At the close of the twentieth century, higher education is facing a series of strong, sometimes contradictory pressures that will transform the two major missions of the university—teaching and research. On the teaching side, these pressures will be resolved by a new distinction between knowledge and information, between “knowing how” and “knowing about.” This change will be accompanied by a strong alignment of graduate educational offerings with the needs and interests of working professionals, with a special emphasis on certifying competence in selected areas. This distinction will also foster a new commitment to offering broader perspectives that enable people to deal with complexity and uncertainty, act with wisdom, build powerful social relationships, and practice the skills of entrepreneurship. Digital media and Internet communications will transform learning practices from the sequential classroom curriculum to nonlinear hyperlearning environments. A new kind of teacher will
emerge—the teacher who is a course manager and a coach rather than an information transmitter.

Private, for-profit organizations will offer educational services, especially brokerage services, often in competition with the universities; some universities will disappear because they cannot adapt. On the research side, a new social contract will be struck among universities, business, and government. University research will take on new roles. The two most notable will be partnerships with companies in applied research and research that leads to greater learning, to distinguishing the dross from the essential in all the information offered to us. Research will not wither for lack of funding, for universities will become entrepreneurial in finding sponsors. These new alignments will bring a new spirit of freedom and entrepreneurship that will kindle a renaissance of higher education. This renaissance will eventually spread to high school and secondary education.

Irresistible forces and immovable objects

For education at the end of the twentieth century, it is the best of times and it is the worst of times. More than ever, people see education as their great hope to help them overcome poverty, find good jobs, change careers, and live meaningful and fulfilling lives. At the same time, they are becoming more demanding with consumerist expectations: they want university faculty to be experts on all frontiers of knowledge, states of the arts, and histories of how things came to be as they are; they want more counseling and coaching, fewer large classes, and less bureaucracy; they want greater assurance that graduates will have practical skills and be rapidly employable; they want a broad education as citizens; and they want lower costs.

This paradox has been brought about by the explosive spread of information technology, which is changing people's practices of work and relationships and their expectations and hopes for education. The world's weekly production of over one billion microchips quickly finds its way into products everywhere. The ubiquitous microchip has spawned new markets that no one even imagined in 1990; it is birthing a new age of plenty, new market forces, and new political alignments. Through the CD-ROM, the cable TV channel, the modem, and the Internet, the microchip challenges the book, the library, and the classroom, offering new access to knowledge just in time to overcome the turmoil of the obsolescence it creates. Private businesses and educational brokerages are beginning to offer for-profit educational services. Traditional schools, colleges, and universities are having enormous problems coping with the changes.