

Parallel Session 27: Cultural Differences in Public Understanding of Sciences

**PUBLIC PERCEPTIONS OF SCIENCE, AS REFLECTED IN THE
CONDUCT OF LEGAL INSTITUTIONS**

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Abstract

Legal institutions support and impede science and technology, thus they mirror the general public at large. In the future, legal institutions will face more issues involving science and technology. To handle those issues effectively, scientific and technological literacy in the legal community is required. Proponents of science and technology should strive to foster development of technical literacy in the legal community. Legal institutions possessing greater scientific literacy will create a legal environment more conducive to effective science and technology. Those institutions are also likely to influence the public to develop more realistic perceptions of the value of science and technology.

Key Words: law, science literacy

Text

Courts, legislatures, regulatory agencies, and other legal institutions now commonly rely on science and technology as they perform their public interest functions. For example, courts and law enforcement authorities now widely use forensic science and technology to resolve criminal cases. DNA testing is one example of a set of scientific and technological principles and techniques that is commonly applied by legal institutions in their ordinary course of business. Legal authorities also now routinely make use of computer simulation and modeling technologies to analyze cases and to present cases in court.

Science and technology now play critical roles in the development and enforcement of regulations that comprise administrative law. Standards for environmental quality, pharmaceutical product safety and efficacy, and food quality are widely recognized examples of science and technology applied by government to establish and enforce regulatory law. Regulations identifying threats to public health and safety, and those that establish standards of enforcement to control the threats, rely on science and technology as the key components supporting and sustaining the framework of regulations.

Although legal institutions now actively use and rely on science and technology to serve the public interest, those institutions also reflect uncertainty and fear as to

certain aspects of science and technology. For example, in some jurisdictions, legal limitations have been imposed on genetically modified organisms, including food products. Some governments have established legal constraints on research associated with human cloning. Authorities have also begun to consider potential limitations on other developing technologies and fields of research, such as nanotechnology.

It appears that legal institutions have an ambivalent view of science and technology which mirrors the ambivalence felt by the general public. Just as the public is eager to make use of the benefits and advantages afforded by advances in science and technology, so too are legal institutions active consumers of those advances. Simultaneously, however, both the general public and the legal community harbor concerns that occasionally surface as fear of science and technology, and their consequences. That there is consistency between the perceptions of science and technology held by the legal community and those held by the general public should not surprise us, as our legal institutions are populated by ordinary citizens. However, the implications of legal community ambivalence as to the potential impact of science and technology are significant.

Legal institutions affect the conduct of science and the development of technology through direct regulation. For example, in the United States, research involving human cloning has been significantly constrained by law. Actions of the legal community can directly impede scientific inquiry or technological development in specific fields. Law also controls topics such as intellectual property rights, research and development funding opportunities, and conflicts-of-interest, which have significant impact on technical initiatives. Thus, legal institutions frequently exert direct influence over activities in science and technology.

Legal institutions also exert indirect influence over public acceptance of science and technology. Legal institutions are commonly perceived to be conservative entities, thus for example when they choose to acknowledge or accept a scientific concept (e.g., DNA identification) or technology (e.g., electronic filing systems for court documents and other legal records), that acceptance generally enhances the credibility of the concept or technology in the eyes of the general public. Similarly, when legal institutions question or reject a scientific principle or technology, that action can significantly erode public confidence in the principle or technology.

Given this relationship between legal community acceptance of science and technology and general public support, proponents of science and technology should have an interest in cultivating legal community understanding and support for science and technology. A key step in cultivating support for science and technology in the legal community is promotion of scientific and technological literacy in the legal community. At present, the level of technical literacy in the legal community appears to be quite low. This condition is not surprising, as backgrounds of legal professionals, with a few exceptions such as intellectual property law specialists, do not commonly include significant technical training or experience. In the future, however, technical literacy will likely be increasingly

important for the legal community, as a growing number of the issues that community will face will have significant scientific and technological components.

The science and technology communities would thus be well served by working with the legal community to enhance the scientific and technological literacy of legal institutions. That effort would likely create a legal environment more supportive of scientific and technological initiatives. It is also likely to enlist the assistance of the legal community in promoting a more accurate and reasonable perception of science and technology in the eyes of the general public.

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