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Book Review: Law and the Social Role of Science

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BOOK REVIEWS

LAW AND THE SOCIAL ROLE OF SCIENCE

EDITED BY HARRY W. JONES

New York: The Rockefeller University Press, 1966. Pp. 243. $6.00

> The continuing advance of scientific understanding has led to the creation of powerful tools for the exploitation of natural forces and the control of human environment. If these tools are used wisely and humanely, the human condition can be enriched, materially and spiritually, to an extent never envisioned by the most utopian of past social philosophers. . . . The instruments of scientific technology have no will of their own, no inborn inclination either to good or evil. They are servants of man, and everything depends on the use man makes of them.[1]

The individual of our generation is a fortunate member of an enlightened society. His counterpart of 50 or 100 years ago knew few of the comforts which our age of scientific discovery and technological advances has wrought. As science and technology develop more sophisticated means for the control of human environment, the individual seems to be that much further removed from a true understanding of the techniques which make him master of his environment. The average individual is relegated to a status of recipient rather than participant in the technological revolution of the 20th century.

In the past, the law has generally kept pace with science and technology, serving as the guardian of the interests of both scientist and layman in controversies arising from their relationship. But the law, with its well-known reliance on the past, is sometimes painfully slow to adapt to the more rapidly changing needs of society. One wonders today whether the rapid pace of scientific and technological advancement will leave the law far behind, and in so doing, leave both the scientist and the individual without effective service from their traditional arbiter of disputes.

For law to provide society with clear controls over science and technology, certain policy considerations concerning the implications of technological development for mankind must be reexamined and clearly delineated. The individual must not let the "technocrats" take over simply because they have more expertise. Instead, he must be

[1] Jones, *Introduction* to LAW AND THE SOCIAL ROLE OF SCIENCE 1-2 (H. Jones ed. 1966). Subsequent footnote references are to the separately authored persons contained in the reviewed book.

made aware of the implications of scientific advancement; he must meet his potential adversary face-to-face, and know him well. In this way the individual can help frame the ultimate policy interests and expectations of society.

If these social interests and expectations are in fact justified, they can eventually expect to be reflected in the law. Thus the law is a vital force in the evaluation of the social role of science.

On April 8th and 9th, 1965, a conference at The Rockefeller University, under the auspices of the University and the Walter E. Meyer Research Institute of Law, considered some issues concerning the impact of science on law and of law on the social role of science. The reports presented at this conference form the nucleus of the book under review.

Of the book's three main sections, Part III is an exhaustive bibliography of Literature of the Law — Science Confrontation, prepared by Morris L. Cohen and Betty F. Warner, which by itself renders the book invaluable as a reference tool.

The five reports in Part I discuss certain policy areas at which the interests of the lawyer and the scientist meet, with the emphasis on natural sciences. As outlined by Professor Cavers in his introductory report, these include: (1) Points at which the law, in its traditional adjudicatory function, must draw on scientific knowledge to reach decisions; (2) Points at which scientific developments compel reexamination of the adequacy of established legal doctrines; (3) Points at which scientific developments have created new hazards of state intervention and new points of confrontation; (4) Points at which government, acting through the legal mechanisms of appropriation, executive order, and contract, must choose scientific objectives, ration scarce research resources, and seek to maximize the contributions of the scientific community; (5) Points at which scientific developments stimulate new contacts with our neighbors on this planet, creating the need for new legal relationships.[2]

In the adjudicatory arena, where the traditional emphasis of the law is analogous to an evidentiary weight-lifting contest, the expert witness assumes a dominant role somewhat incongruous with the scientist's search for truth. As Professor Cavers points out:

> This adversary system casts the expert witness in a partisan role. Counsel tries to extract a slanted picture from the witness, and, on cross-examination, opposing counsel seeks to slant the picture the other way. To the man trained to objectivity, this is a perversion of a quest for truth and justice.[3]

Adjudication certainly requires the tapping of scientific knowledge in order to establish ultimate facts. The issue is not so much whether

[2] Cavers, *Law and Science: Some Points of Confrontation,* at 6.
[3] *Id.*

such knowledge should be drawn upon, but rather how it should be employed. Developments in technology have added to the probative value of mechanical devices and tests utilized in the courtroom. Today, the results of blood-alcohol tests often create a presumption of drunkenness, and blood tests are increasingly being introduced as evidence in paternity suits. The question of the use of the lie detector and truth serum in trials has received much discussion as these technological developments have become more reliable. The issue at the heart of this point of law-science confrontation seems to be whether the purpose of the adjudicatory function is to establish or approach ultimate truth, or whether its purpose is to provide a forum for the litigious man to air his dispute according to a set of adversary rules. Perhaps the solution to this problem involves a reexamination of our established legal doctrines, which leads us to the second point of confrontation between law and science.

The need for a reevaluation of legal doctrines should not, however, be limited to areas of adjective law in the adjudicatory contest. Substantive doctrines as well are in need of scrutiny. For example, technology has created miniaturized electronic monitoring devices which would enable the curious to probe into the innermost recesses of an individual's privacy. Human emotions, memory, and basic drives which heretofore were the subjects of philosophical conjecture are now capable of scientific examination and experimentation. These technological developments pose critical issues with respect to the right of privacy. Traditionally, the law has provided sporadic protection to individual privacy by drawing on established doctrines contained in the fifth amendment, the law of trespass, and even a law review article by Brandeis and Warren concerning the individual's right to be left alone.[4] The development of a workable law of privacy has been piecemeal at best, and it is doubtful that it is adequate to encompass the threat posed by recent technological achievements.

Just as past developments in science and technology have required a reevaluation of existing legal doctrines, so also have they created new hazards necessitating the establishment of new legal safeguards by virtue of state intervention. Technological advances toward the peaceful use of nuclear energy have posed collateral dangers concerning the location and mode of operation of nuclear reactors in populous areas. The development of new drugs such as LSD has forced the state to intervene for the protection of the public. The issue raised is, At what point does the drug's danger so exceed its value that its use should be controlled or forbidden? It is in the determination of this question that law and science come to a point

[4] Brandeis & Warren, *The Right to Privacy*, 4 HARV. L. REV. 193 (1890).

of confrontation, the inquiry being whether its resolution is properly a matter for law or medicine. Accommodation on the part of both the lawyer and the scientist is required in the delineation of their respective roles concerning matters of policy. John Palfrey's report on "Colleagueship in Law and Science" illustrates this accommodation:

> [M]ore and more lawyers and scientists are encountering the problems of each other's discipline while engaged in their own particular pursuits. At the point of intersection, colleagueship is ready to develop. The early encounters may be abrasive. In fact, both sides may take offense in the first instance. But, in time, both sides will discover that they have a larger pursuit in common.[5]

Government support and control of scientific research has assumed gigantic proportions in the 20th century and could be singled out as the major contributing factor toward the technological revolution of our day. What form government participation should take poses a major policy issue for the lawyer and legislator. Arthur W. Murphy's report illustrates the areas of dissatisfaction with federal grants in support of research in terms of (1) lack of uniformity in grant requirements, (2) ambiguity and verbosity of manuals and instructions, (3) delays in making decisions, (4) apparent shift away from small grants, (5) multiplicity and frequency of financial reports required and controls exerted, (6) excessively short grant periods, and (7) inadequacy of liaison between agency and researcher.[6]

Since the grant represents such a sizeable outflow of money from the federal treasury, perhaps some other form of governmental support of research would be more desirable. Bernard Wolfman's report suggests support by tax preferences as an alternative to direct expenditure.[7]

Part II of *Law and the Social Role of Science* is devoted to the efforts of both the scientific and the legal community in moving toward interdisciplinary understanding. Certainly, as John Palfrey suggests in his report on "Colleagueship in Law and Science," accommodation on the part of both disciplines is a necessary step toward the achievement of understanding. Yet, as the remaining reports in Part II suggest, a catalyst is needed to bridge the law-science gap in order to relate the functions of both to the society they serve. The emphasis thus shifts to the behavioral sciences, and in so doing, raises two new issues which must be faced in the quest for interdisciplinary understanding. First, is behavioral science methodologically scientific in the same sense as are the natural sciences? Secondly,

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[5] Palfrey, *Colleagueship in Law and Science*, at 79.

[6] Murphy, *Law and Research Supported by Government*, at 19.

[7] Wolfman, *Federal Tax Policy and the Support of Science*, at 26.

given the assumption that the behavioral sciences can be effective as catalysts toward mutual understanding between law and science, how best can this interdisciplinary partnership be established?

Harry W. Jones, in his report on "Legal Inquiry and the Methods of Science," addresses the first issue by negating at the outset the notion that law itself is a science. He points out that "law exhibits none of the essential attributes of a science. Legal propositions have their origin not in empirical observation but in authoritative pronouncement by a court or legislature . . . ."[8] Thus, law as a discipline is in search of a science partner. If law can be characterized as a normative system within the social structure, its logical scientific counterpart would seem to be social science. Therefore, it must be determined whether the social sciences are true sciences in order for law to be benefitted by this new partnership. As Professor Jones comments:

> Serious consideration of the question, 'Can law be scientific?' thus leads directly and inevitably to the question of whether the newer sciences of society — sociology, social psychology, economics, political science, and the like — can ever achieve anything remotely comparable to the conceptual structure of verifiable postulates characteristic of present-day scientific knowledge. By and large, the contemporary social sciences are fully 'scientific' only in their aspiration — and perhaps in the unintelligibility of much of their rhetoric to the interested outsider — and vast methodological problems loom ahead as these infant sciences move towards maturity.[9]

Many of the behavioral sciences are now undergoing a critical reappraisal of their approaches toward the study of human behavior. There is room for the evaluation of present theories and methodologies as well as the development of new ones. With this realization, the methodological framework employed by the behavioral scientist may to a great extent be dictated by the nature of his research or his own orientation toward his discipline. This orientation might be toward problem solving in action research, descriptive of certain aspects of social behavior, or toward the pure development of verifiable theory in order to make a science of his discipline. The problem-solving orientation concentrates its efforts upon the determination of causes and solutions to such problems as drug addiction, slum clearance, and juvenile delinquency. The descriptive orientation requires a methodology by which the researcher describes certain patterns of social behavior in an effort to predict similar behavior under like circumstances.

The results of both methods of behavioral research can be readily utilized by the law. Lawyers are inherently application-

[8] Jones, *Legal Inquiry and the Methods of Science,* at 123-24.

[9] *Id.* at 127.

oriented in their search for the resolution of present and potential conflicts. Yet, unless such research can also furnish data input toward the development or verification of a behavioral science theory, it may become research in a vacuum for the social sciences as well as for the law. Professor Jones comments on this danger for the law-behavioral science partnership.

> Undue concern with immediate applications creates additional danger that evaluative preferences may color or distort the results of social science inquiry. The great lesson I read in the history of science and technology is that if basic scientific inquiry is imaginative, intellectually autonomous, and free, the applications will take care of themselves in due time. The most important of all science's possible analogies for law is that law, as a great social technology and control system, has even more to gain, in a long-run view of things, from the perfection of the social sciences as 'basic' sciences than from such immediate applications of social science methods and insights as may be helpful to law from time to time as the social disciplines move towards scientific maturity.[10]

Behavioral science offers the most convincing case for partnership with law toward an understanding of the social role of science, but where and how do we begin? Present plans which call for accommodation between the legal and scientific disciplines, whether natural or behavioral, may not be adequate to encompass the social complexities wrought by the increasing sophistication of technological advances. Legal education must bear a large part of the responsibility for the preparation of lawyers equipped to cope with the problems of tomorrow in a technological society. Interdisciplinary training and research in law schools is essential, not only to bridge the gap between law and social science, but also to equip tomorrow's lawyer with the analytical tools he will need in order to gain a proper insight into the social roles of science and technology. The law school of today must be interdisciplinary in its education in order that the lawyer of tomorrow may be pan-disciplinary in his perspective.

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[10] *Id.* at 128-29.

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