plated number of satellites will not be flown. And primarily because of budget problems, a midstream appraisal of the 8-year program and its funding is in progress. The cynosure is the Large Astronomical Satellite (LAS). LAS is planned as a satellite, mounting a telescope, equipped to do high-resolution spectroscopy in space and other experiments as well. Cost of the total project, by a recent estimate, could be as high as $170 million, which in the eyes of some makes it too costly for ESRO under current circumstances.

Adjustment of the ESRO budget was one subject of discussion at the Rome meeting of the European Space Conference in July. The conference is now a permanent body with membership open to any nation which belongs to ESRO, ELDO, or CETS. A prime reason for the formation of the conference is a wide and growing conviction that Europe must find a way to coordinate space policy. There were hopes, prior to the meeting, that some sort of unification of space organizations would be achieved at Rome, but it was decided that amalgamation was, at this point, impractical.

The major outcome of the meeting was appointment of the committee, referred to above, which was commissioned "to frame proposals for the establishment of a European space policy" and to report at the end of the year. The committee is headed by the highly respected Jean-Pierre Causse, head of the major French space research laboratory outside Paris.

With the fate of LAS in doubt, many ESRO partisans are perturbed because they feel that a big project is needed if ESRO is to maintain its momentum. The organization has had good results with its sounding rocket program, and in the first launching of an ESRO satellite (ESRO II) last spring the payload functioned well, although the shot was marred by the failure of an upper stage of the NASA-launched and usually reliable Scout rocket. But with decisions on the budget and on the future of LAS hinging on the Causse committee report, ESRO is nagged by uncertainty.

Some questions about the future role of ESRO also need to be answered. ESRO until now has been primarily an agency providing technical services and support for university scientists who prepare actual experiments. As experiments grow more complex, more work will be done in ESRO labs and by industry. And there is also the question of applications. ESRO was asked by the satellite communications conference (CETS) to make a study on how a satellite applications program should be organized. That report was submitted, and CETS then asked ESRO to work out the details. If ESRO were asked to carry out the resulting R & D program, this would add a new dimension to its tasks, to the probable pleasure of the ESRO engineers and chagrin of at least some of the scientists.

Although ESRO has its troubles, these are certainly not unrelieved. Perhaps the most encouraging development of the last year has been the assumption of responsibility for overall space policy by governmental representatives with ministerial rank. That is what formation of the European Space Conference denotes.

Another boost for morale has been the recent election of Hermann Bondi as director general of ESRO, to succeed Pierre Auger, now in his late sixties. Bondi, professor of mathematics at Kings College, London, and a fellow of the Royal Society, is one of the originators of the steady-state theory of the universe. He has long been interested in international cooperation in science, and observers think his election bodes well for ESRO unity and for the health of its research program.

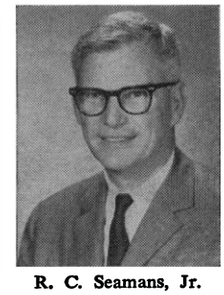
In assessing ESRO's troubles it should be noted that, in international organizations, difficulties—particularly budget difficulties—sometimes appear so serious because they are so public. In national programs, comparable troubles are often quietly adjusted.

A crisis may also have a salutary effect, as the experience of ESRO's near relation ELDO shows. A little more than a year ago there was such a serious dispute over plans and money within ELDO that the British foreign office announced that Britain was pulling out of the organization. ELDO was then engaged in building a launcher with nothing specific in view for it to launch, and the program had developed considerable drift. As a result of the crisis, support levels of the various member countries were changed and the program was altered so that ELDO launchers would be tailored to specific ESRO payloads. ELDO acquired the sense of purpose it had lacked. It may not be too much to hope that ESRO will profit similarly from adversity.

—JOHN WALSH

APPOINTMENTS

H. E. Newell



R. C. Seamans, Jr.

Homer E. Newell, associate administrator for space science and applications, NASA, to associate administrator of NASA, filling the position that has been vacant since December 1965, when **Robert C. Seamans, Jr.**, was promoted to deputy administrator on the death of Hugh Dryden. Seamans recently announced that he is resigning the position of deputy administrator to return to private life, effective 1 January. **Edgar M. Cortwright**, deputy associate administrator for space science and applications, has undertaken the position of acting associate administrator for space science and applications, until a replacement for Newell is named. No replacement has yet been named for Seamans. . . . **John J. Pruis**, vice president of Western Michigan University, to president of Ball State University. He will succeed **John R. Emens**, who is to retire. . . . **A. Curtis True**, director of clinical research, medical research division, The Squibb Institute for Medical Research, to associate director of the Institute, and director of the medical research division. . . . **Robert K. Quinnell**, supervisor of the aerospace medicine program, Office of the Air Force Surgeon General, to director, Office of Medical Relations, Pharmaceutical Manufacturers Association. . . . **Loy L. Sammet**, director, Giannini Foundation of Agricultural Economics and chairman of the department of agricultural economics, University of California, Berkeley, to vice chancellor-research on the Berkeley campus. . . . Brigadier General **Richard M. Scott**, USAF, chief, Nuclear Plans Section, SHAPE Headquarters, Paris, to deputy assistant to the Secretary of Defense (Atomic Energy). . . . **Ronald S. Rivlin**, L. Herbert Ballow University Professor, Brown University, to director, Center for the Application of Mathematics, and Centennial University Professor, Lehigh University.