

P R E F A C E

In Western Europe and North America, higher education, while highly valued and acclaimed by all, faces great challenges at the millennium. Therefore, the academic community and its leaders must take stock of its present status, explore the challenges of the future, and evaluate promising initiatives to meet these challenges. Recognition of these needs was the motivating force for the colloquium that convened at Glion, Switzerland, in May 1998.

Two fundamental views define the overall nature of the challenges. One view, held by David Saxon, president emeritus of the University of California, is that universities benefit greatly from stability and by and large can follow a deliberate evolutionary path in making adjustments in their academic enterprise. Unlike industry, which made major changes in virtually all its activities and in many cases has even reinvented itself, universities are too precious an institution to take risks in possibly following the wrong beacon.

A second view, which informed most of the discussion at the Glion Colloquium and is expressed in the papers of this volume, is much more activist. It considers higher education to be in need of taking major affirmative steps so that it can effectively pursue teaching and research and significantly contribute public service in a rapidly changing world.

Virtually all the papers in this volume reflect a sense of urgency in the light of commonly perceived crisis conditions. One reason is that significant parts of higher education have been rather static in a dynamic world. This assertion is especially valid in relation to teaching, which in most instances has not undergone a major change in the 50 years since the end of World War II. Until recently, use of blackboards and chalk has been common and teaching

style has remained traditional. This state holds even for law schools, at a time when legal research has been computerized and has changed in important ways. While research in the physical and biological sciences in universities has made great strides, as it has in industry, greater efforts could be made to connect the university to industry, without compromising the integrity of the university.

Adjustments must be made, and it was in this spirit that the Glion Colloquium explored what promising initiatives higher education, and especially research universities, might creatively pursue. Underlying the Glion Colloquium's deliberations and papers is a view that the status and future of higher education is best explored by the following three sequential undertakings:

- Articulation of the values and academic mission of institutions of higher education
- Definition of credible scenarios of the general environment in which these institutions are likely to find themselves when seeking to fulfill their academic mission
- Development of initiatives to allow these institutions to achieve their mission

As to academic values, universities in Western Europe and North America have much in common. There is virtually universal agreement that a learning society is based on individual initiative assisted by the social, economic, and political environment provided by government. Within this setting, extension of human knowledge is largely based in academic institutions.

The mission of universities comprises a moral obligation to contribute to the intellectual, cultural, and economic betterment of society in general. For public universities, this is also a legal obligation, directed in part at the betterment of conditions in their country and region.

To meet this obligation, universities must strive to contribute to the discovery of new knowledge, and to instill an appreciation of the value of the pursuit of knowledge. In doing so, universities contribute to both the intellectual vitality and the economic well-being of society; produce educated citizens; train the next generation of leaders in the arts, sciences, and professions; and (particularly in the United States) actively engage in public service activities that bring faculty knowledge and research findings to the attention of citizens and industry.

Contributions to knowledge and to the economic well-being of society are accomplished chiefly at the graduate/professional level; production of educated citizens is accomplished chiefly at the undergraduate level; and production of future leaders of society, encouragement of productive interactions among persons of diverse backgrounds, and appreciation of the value of the

pursuit of knowledge are accomplished at all levels. Provision of lifelong learning opportunities is also a major obligation.

Defining credible scenarios of the future educational environment involves a number of issues. They include large increases in the number of students to be educated; increasing demand for different forms of higher education and for institutions that will meet these demands; the use of new information technologies in teaching, research, and library services; the need to supply greater financial resources to support higher education; the evolution of new subjects for teaching and research; and the globalization and internationalization of higher education.

Finally, there is the challenge of identifying and perfecting future promising initiatives. In a narrow sense, these initiatives must increase the productivity of universities while preserving, and even extending, their level of excellence. Specific initiatives to improve productivity can have two positive aims—to expand the amount and quality of educational services provided without increasing cost, and to make the services provided more effective. The first strategy increases the size of the higher education pie; the second allows serving more students from a pie of a given size. The initiatives can be either internally or externally directed, either value laden or predominantly technological fixes.

A few examples of such initiatives include novel intellectual alliances within the university and new partnerships outside it; novel funding sources; new structures and flexible career paths; new patterns of governance, leadership, and management; distance learning; lifelong learning; and improved integration of teaching, research, and public service.

It was neither possible, nor even desirable, for a three-day colloquium to be all inclusive in the subjects covered. It had to be selective. Thus, the Glion Colloquium and this volume, except for its introductory chapter, focused on some key topics, each addressed by a distinguished leader in higher education. A brief overview of each chapter follows.

In the first paper of Part 1, "Missions and Values," Luc E. Weber uses a survey of all colloquium participants to present the major challenges facing higher education at the millennium. The two papers that follow examine education goals and values. David P. Gardner considers how higher education and its values evolved in the United States. In this connection, he offers his view of how American society and its values have undergone changes, particularly in the last 150 years. Paolo Blasi traces the history of European universities and their evolving values as articulated in the 1997 Association of European Universities statement on "The European Universities in 2010."

In Part 2, "The Effect of the Changing Environment on Higher Education," three papers examine the environment that higher education is likely to face in future years. James J. Duderstadt presents two sharply contrasting future

environments confronting higher education, while Stanley O. Ikenberry focuses on the information revolution's likely impact on the university. Harold M. Williams examines the economics of higher education.

In Part 3, "Meeting the Challenge," a number of papers address specific initiatives. These initiatives can be grouped as addressing funding, alliance building, governance, and technology. Thus, Werner Z. Hirsch, recognizing the difficulty higher education faces in obtaining funding adequate for fulfilling its mission without raising tuition, explores a variety of unconventional funding sources. The following four papers focus on promising opportunities for forming alliances between institutions of higher education, especially research universities, and industry. Papers by Hans J. A. van Ginkel, Peter Preuss, and Dennis Tsichritzis probe ways for research universities to enter into mutually beneficial partnerships with industry and, at times, with government agencies. Heide Ziegler describes a novel venture of a new private university dedicated to working with industry in educating and training information scientists. Howard Newby undertakes the task of examining the many facets of the governance of higher education, a topic of such importance that the next colloquium will focus exclusively on it. Charles F. Kennel explores the challenging task of applying information technology to what is often considered the heart of any great university—its library. Finally, Alan Wagner offers insight into lifelong learning together with some empirical information.

While all the papers are future oriented, the three papers in Part 4, "The University of the Future," are particularly so. Jacob Nüesch takes aim at Western Europe, while Chang-Lin Tien and Frank H.T. Rhodes speculate mainly about the future of American higher education.

The Appendix reproduces the Glion Declaration—"The University at the Millennium"—which was issued immediately following the colloquium. In it, at the request of the members of the Glion Colloquium, Frank H.T. Rhodes gave expression to their collective views.

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We thank the William and Flora Hewlett Foundation, the Swiss Science Agency, the Federal Institute of Technology in Zurich, the University of Geneva, the Swiss Rectors' Conference, the Geneva Academic Society, and Swissair for their generous financial support. We are also indebted to the Association of European Universities in Geneva, which kindly put Mrs. Mary O'Mahony, Deputy General Secretary, at our disposal for the full length of the Glion Colloquium.

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