60-centimeter telescope will be equipped with four complementary and versatile focal plane instruments, which will permit imaging, photometric, spectroscopic, and polarimetric observations. Consortia of national scientific institutes, in close conjunction with ESA, are already building these instruments, which will be delivered to the Agency for launch and operations in orbit.

It would seem that in the area of infrared astronomy after IRAS, the Europeans are now building what Rieke *et al.* are dreaming of.

R. M. BONNET
Scientific Programme,
European Space Agency,
8-10, rue Mario-Nikis,
75-738 Paris Cedex 15, France

Response: We welcome Bonnet's letter and thank him for bringing to the U.S. scientific community a more complete picture of the capabilities of the Infrared Space Observatory (ISO) than we presented in our article. Astronomers on both sides of the Atlantic have recognized the scientific importance of the infrared band and the tremendous gains that can be made with modern infrared detectors on cooled telescopes in space. These gains are vividly demonstrated by the Infrared Astronomy Satellite (IRAS), surely a dramatic advance in the exploration of the universe.

Within this country, the importance of a coordinated program to exploit these unparalleled sensitivity gains was recognized in a recommendation in 1974 by the Space Science Board that NASA proceed with the Space Infrared Telescope Facility (SIRTF) promptly after IRAS. The National Academy of Sciences' study on priorities for astronomy in the 1980's, the Field report, was written on the assumption that SIRTF would move ahead early in this decade. Unfortunately, this assumption has proved incorrect.

When the proposal for ISO was made by the European Space Agency (ESA) in 1979, attempts were made to join the two projects, but these attempts foundered for a variety of reasons. The SIRTF team has continued to explore this issue, most recently at the International Society for Optical Engineering (SPIE) conference in November 1985. At that time, the uncertain schedule for SIRTF appeared to make collaboration impossible.

Detailed descriptions of both projects were presented in a joint ISO-SIRTF session at that conference, available as *SPIE Proceedings*, volume 589, "Instrumentation for optical remote sensing from space." It was apparent from these presentations that SIRTF will be much more capable than ISO in sensitivity, image quality, and pointing stability; ISO was described by members of its team as an intermediate step between IRAS and SIRTF. Nonetheless, ISO will be a powerful facility for more detailed study of many IRAS sources. Given the richness of the infrared sky revealed by IRAS, ISO can be expected to make additional discoveries not anticipated in IRAS. However, SIRTF will be required to answer many of the scientific questions posed in our article.

The performance that ISO will ultimately achieve will depend on the rapidity with which European engineers and infrared astronomers assimilate the requisite technology and adjust the plans for ISO to accommodate it. In a field pioneered for many decades in the United States, it is with some regret that American astronomers must now step aside while ESA has the first pick of the exciting and tantalizing IRAS findings.

GEORGE RIEKE*
Steward Observatory,
University of Arizona, Tucson, AZ 85721

*For the SIRTF Science Working Group.