

**SHAMANS, SOFTWARE, AND SPLEENS: LAW AND
THE CONSTRUCTION OF THE INFORMATION SOCIETY**

By James Boyle.¹

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In his famous partial dissent in the *LeRoy Fibre*² case, Justice Holmes conceptualized the shift from an absolutist understanding of property rights to a "bundle of rights" approach that permits removal of particular entitlements without harming the remaining interests of the owner. Recognizing that law focuses on differences of degree, Holmes posited that an individual's property entitlements change as industrial, economic, and societal structures evolve. In *Shamans, Software, and Spleens*, James Boyle adapts and applies Holmes's reasoning to modern intellectual property rights. Much as the increasing proximity of haystacks and flying sparks challenged the traditional notions of property in the early 1900s, Boyle challenges the assignment of property rights under current intellectual property law as an inefficient distribution of entitlements. Rather than advocating monopolistic rights, Boyle envisions a more equal sharing of entitlements in today's information society.

Defining his task as the development of a social theory for grappling with the information age (p. x), Boyle concludes that in the present system the judicial and legislative branches divide information between the public and the private sectors. If classified as private, individual control and ownership of information are the norms. Conversely, classification of information as public invites demands for equal access. Boyle notes the difficulty of categorizing information against the backdrop of our traditional notions of property, markets, and privacy (p. 12). Current discussions focus on the existence and location of entitlements, the free flow of information versus the forced exchange of property rights, and the search for equality versus the maintenance of the status quo. Boyle concludes that numerous tensions and contradictions arise in this process of categorizing information. Specifically, the process of classification is unpredictable and indeterminate, turning on arbitrary distinctions. For instance, Boyle cites the inability to reconcile the illegal nature of blackmail when one person demands money from

1. Professor of Law, Washington College of Law, American University. S.J.D., Harvard Law School, 1986. LL.M., Harvard Law School, 1981. LL.B., Glasgow University.

2. *LeRoy Fibre Co. v. Chicago, Milwaukee & St. Paul Ry.*, 232 U.S. 340 (1914).

another as the price of not revealing legally obtained information (p. 61) with the California Supreme Court's decision in *Moore v. Regents of the University of California*³ that Moore did not have a property interest in either his cells or his genetic information. This incongruity arises because public dissemination of legally obtained information normally occurs without raising privacy and ownership concerns, but the *Moore* court, although noting that the commercial use of Moore's cells and genetic information without informed consent was wrongful, failed to recognize Moore's privacy or property interest in either once removed.

Rather than addressing these tensions and inconsistencies, Boyle argues that the current system of intellectual property rights masks them by emphasizing what he terms the "romantic vision of authorship" (p. 58). Ownership of information is justified by relying on the perceived originality and transformative contribution of the individual. Furthermore, the award of property interests to the individual are deemed a necessary incentive to the production of more information. Under this theory, it is the doctors who produced a commercial cell line from Moore's cells, not Moore himself, who deserve a property interest in the cells and genetic information at issue. Boyle dates this reliance on originality and transformative contribution back to the eighteenth century development of copyright protection, which used this concept as an instrumental means to rationalize the initial deviation from wage labor to the retention of partial ownership in the final product (p. 53).⁴ Since its origin, the influence of the romantic vision of authorship has expanded beyond copyright into other information-centered contexts, notably the patent system.

Boyle faults the current framework of intellectual property rights for providing nothing more than an assertion, rather than a cogent argument, that the award of extensive property rights to the "romantic author" figure facilitates the efficient production of information. The current copyright and patent laws create monopolies that concentrate intellectual property rights in the hands of the romantic author. Rather than stimulating further innovation and invention, Boyle suggests that these monopolies may curb information production by denying future actors access to the raw materials necessary to create new works (p. 38). Boyle asks us to imagine wanting to write a novel only to find that the alphabet is owned by another (p. 178). Although this hypothetical may sound ludicrous, it provides an apt metaphor for the areas of computer software and biotechnology since both computer programs and genetic sequences

3. 793 P.2d 479 (Cal. 1990) (en banc), cert. denied, 499 U.S. 936 (1991).

4. Boyle cites Martha Woodmansee, *The Genius and the Copyright: Economic and Legal Conditions of the Emergence of the "Author,"* 17 EIGHTEENTH-CENTURY STUD. 425 (1984).

may be patented and receive monopolistic protection. For similar reasons, numerous programmers have criticized the inhibitory effect of computer software patents on the development and dissemination of new information (p. xiii).⁵

Additionally, Boyle argues that the narrow focus on originality as the basis for awarding intellectual property rights has created a system that is not only inefficient but also unjust. Boyle criticizes the current system for neglecting the importance of raw materials to innovation and invention through the award of monopolistic rights to the romantic author. Whether the source is Moore's spleen cells or a shaman's bag of medicinal herbs, the necessity of sources is undisputed, yet the contributors remain uncompensated. For example, indigenous peoples make contributions in the form of plant life and recognized medicinal uses for these plants for which they are currently not compensated because an author-centered regime assigns these "producers" no intellectual property rights. Such a system maintains the wealth and power disparities between developed countries and less developed countries. In addition, the failure to reinvest money in the source country ultimately leads to a reduction of global genetic diversity stifling research and development (pp. 128-30).

Boyle also faults the system for failing to encourage an efficient level of non-original information production. The compilation of a database of names and addresses, for example, is similar to a computer program in that the original production consumes many resources, yet the information, once produced, is easily copied and disseminated. However, information compilation, unlike software programs, is not considered original or transformative. Because no intellectual property rights attach to the final product, individuals are free to copy and disseminate the information themselves, without compensating the creator. In the absence of sufficient economic incentives for the creator, Boyle suggests that sub-optimal useful compilation occurs. In the alternative, he asserts that resources are wasted attempting to manipulate the information so as to merit the label "original" or "transformative" (pp. 169-70).

Noting the above shortcomings, Boyle suggests that the current framework of one-sided, originality-based entitlements is inappropriate in this age of information because of its failure to address the tensions and complications inherent in the production and dissemination of information. Boyle urges the abandonment of the public/private distinction, which is increasingly blurry, in favor of classifying information by types that require similar protection and raise similar concerns

5. Boyle cites Simon L. Garfinkel et al., *Why Patents are Bad for Software*, 8 ISSUES IN SCI. & TECH. 50 (Fall 1991).

(pp. 27-28). Rather than assigning maximum entitlements to all inventors, Boyle proposes finely tailoring incentives based upon direct analysis of these information categories (pp. 170-71). For example, in the software programming context, normal market incentives may be sufficient to spur research and development without the need for intellectual property protection. In other contexts, such as information compilation, strong intellectual property protection may be necessary (pp. 168-69).

Furthermore, Boyle advocates the replacement of the author-centered focus of the current framework with a multidimensional focus (p. 28). He envisions a modified incentive structure that continues to motivate "romantic authors," but not at the expense of stifling progress by other authors. Additionally, the system should reward contributions to information production other than "authorship" on both efficiency and justice grounds. Valuation of these contributions by granting intellectual property rights, Boyle argues, would not only result in the continued supply of raw materials, but also facilitate the spread of the information that the source helped create. Finally, the structure of intellectual property law must be concerned with producing the optimal level of various kinds of information. Boyle recognizes that the utility of any information must increasingly be balanced against individual concerns for privacy. Medical data may be valuable to society in the hands of a doctor analyzing hereditary diseases, yet powerfully destructive in the hands of an insurance company or newspaper. Boyle asserts that the system he proposes has a greater potential to achieve both efficient and equitable results than the currently employed author-centered approach (pp. x-xi).

Boyle provides a compelling argument for his multidimensional categorical approach to the assignment of entitlements. Continued innovation, information dissemination, and privacy interests concern all of society. Arguably, however, courts are already weighing these interests as challenges arise. Rather than allowing courts to make *ex post* and *ad hoc* decisions, Boyle proposes weighing societal and source considerations in the legislative process. Yet, Boyle overlooks the inefficiencies and injustices that such a system would introduce through its own balancing tests. In the absence of perfect information regarding responses to a given set of incentives, an *ex ante* legislative approach may be no better at optimizing innovation and information dissemination. Additionally, tradeoffs in the distribution of entitlements between author, source, audience, and the public at large will still be necessary.

Boyle fails to account for the opportunity costs of conducting an incentive analysis on specific information categories. If each information category is to be analyzed and modified, actors will certainly alter their behavior. Risk-averse actors will delay investment until relatively

certain of the type and degree of intellectual property protection they will receive. Under such a system, there is no guarantee that the chosen entitlement distribution will not be revisited as new information becomes available. Although our notions of property are no longer absolutist, the uncertainty of Boyle's proposed system may lead to less overall investment in research and development.

Boyle also fails to devote significant attention to patent doctrine in his discussion. For instance, he avoids the recognition that patents are essentially contracts with the government, designed to foster the dissemination of information. The inventor receives temporary monopoly power over his invention only upon complete disclosure of how one would make and use the named invention. Admittedly, individuals are only allowed to use this information in noninfringing ways, but such information dissemination encourages efficiency by preventing multiple reinventions of the wheel and by allowing others to build upon existing knowledge. Boyle views the creation of temporary monopolies as driving the "little guys" out of the market, but the patent system could equally be viewed as providing these parties with access to information that serves as the basis of new ideas.

In *Shamans, Software, and Spleens* James Boyle provides a theory for revising intellectual property rights. Although Boyle does not provide the reader with a comprehensive analysis of intellectual property law, he does provide a timely and suggestive discussion of the broader implications of property rights in information. This book is worth reading both for its insights into the tensions and concerns that drive the existing doctrine and for its proposed doctrinal reforms.

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