

A REPORT ON THREE DAYS IN NOVEMBER

IMAGINE A TWO-WEEK vacation at Hotel Orbiter, conveniently located midway between the popular Sea of Tranquility and crowded Earth. The hotel spins leisurely around its own central docking hub. You can have an early-sunlight dip in the bubble swimming pool suspended by electrostatic force. For recreation there are also games and dances adapted to various levels of gravity.

These were possibilities suggested by J. Ray Gilmer, vice-president of Varo, Inc., Garland, Texas, at the National Conference on the Management of Aerospace Programs held November 16-18 at the University of Missouri.

A profit motive viewpoint might be the key to retrieving some of the costs of the space program, Gilmer said. The major stumbling block in developing space for industrial and medical research, manufacturing and tourism is the cost of getting there and back. "The cost can be very greatly reduced by expanding what we now know about space transportation," he said.

"There are some manufactured articles in which the transportation cost—even at today's rate—is small compared to the value of the product." Any product manufactured in a sterile environment, such as antibiotic drugs or microelectronic circuits, might be manufactured economically by remote control in space, Gilmer said. "Think how much less it will cost to build a huge factory in space, using only cables to hold the walls together.

"Individuals with paralytic conditions and those with burns and trophic ulcers due to pressure could be relieved by weightlessness," he said.

THE CONFERENCE, one of the American Astronautical Society's national meetings, was co-sponsored by the University of Missouri's Space Sciences Research Center, the School of Business and Public Administration, the Department of Industrial Engineering and Extension Division, and by the Cost Effectiveness Section of the Operations Research Society of America, in cooperation with the Air Force Systems Command and the National Aeronautics and Space Administration.

More than 300 persons attended, including representatives from Canada, France and Germany. Gleanings from some of the 30 papers read during the three days show that speakers were also concerned with the less romantic aspects of aerospace investigation.

■ Assistant Secretary of the Air Force Robert H.

Charles told participants that a new step taken last year treats development and production as one, and awards the contract for an entire program on the basis of competition at the outset.

■ John Fisher, of TEMPO, Santa Barbara, California, stated that further developments are needed before computers can approach their full potential as tools for management of aerospace systems. Natural English as the language of communication between man and machine and direct access to the computer are required if alternatives are to be tested and evaluated promptly.

■ Peter K. Hatt, of NASA's Lunar and Planetary Program, told how a work-breakdown structure early in the Voyager program has been helpful in defining the coverage and application of management systems.

■ Professor Donald C. Carroll, of the Massachusetts Institute of Technology, indicated that through the use of shared computers, with numerous terminals or operators keeping the machine's information base constantly updated, it may be possible for segments of the aerospace industry to make "superhuman" decisions within the next three years. "On the commercial end," he said, "we can't afford the time it takes the user to think."

■ J. Schmissrauter and Ann Somol, of Douglas Aircraft's Manned Orbital Laboratory in Huntington Beach, California, stated that ground rules are being laid out to help solve the complexity of interrelations between associate contractors, the procuring agency and other government agencies.

M.U.'s SPACE SCIENCES Research Center, established in 1964, is supporting and encouraging space-related research at the University of Missouri. On the Columbia campus, research centers on environmental physiology, bioenergetics and photobiology. The Columbia staff is also administering a multi-disciplinary research grant from the National Aeronautics and Space Administration and is cooperating on projects with industrial and non-profit organizations and with the National Science Foundation, the Atomic Energy Commission, and the Department of Defense.

The Research Center at the School of Business and Public Administration is currently doing a NASA-supported research project to ascertain the cost structures of clustered versus dispersed research facilities, with implications to be used for evaluating public investment decisions. □