest in their professional field, such as petrology, than by the particular allure of distant planets, says Arden Albee, chief scientist of the Jet Propulsion Laboratory, so they look for the best places to exercise their skills. Several years ago, Albee says, many petrologists who ended up in planetary research might instead have gone into pollution studies, except that "pollution never developed as a substantial funding base." Some of the geologists and others who did go into space studies amid the flash of the Apollo program, he adds, left it a few years ago when "plate tectonics came along and got them re-excited about the earth." And there are still other factors contributing to what one Rockfest researcher called the "looming planetary brain-drain." "A lot of the guys who came into the moonrock program," says Albee, "were about 25 to 30. If you add 10 to 15 years onto that, you come to 'midlife crisis'—time for a change."

Rockfest 12 was far more than a mere occasion for gloomy prognostications, however (despite several participants who wondered how many more such meetings there would be). In recent years, the conference has evolved from a moonrocks-only gathering into an exercise in comparative planetology that last week also featured full sessions devoted to meteorites, Venus, Mars, Jupiter's Galilean satellites and the even icier moons of Saturn. But clustered around the time of



J. M. Beggs:
NASA's head?
Where's NASA
headed?

the Rockfest were other events that seemed to typify the flux in which the U.S. space program now finds itself.

On March 12, only four days before Rockfest 12 began, Soviet cosmonauts Vladimir Kovalenok and Viktor Savinykh were launched aboard the Soyuz T-4 spacecraft, a marked improvement over earlier designs, and a day later docked with the waiting Salyut 6 space station, making them the 16th crew to visit the facility. On March 23, three days after the Houston meeting ended, two more Soviet spacemen, Vladimir Dzhaniibekov and Jugderdemidiyn Gurragcha (the first Mongolian cosmonaut), docked their Soyuz 39 craft with the station to join their comrades in orbit. No U.S. astronauts have been in space since the binational Apollo-Soyuz Test Project of 1975, and at the Rockfest even some scientists who have looked upon manned space flights as expensive publicity ploys that divert money from planetary research could be heard citing the numerous cosmonaut flights as evidence of the flagging U.S. effort in space.

The U.S. space shuttle, now awaiting its maiden flight from Kennedy Space Center's pad 39A in Florida, is hoped to represent a turnaround, and its NASA mentors believe that it will. Its development has been a troubled one, however, plagued with underfunding and technical difficulties that have delayed it some two and a half years from its originally anticipated launch date. Last week (on the Rockfest's fourth day), yet another mishap occurred, and though it was expected to delay the launching only slightly, it cost the life of only the fourth person ever to die from an accident aboard a U.S. spacecraft (three astronauts were killed in 1967 in a fire during an Apollo groundtest). On March 19, a group of technicians entered a compartment around the shuttle's main engines for a checkout following a test. The compartment turned out still to be filled with nitrogen gas (used to inhibit fire around the time of engine ignition), and one of the group, John Bjornstad, died while another was left in critical condition. An investigation of the matter was begun, though launch teams continued to work toward an early April liftoff.

The shuttle matter, cosmonaut flights, budget-slashings, Rockfest and more all occurred with NASA literally headless, following the Jan. 20 resignation of administrator Robert Frosch. During the Rockfest, a report appeared that General Dynamics executive James M. Beggs had been nominated for the job, with Air Force Secretary Hans Mark as his deputy, though White House confirmation had not been announced by SN's deadline. Questions have been raised in recent months about the possibility of NASA becoming dominated by military and industrial influences to the detriment of science, but all the Rockfest participants could do was wonder. □