Table 1. Average annual rainfall in inches. The data were provided by the Empresas Públicas de Medellín and Pato Consolidated Gold Dredging, Ltd.

Average rainfall (inches)			Total decrease (%)
1942–51	1952–57	1958–67	
Medellín			
59.1	56.5	46.7	21
El Bagre			
178.2	157.0	135.9	24

at least 2000 square kilometers in which man has little altered the vegetation during the past 26 years. El Bagre, on the other hand, is in the lowlands (elevation 76 meters), about 200 kilometers northeast of Medellín, and in an area in which, during the same period, vast tracts of rain forest have been felled.

Although rainfall at both stations has decreased dramatically, the ultimate cause is not known. It may have been produced by widespread felling of rain forests in Colombia and neighboring countries, although this remains unproven. On the other hand, it may be cyclical and unrelated to the rain forest. Whatever the cause, the effect in Antioquia, at least, seems regional. Should the decrease be widespread throughout the continent, the consequences could seriously retard the development of the tropical Latin American countries, as implied by Portig. Studies should be made in and around the Amazon basin (i) to see if the rainfall decrease observed in Antioquia is widespread, and (ii) to determine precisely what effect on rainfall, both local and regional, the destruction of the rain forest produces so that necessary measures can be taken by the respective countries to preserve these forests.

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Gold Drain and Brain Drain

As an international National Institutes of Health postdoctoral fellow from Peru (Cayetano Heredia Peruvian University), I was much interested in Abelson's editorial, "International medical research and gold drain" (26 Jan., p. 381). I am grateful to my American sponsor institutions (NIH and the Commonwealth Fund), to my present and former advisers, and to the American taxpayer for having provided me with an opportunity to receive training in my specialty for the past 3 years. The congressional policy of meat-axing the NIH international programs, although perhaps a necessity in view of other foreign commitments, will nevertheless greatly affect scientific research abroad. In previous years, all former NIH international fellows had the opportunity to obtain, on a competitive basis, a modest grant of $7500 for 3 years. This economic support was important to the initial development and continuation of research programs in our home countries. Now such economic support is, under current fiscal policy, no longer available. The net effect will be that individuals living in less affluent countries who possess research interests but lack domestic funds to support their programs will migrate to other countries (for example, the United States) where research funds are more readily available. Hence, decreasing the gold drain (slightly, but not substantially) will also increase the brain drain.

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Results of Research Survey

The following are the results of my survey on a study of justifications offered by scientists for continued federal support of basic research (Letters, 19 Jan.). Of the 65 respondents, 40 were academics, 14 were in government, and the remainder were in research institutes and industry. Of these, 25 were life scientists; 11 were chemists; and the rest were divided among physicists, psychologists, mathematicians, and geologists. Since many voted for more than one of the five categories listed, the total number of votes is greater than the number of respondents. The justification most often cited was category (ii), the utility of science as the basis of technological development, with (i), the intellectual and cultural contributions of science, a close second: 36 votes to 33. The justification of research's contribution to graduate education (iii) drew 15 votes, while research costs (iv) and political contributions (v) each drew six. A few respondents gave different answers depending on whether they were thinking intellectually or politically. Thus ten people who placed (ii) first nevertheless said that (i) would be their personally preferred justification.

Despite the small sampling, one conclusion is suggested—that scientists live with a bifurcated tension situation; that is, they want science to be supported for its cultural value, yet they recognize that public patronage is given largely on a utilitarian basis. Therefore, we may expect always to have some degree of disagreement between scientists' views and the views of legislators and governmental executives of what science support policy ought to be. Mutual understanding must be continually sought, even if never totally achieved.

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Summer Systematics Institute

Under the title "Systematics workshop" (9 Feb., p. 659), Schopf and Ames have described the summer institute held last summer at the Smithsonian Institution. That institute was the fulfillment of efforts by many people in the biological community, including the National Science Foundation's division of biological and medical sciences, the Air Force Office of Scientific Research, the Smithsonian Office of Systematics, the Society for Systematic Zoology, and the American Society of Zoologists.

The American Society of Plant Taxonomists, encouraged by the success of the 1967 institute which emphasized zoological systematics, plans to convene a summer institute for botanical systematists 24 June to 12 July 1968 at the Smithsonian Institution. A panel of distinguished botanists will lead the 3 weeks of discussion, ranging over the entire field of systematics from its philosophy to its techniques to its teaching. Each morning an outstanding botanist will present current concepts in his area. Afternoons will be free so that the institute participants can use the collections of the U.S. National Herbarium in their own basic work in plant systematics.

The Smithsonian Office of Systematics will distribute applications and a selection committee of the ASPT will choose the 25 participants, using the same general criteria outlined in the letter of Schopf and Ames.

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