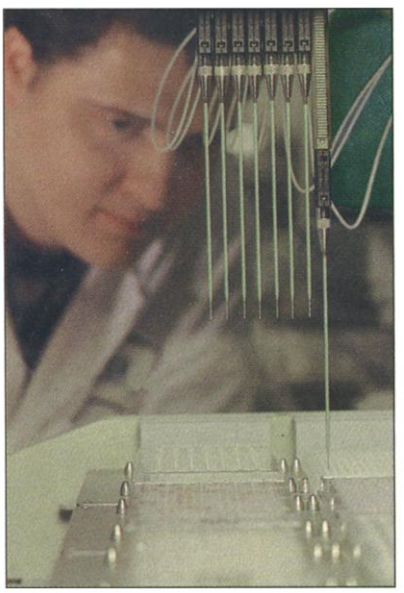
University-Industry Partnership

Universities and private industry in the United States currently enjoy a partnership in biomedical research whose extent and variety would have been difficult to imagine 30 years ago. The partnership has so far enjoyed the confidence of the public, to whom it has brought substantial benefit. That confidence may be in jeopardy, however, unless academia and industry can define acceptable terms for the partnership, both with respect to the institutions and to the individual scientists involved.

Until the 1980s universities pursued basic biological research, with little interest in its commercial import, while industry developed drugs, using mostly chemistry and classical pharmacology. The advent of the biotechnology industry, arising from university research in molecular genetics and biology, changed the landscape, leading to an active interchange of ideas and personnel. Much of the innovation in the pharmaceutical industry now occurs in biotechnology companies, often based directly or indirectly on ideas generated by university scientists.



The relationship was further fostered by the Bayh-Dole Act of 1980, which encouraged universities to license discoveries made with federal funds to private industry. Today, all major research universities have a technology transfer office; many actively participate in incubators and/or venture funds to help faculty members convert their discoveries into companies; some even take equity in these companies. In a separate development, current health care economics, along with the Balanced Budget Act of 1997, have pushed hard-pressed clinical departments to seek funds for research through closer relations with industry. Several academic medical centers have now set up clinical trial organizations specifically designed to carry out clinical research contracts for private companies.

Without doubt, the new partnership between academia and the private sector has been good for Americans. In 1999, technology transfer from universities to industry contributed $38 billion to the economy, creating over 300,000 jobs and forming hundreds of new companies. Clinical trials sponsored by industry now drive much of evidence-based medicine, with academic scientists setting important standards for excellence and objectivity. Companies benefit from the collaborative discoveries and expertise of those in academia; universities benefit from financial support from industry and from the technology and knowledge generated by focused, highly capitalized industrial research.

In spite of its undoubted benefit, industry-sponsored research presents several significant problems for universities. For example, it is not the cash cow that many suppose. In general, companies pay for research that benefits them and their shareholders, not for the undirected curiosity-driven research that is at the heart of the academic enterprise. Furthermore, for the relationship between universities and industry to succeed, each must recognize their fundamentally different cultures and core values. For universities, the free and open communication of research results is essential to the goal of expanding knowledge. For companies, the protection of proprietary information is necessary to the ultimate goal of financial return.

Much of the pressure of this cultural disparity is focused on university scientists, whose obligations and responsibilities are often unclear and vary widely between institutions. We suggest that this question needs national attention by both academia and industry, with the goal of defining broad standards of best practice. The standards should be clear, easily understood and easily explained to the general public. Several recent cases of apparent conflicts of interest have been widely publicized, raising serious questions in the mind of the public about the proper relationship of university scientists to industry. A national consensus conference, with all interested parties represented, could clarify the issues and set normative bounds. Failing this, we run the risk of unwelcome legislation, or much more seriously, the loss of confidence by the public in the integrity and objectivity of academic research. Nothing could be more disastrous for universities and, ultimately, for industry as well.

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