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## Ground Rules for Space Research

The newly formed National Aeronautics and Space Administration is now seeking in its organizational set-up the way of wisdom between two extremes. On the one side is the extreme of no central organization, which could mean that all participating laboratories find themselves conducting variants of the same experiment; on the other side is the extreme of complete organization, which could mean that the effort to discover the best way to conduct a given experiment results in very few experiments getting underway. Where lies the golden mean?

The new agency was established by Congress as part of the answer to criticisms of research and development as previously conducted by the armed services. According to critics, the armed services together with the Department of Defense produced a set-up that managed the singular feat of erring in both directions at once. Competition among the Army, Navy, and Air Force resulted in wasteful duplication, while the Defense Department's efforts to control duplication resulted in costly delays.

To avoid some of the shortcomings of earlier programs, the Space Administration appears to be planning to conduct a strong research program within its own facilities—this in addition to directing through outside contracts a broad range of efforts by research groups in universities and industry. Besides giving it the advantage of being able to initiate its own projects, a strong house program will enable the agency to give more effective direction to its outside research. To direct outside research, the Space Administration should have a staff of talented scientists upon whom, in conjunction with its special advisory committees, it can call for advice. Scientists being what they are, the opportunity for creative work that a house program affords would bring to the agency men of a higher caliber than it would otherwise be able to obtain.

Since the major strength of the earlier efforts in space research lay in the armed service programs, the new agency will look to this source both for individual scientists and for working groups. Opposition by the armed services is strong, and the services feel the most justified in those areas in which they have been the most farsighted. So far the new agency has had mixed success. One large transfer of personnel to the Space Administration was a group of approximately 150 scientists who had been engaged in the Vanguard program of the Naval Research Laboratory. A second transfer was the Army's Jet Propulsion Laboratory at Pasadena, California, which is operated by California Institute of Technology. However, the Space Administration also wanted to acquire the Army Ballistic Missile Agency at Huntsville, Alabama, with its staff of 2000 scientists under Wernher von Braun, but President Eisenhower has permitted the Army to keep control.

Detailed plans for the organization of research in the Space Administration have yet to be completed, and it would seem that the form they finally take will depend in part upon further developments outside the agency. The over-all problem is whether the earlier dispute over what properly belongs to the Army, Navy, and Air Force will now be replaced by the dispute over what is properly military and what civilian. The hope is that in place of rivalry we shall, with these new protagonists, now find cooperation.—J.T.