Commodification, Intellectual Property and Copyright

Commodification

Commercialisation fosters and promotes the transfer of knowledge generated through research to benefit the wider community and to contribute to the development of knowledge-driven economies. Important issues in commercialisation include who bears the cost and risk of commercial development, and how involved perceivably objective scientists should be, when financial reward is linked with academic success. This falls against a back-drop of the ‘triple helix’ partnership among universities, government, and industry. The distinction between “blue-sky” and applied research plays an important role for both funders and the scientists undertaking research.

Calls for change in the relationship among science, enterprise and state originally came about following the energy crises of the 1970s and the recession of the 1980s. These calls originated firstly from the government, and secondly industry, when science and technology were seen as providing a solution to the economic and resource issues of the time. By strengthening the relationships and feedbacks among all three stakeholders, it was believed applied science could be more rapidly brought to the fore for economic and social gain. The new focus on applied research with short-term measurable outputs comes at the cost of more basic ‘curiosity driven science’ where clear goals or applications are not immediately apparent.

An important issue in the discovery and commercialisation of research is what role the university should play. Historically universities were autonomous, self-defined and self-sustaining with determination by scientific peers of what does and does not constitute science and truth. In contrast the modern university relinquishes peer control over the direction and content of research programmes, and instead is characterized by interdisciplinarity with task-force teams of experts driven by the primacy of social and economic problems.

The commodification of academic research is a complex phenomenon that can be described in different ways. In a narrow sense commodification is identified with commercialization, that is, the pursuit of profit by academic institutions through selling the expertise of their researchers and the results of their inquiries. This definition evidently covers an important aspect of commodification, but it also overemphasizes the role of the academic institutions themselves. From a broader perspective, academic commodification is part of a comprehensive and long-term social development. This development is often described as the economization, or economic instrumentalization, of human activities and institutions, or even entire social subsystems. In this wider and more appropriate sense, academic commodification means that all kinds of scientific activities and their results are predominantly interpreted and assessed on the basis of economic criteria. Since real-world patterns are never a matter of all or nothing, it is important to keep in mind that commodification implies the dominance of economic criteria, and not their absolute prevalence.

Hans Radder, The Commodification of Academic Research

Intellectual Property

Intellectual property (IP) refers to creations of the mind, which can be either patented (industrial) or copyrighted (artistic). Inventions and trade secrets are protected primarily to stimulate innovation, design and the creation of technology. The social purpose is to provide protection to the results of investment in the development of new technology, thus giving the incentive and means to finance ongoing research and development activities. This is particularly important because of the rising costs of undertaking advanced biological research. Protection is usually given for a finite term.

The importance of protecting intellectual property was first recognized in the Paris Convention for the Protection of Industrial Property in 1883 and the Berne Convention for the Protection of Literary and Artistic Works in 1886. Both treaties are administered by the World Intellectual Property Organization (WIPO). A functioning intellectual property regime should facilitate the transfer of technology in the form of foreign direct investment, joint ventures and licensing.
At the centre of the debate over intellectual property rights lies the distinction between knowledge in the scientific commons and that which should be protected. Protected intellectual property is not available in its entirety for independent scientists to build upon. Whereas patents protect knowledge, scientific papers place it in the public domain. Finding the balance between protecting science and placing it in the commons, and at what stage of the knowledge development this should occur, are important issues.

**Biodiscovery**

Biodiscovery, also known as bioprospecting, is the search for new and useful biological compounds and mechanisms from naturally occurring organisms. In many cases the biodiscovery relies on traditional knowledge guiding scientists to the chemical or biological compound. Because the distribution of wealth and biodiversity is not equal, biopiracy can occur when a substance is exploited for commercial gain without permission or adequate compensation to those who might claim intellectual property rights.

An early classic case-study in biodiscovery comes from the 1950s when studies revealed that *Catharanthus roseus* (Madagascar Periwinkle) contained many biologically active alkaloids. Although native to Madagascar, the plant had been widely introduced into other tropical countries. This meant that researchers could obtain local knowledge from one country and plant samples from another. The use of the plant as a cure for diabetes was the original stimulus for research, but cures for cancer were the most important results.

Justification for bioprospecting relies upon utilitarian consequentialism of the end benefits, but virtue ethics argue against the unpermitted use of another culture without compensation. Although biodiversity and most ethnobiological information lies in the public domain, this raises issues of intellectual property, such as at what level of biological organisation and manipulation should patenting occur, and how should traditional knowledge custodians be compensated?

**Further Reading**


