G8-Unesco World Forum
"Education, Research and Innovation"
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Plenary Session I: University, Research Institutions and Industry

Introduction by the Chair

This session is about bringing universities, research institutions, and private industry together in a new alliance for innovation and development. That is much more easily said than done. Indeed, it is one of the most demanding and complex, but also one of the most important challenges of our time.

These brief introductory comments will deal with the nature of this challenge, and will set the stage for the major addresses that will form the core of this session. My comments will deal, in the form of several theses, with both the difficulties and the opportunities of the relationship between universities and industry, between institutions of knowledge creation and institutions of knowledge utilization.

1. Successful innovation in knowledge-based economies requires both competition and cooperation. This is true for the world of universities, where only cooperation in research can make universities competitive, and for the world of industry, where companies need to learn from one another at the same time as they compete with one another.

2. Cooperation between universities and industry is not merely a matter of organizational arrangements, nor just a matter of physical proximity, even though both are important. Even more important than physical closeness and organizational linkages is a considerable degree of cultural affinity – which means that industry and universities have to share certain cultural norms in order to join forces for innovation: norms such as the value of entrepreneurship, the acceptance of risk and experimentation, the tolerance of failure, the critical role of achievement, the importance of institutional autonomy and independence, and mutual respect among different partners. In many parts of the world, universities and industry are far from having reached this degree of affinity.

3. Traditional research cultures in universities are often characterized by individual approaches to research; the nature of knowledge creation in modern societies, however, requires cooperative research habits and a commitment to team work.

4. Cooperation between universities and industry is often hindered by mutual suspicion and distrust: universities distrust industry on account of its profit

orientation – industry suspects universities of living in an ivory tower. Clearly, much of this is due to ignorance about one another, but also to different institutional cultures and values.

5. Universities *can* be effective agents of innovation and entrepreneurship in society at large. That requires, however, that they are innovative and entrepreneurial *themselves*: Only innovative universities can contribute to innovation among their partners in business and industry. Only entrepreneurial universities can effectively cooperate with enterprising partners in industry and business.

6. Universities may need to undergo major structural changes in order to facilitate cooperation with industry: The structure of discipline-based faculties – still a prevailing model in higher education – relates poorly to the problems of the real world which just don't do us the favor of organizing themselves along the lines of traditional disciplines. There may be, for example, a need for certain types of professional schools that combine interdisciplinarity and an orientation towards applied knowledge – for such fields as public health, environmental protection, human settlements and transportation and, indeed, education. Such professional schools can also serve as particularly congenial structural vehicles for the interaction between academia and industry.

7. The notion of the professorship as an independent and autonomous entity is not easily compatible with the notion and practice of academic entrepreneurship. Professors are not born entrepreneurs.

8. As my own and others' research has shown, Silicon Valley in California serves as an instructive example for the symbiotic relationship between a knowledge-based, innovation-oriented industry and an entrepreneurial, experiment-driven system of higher education. Among other things, it also shows that immigrant talent has played a major role in many successful joint ventures between research and industry: Well over half of the leading scientists and engineers in Silicon Valley were not born in the U.S. Making use of that resource, however, requires the acceptance of diversity and the willingness to understand, appreciate, and respect cultural differences.

9. There is a serious danger in the close cooperation between university and industry: the search for truth and the search for profit are not always and easily compatible: Universities need to maintain and nourish a critical discourse on the dangers that are inherent in the close proximity of the search for knowledge and the search for profit.

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