It would seem to me that better research designs would be formulated, better information collected, and more use made of that information if all field research abroad, and probably much of the secondary research as well, were conducted in full partnership with the governments, institutions, or nationals of the countries that are the subject of the research. This should extend to defining the purposes, designing the methodology, collecting and analyzing the data, and interpreting the results. The further we move in this direction, the fewer fiascos like Camelot we will have, and the more valid and productive our research will be. Finally, the more partnership efforts of this sort we undertake, the more widely will other nations come to adopt scientific and engineering approaches to economic and social problems.

SAMUEL P. HAYES
Foreign Policy Association,
345 East 46 Street, New York 10017

Photocopying and the Journals

Parker's interesting observation (17 Sept., p. 1325) on the high percentage of foreign, compared with domestic, subscriptions to his journal does not entirely support the inference that "Americans do not, by and large, read publications," or sustain the suggestion that American scientists should "spend more time reading and less writing." In many, if not most, scientific disciplines, there are far more scientists outside the United States than there are inside the United States. Even so, it is possible that uninhibited and widespread photocopying by a significant minority of American scientists is already showing its effect on domestic subscriptions to scientific journals and on reprint sales. It is also just possible that our overseas colleagues recognize more clearly that the tempting rationale "Why buy it when we can photocopy it and nobody will know?" could wipe out many scientific journals and could make the publication of many books impossible. Is the time ripe for organized American science to formulate a code of ethics for all scientists to live by with respect to photocopying of scholarly publications?

LYLE LODWICK
644 Charles Street Avenue,
Towson, Maryland

Indian Ocean Expedition

McElheny's article "Effects of the Indian Ocean expedition" (27 Aug., p. 957) omitted two matters of interest concerning this impressive exercise in international collaboration.

First, with respect to the scientific justifications for the expedition, some mention should be made of the Indian Ocean as a model of the world ocean. It is generally accepted that the major circulation of the surface layers of the ocean is essentially wind-driven. Thus, a picture of systems of currents related to the prevailing winds, the location of boundaries, and the rotation of the earth has arisen—western boundary currents such as the Kuroshio and Gulf Stream, eastern boundary currents such as the California, Peru, and Benguela Currents, and the zonal currents of the West Wind drift and the equatorial current system (including the recently discovered equatorial undercurrents of the Atlantic and Pacific). The Indian Ocean is like the other oceans in having meridional boundaries and in being located on a rotating planet. It differs, however, in the seasonal reversal of the surface winds, the so-called monsoon system, and physical oceanographers recognized the importance of examining a system where their wind-driven models could be tested by observing conditions under opposite regimes of surface wind stress. This feature of the Indian Ocean was a powerful attraction to physical oceanographers, and several important results of their work can already be identified. They have found, for example, that an equatorial undercurrent is present despite the absence of a westward wind stress along the equator, but the current differs in several ways from those of other oceans; that a major but temporary western boundary current, the Somali Current, is developed along the Somali Coast during the southwest monsoon, with surface speeds in excess of 6 knots; that at the same season intense upwelling develops off northern Somalia, with the lowest surface temperatures occurring anywhere in the world in such proximity to the equator.

Second, with respect to the origin and operation of the expedition, mention should be made of the Scientific Committee on Oceanic Research (SCOR), and greater recognition given to the roles of UNESCO and of the Intergovernmental Oceanographic