COVER

Masked booby (*Sula dactylatra*) adult on Christmas Island, Republic of Kiribati, central Pacific Ocean (12°N, 157°W). The booby was one of 18 species of tropical marine birds resident on the atoll whose breeding was temporarily terminated and whose populations disappeared during the 1982–83 El Niño Southern Oscillation. See page 713. [Ralph W. Schreiber and Elizabeth Anne Schreiber, Natural History Museum, Los Angeles County, Los Angeles, California 90007]

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The Graduate Curriculum

In this country, the graduate curriculum is determined primarily by departmental and disciplinary requirements designed to produce the most advanced researcher, scholar, or practitioner in a given discipline. As a consequence, the graduate curriculum is viewed as a series of disparate programs held together by a minimum number of programwide requirements. Recent national reports on the status of graduate education suggest that the graduate curriculum today may need to address issues and problems that cut across disciplines and that are not usually embraced by primarily discipline-oriented programs.

The issue before us is what should the future doctoral recipient look like after 4 to 6 years of intensive graduate study. If we look at industrial research laboratories, we note that they are being staffed increasingly by multidisciplinary research teams. We have heard from many corporate executives that their research laboratories require creative and flexible researchers with training from several fields. The coupling of organic chemistry and computer science to model the geometry of molecules is but one of many examples. We observe also the increasing convergence of separate disciplines into multidisciplinary areas such as biotechnology, the cognitive and decision sciences, and the neurosciences, all of which cross traditional departmental boundaries.

The Northeastern Association of Graduate Schools, a group of 90 graduate institutions from Maryland to Maine, has made some suggestions for modifying the graduate curriculum to respond to these developments. They include four principal changes.

The adoption of a cohesive minor for doctoral students would stress linkages among disciplines and prepare students to embrace research challenges from converging branches of knowledge and technology. This requirement might be assessed by comprehensive examinations following completion of the minor.

A new seminar focusing on the process rather than the products of inquiry could be required for all doctoral students during the early stages of their programs. Researchers from different disciplines, describing how they frame and execute their research, might provide students with alternative perspectives for approaching specific disciplinary research projects and possibly break some of the paradigms perpetuated under a strictly discipline-oriented curriculum. The advancement of the arts, humanities, and sciences might take some new and perhaps more coordinated directions as a result of such an approach.

A didactic short course focusing on the ethical, governmental, and legal forces that shape and influence research and scholarship could also be included in doctoral programs. The current issues surrounding the conduct of human and animal experimentation, the management of hazardous research materials, intellectual property rights, technology transfer, and close examination of the specific ways in which research and scholarship contribute to society could be systematically presented and examined.

Finally, the doctoral dissertation defense could be expanded to test systematically a candidate's ability to communicate the specific research project to a broad scholarly audience to show the implications of the research for other disciplines. This requirement would stress the broadening of the conception and communication of a research project.

The discussion of programwide requirements for the graduate curriculum has not been focused since the debates many years ago over retaining language requirements or substituting more timely technological skills. Such a discussion is long overdue. It may also be of value to consider the different disciplines as a part of, rather than apart from, a more unified graduate curriculum while still promoting excellence in given areas of specialization.—ROBERT B. LAWSON, *Dean of the Graduate College, University of Vermont, Burlington 05405*