in the continued use of Alvin resulted in requests for more than 1300 dives in the 1994 and 1995 field seasons at sites around the globe.

Remotely operated vehicles (ROVs) and autonomous underwater vehicles (AUVs) have developed to the point where they can be used as superb fine-scale imaging and mapping tools. The high-resolution data acquired by ROVs make it possible, for the first time, to completely image patterns and relationships created by biological and physical processes on a local scale (meters to kilometers). Rather than diminish Alvin's productivity, these vehicles can enhance it by creating a well-constrained framework into which a manned submarine can be placed to maximize its unique potential.

The challenge now is to devise an investigative strategy that best integrates the complete range of deep submergence assets available to an interdisciplinary research community. A long-term, programmatic commitment is necessary to ensure the continued development of deep submergence facilities and the implementation of a wide range of scientific experiments that will increase our understanding of the physical and biological processes of the deep ocean.

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The Future of IBM Research

Although IBM's physical sciences department is undergoing difficult and painful change, the comments made by David Freedman in his article "A clouded future for IBM research" (News & Comment, 23 Apr., p. 480) exaggerate the complexities that often accompany transitory periods. Freedman does not discuss the many new avenues being pursued by IBM Research to maximize their effectiveness in the parallel worlds of science and technology. A striking example is the Joint Study Program where, during these times of shrinking resources, IBM remains strongly committed to collaborative research efforts with other institutions.

When I left IBM Research in 1992 (for personal and career reasons and not, as implied in the article, because of a decrease in funding), senior IBM manager Stephan von Molnar was eager to formally establish a joint research program with the University of California at Santa Barbara. This relatively new interaction on the physics of novel nanostructures has already enjoyed considerable success—both parties have actively contributed to results that would have been difficult if not impossible to have achieved independently. In addition, IBM has supported students who are being trained in modern experimental techniques for technologically important areas, such as optical and magnetic spectroscopies in semiconductor structures.

The desired goal is being realized when IBM employees leave the company to join academic institutions, yet continue collaborations with IBM. Far from indicating "moral devastation" (a phrase I did not use), these new strategies for research are consistent with hope for and belief in an exciting future.

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Strangers in the Woodpile

In my 76 years, I have seen the ascribed causes of various diseases drift and flicker like smoke from Indian summer fires. I