

## Electronic Technology: Law and the Legal Mind

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### Recommended Citation

Hammond, R. Grant (1993) "Electronic Technology: Law and the Legal Mind," *Cornell International Law Journal*: Vol. 26: Iss. 1, Article 5.

Available at: <http://scholarship.law.cornell.edu/cilj/vol26/iss1/5>

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## Electronic Technology: Law and the Legal Mind

### Introduction

Electronic technology pervades contemporary Western societies. Lawyers have enthusiastically embraced this technology. A respectable volume of literature now addresses the application of computers to some of the more mechanical aspects of law, such as legal accounting and the creation of legal databases.<sup>1</sup> A growing body of literature relates to the possibilities of the application of artificial intelligence in law.<sup>2</sup> But to date, surprisingly little literature deals with how this new technology affects what might be termed legal consciousness<sup>3</sup> and legal culture.<sup>4</sup>

Therein lies the value of *The Electronic Media and The Transformation of Law*.<sup>5</sup> In this work, Professor Ethan Katsh sets himself a formidable task. Professor Katsh wants to understand how lawyering "was" under

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1. See MAGGS & SPROWL, *COMPUTER APPLICATIONS IN THE LAW* (1987).

2. See, e.g., *COMPUTING POWER AND LEGAL REASONING* (Charles Walter ed., 1985).

3. The notion of legal consciousness is very problematic. It somehow implies the existence of a legal "mind." It also implies that lawyers' thinking differs from that of other disciplines, or perhaps even that of all non-lawyers.

This matter has been the focus of an increasingly sharp debate in recent years and remains one of the largely unarticulated issues between those who espouse the critical legal studies movement, and those who do not. The notion that law is somehow "apart," or that it at least forms a discrete discipline, stands as one of the fundamental tenets of the traditional common lawyer. Notwithstanding the very real difficulties attendant upon a concept of legal consciousness, it does suggest, however, that focusing on the way lawyers actually go about defining and sorting through problems and particular issues is a very important inquiry. See generally Richard A. Posner, *The Decline of Law as an Autonomous Discipline: 1962-1987*, 100 HARV. L. REV. 761 (1987).

4. We still possess a very imperfect understanding as to whether we can properly talk about a "legal culture" and what, in the case of the common law jurisdictions, that actually means. But again, an inquiry into the information network or environment in which lawyers actually work is likely to be a very important element in understanding whether there is something which might properly be termed a legal culture.

5. M. ETHAN KATSH, *THE ELECTRONIC MEDIA AND THE TRANSFORMATION OF LAW* (1989).

conditions in which print media predominated, and how, if at all, things have changed in a world increasingly dominated by electronic media. Consequently, he grapples with what law "was"; what it "is" now or, rather, is becoming; how this change affects lawyers' ways of thinking and doing things; and even the very idea of law itself. Professor Katsh has developed a quite distinct thesis about what he perceives to be the "transformation" of law. The thesis is one that deserves to be taken seriously.<sup>6</sup>

In this essay I propose first to outline and, second, to critique Katsh's thesis. As the title to the book clearly implies, Katsh seems to think that very large, if not transformative, changes<sup>7</sup> have occurred or are quite distinctly afoot in relation to law as a result of the advent of the new electronic technologies. If correct, a claim of that kind goes to the very heart of the idea of "law." Moreover, if the changes are indeed transformative, the claim ought to hold true universally; hence the new order, whatever it is, would be of a "scientific" character. One consequence which follows from this proposition is that the impact of technology on law would be largely the same in any given jurisdiction.

I contend that it is presently far from clear that a claim of that dimension can be sustained.<sup>8</sup> I will, however, come this far with Katsh—electronic technology is clearly having a distinct impact on law, as

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6. Interestingly, this book has received far more attention outside the law reviews than within them. This apparent lack of attention within the legal community illustrates a criticism I make later in this essay: generally perceiving information in narrow technical terms, legal academics demonstrate little interest in tackling the formidable intellectual and practical problems associated with the deeper issues raised by information technology.

Persons outside the legal academy, however, appear to have better recognised the significance of the issues. For a full review of the work, see Steven M. Barkan, *Law and Information*, 10 N. ILL. U. L. REV. 365 (1990). For shorter reviews, see Donald E. Lively, *Book Review*, 30 JURIMETRICS J. 245 (1990); Kent R. Middleton, *Undermining Patterns in Law And Society?*, 75 JUDICATURE 115 (1991); Igor I. Kavass, *Book Review*, 18 INT'L J. LEGAL INFO. 161 (1990); Kenneth Jost, *The Global Village*, A.B.A. J., Feb. 1990, at 95; Robert W. Benson, *Book Review*, CAL. LAW., Feb. 1990, at 62. Several student Notes have also addressed this topic, see Eric M. Reifschneider, *Book Note*, 3 HARV. J.L. & TECH. 253 (1990); Anita L. Morse, *Book Note*, 13 LEGAL STUD. F. 435 (1989); *Book Note*, 90 COLUM. L. REV. 603 (1990). The *New York Times* carried a full length review by Professor Patricia Williams of the University of Wisconsin at Madison Law School. See Patricia J. Williams, *Law Without Lawbooks*, N.Y. TIMES, Aug. 20, 1989, at 23.

7. It is unclear whether Katsh uses the term "transformative" in a Kuhnian sense. See generally THOMAS S. KUHN, *THE STRUCTURE OF SCIENTIFIC REVOLUTIONS* (1962). A "paradigm" for Kuhn is a model or pattern accepted in science "like a judicial decision in the common law . . . an object for further articulation and specification under new or more stringent conditions." *Id.* at 23. The survival of a paradigm depends upon its success in actually solving "real" problems in a field. It "transforms" when the model has lost this force and been replaced by something quite different.

8. Katsh might argue that he does not specifically categorise his claims in such large terms. Nevertheless, the totality of the averments in the work adds up to a meta-thesis of the suggested dimension. That my reading of the author's claims is not idiosyncratic seems to be supported by Middleton's comment (in a generally laudatory review) that the thesis "is overstated." Middleton, *supra* note 6, at 116.

opposed to generating a true transformation “of” law. That being so, and given the surprising dearth of conceptual or empirical studies of the impact of electronic technology on law, as a third element in this essay I suggest, with due diffidence, some potential lines of inquiry for legal (and other) scholars. In particular, I suggest that we have not given nearly enough attention to the economics of information; to problems of power and class in relation to information, and what that may mean for legal ordering; to problems arising out of the changing geography of information; and to more mundane matters of legal technique. In general, I suggest that the area is a particularly fertile one for future academic research by lawyers.

### I. The Katsh Thesis

Katsh’s central premise states that “law is a process of communication.”<sup>9</sup> This premise, apparently, is all pervasive in the institution of law. “Manipulation of information underlies the way legal institutions work, how legal doctrines are applied, and how social and moral values are translated into legal values.”<sup>10</sup> Further, “law has come to rely on the transmission of information in a particular form [i.e., print].”<sup>11</sup> Consequently, “our [Western] model of law has coincided with the age of the printed word and is an outgrowth of it.”<sup>12</sup> Thus, the arrival of “the electronic media” engenders a “transformation in law.”<sup>13</sup> This transformation manifests itself in several forms.

First, the new media are destabilising, particularly with respect to a doctrine of precedent. An important function of modern law, one “tied to the qualities of print,”<sup>14</sup> has been to mediate between stability and change. Now, however, “the electronic media threaten the law’s current techniques of maintaining both tradition and change.”<sup>15</sup>

Second, the law also functions as a major societal agency for the settlement of disputes. “As other means of communication are used in lieu of print, our attitudes toward the kinds of techniques that should be used to settle problems are likely to change.”<sup>16</sup>

Third, there are serious implications for control of information in this brave new world. “[A]ll legal doctrines that concern information are in a state of flux.”<sup>17</sup> This fact has implications for relationships *inter se*, and even for the legal conception of a “state,” because it challenges the traditional interest of those in authority in restricting information flows.

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9. KATSH, *supra* note 5, at 1.

10. *Id.* at 6.

11. *Id.* at 8.

12. *Id.* at 12.

13. *Id.* at 13. Notice, though, that the author does not say, “of” law here.

14. *Id.*

15. *Id.* at 14.

16. *Id.*

17. *Id.*

Fourth, the character of the legal profession may be changing. The concept of a profession is based, in part, on the acquisition of certain disciplinary skills, and to a large extent, on a guarded, or controlled body of information. Whilst the profession may welcome the new technologies for efficiency reasons, "their consequences may be very different from what is expected."<sup>18</sup>

Fifth, Katsh suggests that the electronic media may be altering substantive ends in the law. The last two decades have seen a substantial rights revolution in which the principal endeavour has been to accommodate previously disenfranchised groups. The new media, he thinks, increase pressure for real equality rather than merely legal equality. Consequently "the value of a right and its perception as a highly stable and secure form of legal protection may erode as information is stored in a more transitory form and is continually processed and reprocessed."<sup>19</sup>

So conceived, Katsh's thesis is very large, and somewhat speculative in the sense that no one could currently, or indeed ever, "prove" all the assertions made. Professor Katsh's speculation presents something of a meta-thesis, and therefore is more in the tradition of scholars like political economist Harold Innis, communications theorist Marshal McLuhan, and historian Daniel Boorstin. Significantly, the book frequently references these leading thinkers on the nature and meaning of technology and communications.

The quotes in the frontispiece to the Introduction are particularly revealing of the author's purpose. From Unger's *Law and Modern Society*, the author quotes: "The study of the legal system takes us straight to the central problems faced by society itself." And from Boorstin's, *The Republic of Technology*, the author suggests that "once mankind has created a printing press, a musket, a telephone, an automobile, an airplane, a television, each of these takes on a life of its own." Indeed they do. But the quotations raise this general question of Katsh's book: *do* the new media truly transform, or subsume law as we have most recently known it in the West? Or is it that, as with sponge cakes, new layers of phenomena are sometimes added to the recipe, but the "law" cake remains recognizably a cake?

The answer to this question is critical. If the new technologies are not truly transformative, then the legal techniques and adjustments required are something akin to the approach to the evolution of copyright law. That is, the law can assimilate the new problems into what remains essentially a historic formula.

If, on the other hand, these technologies *are* transformative in relation to "law," the proper approach to be adopted by legal regulation is likely to be formidable and, indeed, very difficult to imagine in the abstract. For the "new" law would not look like law as we now conceive

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18. *Id.*

19. *Id.* at 15.

it to be. This general question, which is the central concern of this essay, is best pursued in the context of the more particularised assertions of the author.

#### A. The Death of Precedent?

Lawyers are notorious for the value they place on consistency. Consistency necessarily means adherence, to a large degree, to the past. On the other hand, we praise poets, painters and even other academics, such as scientists, for their creative breaks from the past.

Why, then, do lawyers place such heavy emphasis on consistency?<sup>20</sup> Katsh attributes this to the “stabilising” function of law. He reminds us of Fuller’s famous parable about King Rex, who, filled with reforming zeal when he came to office, tried to change too much too quickly, and ended up creating no worthwhile law at all.<sup>21</sup> Writing, and later print, provided an ideal medium for this kind of stabilising function.

As Katsh sees it, the gradualist thesis of common law argument that evolved stands in marked contrast to the almost static character of law-making in oral societies. There, all authorised adults were “The Text,” but had to devote huge energies to remembering the past and regurgitating it into a somewhat different (and hence unyielding) present. Katsh finds it significant, as Professor Brian Simpson reminds us, that originally even print lacked “authority.”<sup>22</sup> Katsh notes, “[b]y 1794, [however,] Edmund Burke could validly assert that to put an end to the Reports is to put an end to the law of England.”<sup>23</sup>

So far so good. Most of what Katsh has to say in this section of the book about these matters remains fairly conventional. Many lawyers and scholars, however, will find more controversial his subsequent assertion that “the almost unlimited capacity of computers to store, communicate, and search for information poses *an enormous threat* to the authority of precedent, yet it is a completely unrecognised threat.”<sup>24</sup> The thrust of the argument appears to be that computer technology is compromising

20. Katsh cites Justice Louis Brandeis’s famous statement that, “in most matters it is more important that the applicable rule of law be settled than that it be settled right.” KATSH, *supra* note 5, at 18 (quoting *Burnet v. Coronado Oil & Gas Co.*, 285 U.S. 393, 405 (1931) (Brandeis, J., dissenting)).

21. KATSH, *supra* note 5, at 19 (discussing LON L. FULLER, *THE MORALITY OF LAW* 33-38 (rev. ed. 1969) (quotational citation omitted)).

22. *Id.* at 38 (quoting A. W. B. Simpson, *The Source and Function of the Later Year Books*, 87 *LAW Q. REV.* 94, 97 (1971)).

23. *Id.* at 39 (quoting EDMUND BURKE, as quoted in WILLIAM HOLDSWORTH, *SOME LESSONS FROM OUR LEGAL HISTORY* 18 (1928)).

24. *Id.* at 44 (emphasis added). Katsh repeatedly emphasizes this threat. A system of precedent will be “unworkable when there are too many cases.” *Id.* “The authority of case law is promoted by a process that does not rapidly modify reported decisions.” *Id.* at 46. “Many of the goals of law have been achieved by limiting some kinds of information.” *Id.* at 47. For instance, on this last point, well equipped law libraries are now on-line to generalist libraries. Yet one may well ask whether this has any measurable effect on the broadening reach of the legal researcher, and the visible decline in the emphasis on core appellate decisions, as the “proper study” of law.

the stabilising function of the common law system. I would make several points about this assertion.

First, the advent of Lexis, Westlaw and other data bases in the United States has significantly altered the pattern of legal research in those jurisdictions. These databases contain a huge volume of reported case law, statutory material, and legislative histories. The jibe that one can find authority in the United States for almost any proposition may well be true. But is the proposition even marginally correct elsewhere? For instance, my home jurisdiction, New Zealand, still possesses only one major series of law reports.<sup>25</sup> Although there are a number of specialist series of law reports and electronic databases, such as Kiwinet, the volume of case law remains well in hand. The point here is that one must be very careful in suggesting a "transformative" change in the character of law itself solely on the basis of experience in a single, if admittedly very large, jurisdiction.

Second, is there not a distinction between retrieval and use? Assuming one locates authority by electronic means, what do lawyers then in fact do? Surely they then order up a hard copy of the item in question, and begin to mark that hard copy up, in a quite orthodox way?

Third, one should not assume that lawyers will yield lightly, if at all, to a retreat from principle, whatever the pressure from a mass of material. Indeed, in recent years there has been something of a revolt in intellectual terms against the perceived dangers of a "wilderness of single instances."<sup>26</sup>

To take one instance, Professor Atiyah's widely respected Inaugural Lecture at Oxford<sup>27</sup> protested the perceived trend away from principle. Moreover, is not the law and economics movement in the United States, under the tutelage of its principal arch-priest (now) Judge Richard Posner, nothing more nor less than an attempt to develop more rigorous lines of principle?<sup>28</sup> In short, we should not assume that either the academic or judicial levels of the legal enterprise will surrender easily, if at all, what has been seen to be a cardinal attribute of "law": the attempt, however imperfectly achieved, to provide a relatively disinterested set of yardsticks by which embattled societies and citizens may regulate their conduct. That legal principles exist in a fog of information does not render them less visible or important. The lighthouse becomes ever

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25. The New Zealand Law Reports. Indeed, that series still only reports three volumes of case law each year.

26. Alfred Lord Tennyson, *Aylmer's Field*, in *THE WORKS OF ALFRED LORD TENNYSON* 463, 480 (Hallan Lord Tennyson ed., 2d. ed. 1908).

27. *From Principles to Pragmatism: Changes in the Function of the Judicial Process and the Law*, reprinted in 65 *IOWA L. REV.* 1249, 1271 (1980). See also Lord Goff, *The Search for Principle*, 69 *PROC. OF BRIT. ACAD.* 169 (1983); ROBERT S. SUMMERS & P. S. ATIYAH, *FORM AND SUBSTANCE IN ANGLO-AMERICAN LAW: A COMPARATIVE STUDY OF LEGAL REASONING, LEGAL THEORY AND LEGAL INSTITUTIONS* (1987).

28. See Gary Minda, *The Law and Economics and Critical Legal Studies Movements in American Law*, in NICHOLAS MERCURO, *LAW AND ECONOMICS* 87 (1989).

more important as the fog of information rolls in.<sup>29</sup>

Fourth, Katsh makes one particularly arresting, if rather unrefined, assertion relating to the categorisation of legal information. He suggests that “[c]omputerised research facilities . . . threaten to undermine the categorization of information that lies at the core of the precedent process.”<sup>30</sup> Katsh makes this statement in the context of what he sees as the broadening range of materials now readily available to lawyers. The statement, however, also brings to mind two other contemporary phenomena in the law that Katsh does not address.

The first is that there *has* been much current debate amongst lawyers, on both sides of the Atlantic and in Australasia, about the contemporary categorisations or formal subject matter divisions of the law. Has contract collapsed into tort?<sup>31</sup> Has equity invaded commercial law?<sup>32</sup> Is the criminal law blurring into the civil law? And so on. Whether those debates are somehow linked to the advent of computerized research, however, is not easy to see. One could argue that reconciling all the cases on a particular problem (say, illegality in contract) is much more difficult when there are thousands of cases. Perhaps, then, categories do become “over-burdened,” tending to collapse under their own weight.

But that is precisely when Atiyah’s thesis should come into play. The law should neither descend into pragmatism nor to “a wilderness of single instances.” Nor, I would say, should we try to continue the royal tennis tradition beloved of many traditional common lawyers<sup>33</sup> by attempting to reconcile all the cases. The solution lays in articulating and holding to whatever principles are thought to be appropriate.

A related matter has to do with the “presentism” of much case law argument today. By that term I mean two things: first, the endless chase by practising lawyers after the very latest cases in a given subject area as “authority”; and second, the more of them the better. This failure of counsel to nail their colours to the mast in the form of particularised arguments leads to arguments swollen with information. But the problem here—and it is a live one troubling judges at all levels and in all jurisdictions—remains behavioral, rather than something intrinsic to the electronic media.

In short, whether lawyers slide into a bottomless pit of information is a matter of professional self-discipline. I doubt that one can squarely lay this unfortunate phenomenon at the door of electronic technology, though it may well be guilty of aiding and abetting.

29. The allusion owes something to Prosser’s famous article on legal education. See William L. Prosser, *Lighthouse No Good*, 1 J. LEGAL ED. 257 (1948).

30. KATSH, *supra* note 5, at 47.

31. See generally GRANT GILMORE, *THE DEATH OF CONTRACT* (1974).

32. A discussion with respect to the collapse of the law-equity destruction in commercial law remedies may be found in R. Grant Hammond, *The Place of Damages in the Scheme of Remedies*, in *ESSAYS ON DAMAGES* 192 (Finn ed., Law Book Co. 1992).

33. This consists in marking out a square on the (intellectual) ground and trying to demonstrate how every case fits within that square. A stray *obiter dictum* then becomes as offensive a missile as a tennis ball hit right out of the tennis court.



## B. Law as the Principle Vehicle of Dispute Resolution?

The thrust of Katsh's argument in this part of the book is that "writing and print are the structural supports for the modern ideal of dispute resolution and have contributed to law's growth over time, to our reliance on law, and to the authority of law."<sup>34</sup> Katsh has to be correct in suggesting that law quite consciously limits the kind of information that is employed in reaching a decision. For example, the reader is undoubtedly familiar with the lay complaint that what the client thought to be relevant did not seem to matter to her lawyer. And, in going to law, moreover, the client agrees (probably without realizing it) to limit information to the kind that a court uses to "impose" a decision. Yet, how, if at all, does this change with the kinds of alternate dispute resolution processes that are emerging?

Katsh notes the point made by anthropologists that so-called "primitive" societies demonstrated a level of morality and peacefulness "higher than most of their economically advanced fellowmen."<sup>35</sup> Oral debate, the force of custom, public opinion (in the form of "shaming" or "ridicule"), ritual and ceremony, and so on, all played their part.

Writing on the other hand creates and evinces "distance." By standardising legal information, writing further fosters the authority of the common law. This continuity through uniformity can also be seen in the nature of legal questions in the common law legal tradition. "The process of law, for it to work according to plan, must structure and limit the mind of the judge."<sup>36</sup> In the end, law filters or drives out the perplexities of a given case and becomes a zero-sum game—somebody wins, and somebody loses— all in accordance with an abstracted formula.

This part of the Katsh book is a compelling and well-written account.<sup>37</sup> But having described what conflict resolution "is," Katsh has more difficulty in dealing with what it is "becoming." Unlike some communications theorists, Katsh perceives the new electronic media as a fragmenting force promoting heterogeneity rather than homogeneity. An electronic information society, in Katsh's view, means more rather than less interaction, and on a wider scale. He contrasts the man who dies in Kafka's *The Trial* without ever having received access to formal, written justice with the "revolving door" concepts of dispute resolution that have evolved in the United States. Apparently, Katsh sees a continuing trend in which "The Law" increasingly fails to keep law confined to the courthouse. At a deeper level Katsh's thesis adopts James Beninger's argument that a "societ[y's] ability to maintain control—at all levels from interpersonal to international relations—will be directly pro-

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34. KATSH, *supra* note 5, at 51.

35. *Id.* at 54 (quoting PASCUAL GIBERT, *PRELITERATE MAN* x (1967)).

36. *Id.* at 101 (emphasis added). This brings to mind the North American jibes that "Law Schools, like McDonalds, only do one thing, but they do that very well;" and, "Law sharpens the mind by narrowing it."

37. *Id.* at 63-88.

portional to the development of its information technologies.”<sup>38</sup> In the end though, this conclusion lacks intellectual strength: there will be or already is an “expansion of options” for dispute resolution; practices and expectations will continue to evolve and new forms of ordering emerge.

### C. Legal Doctrines and Information

It is convenient to deal with matters under this head in two categories—the position of the state, and the position of individuals *vis-à-vis* each other.

As to the state, George Orwell assumed that electronic forms of communication were malignant tools playing into the hands of a totalitarian state.<sup>39</sup> As it has transpired, that assertion remains, at best, unproven. It may be, as Marshall McLuhan thought, that the whole phenomenon of Hitler became possible only through the advent of modern radio systems.<sup>40</sup> On the other hand, one can possibly ascribe (in large part) the recent political developments in Eastern Europe to the power of electronic communications which bring home the real position of individuals and, hence, encourage widespread civil disobedience as well as new kinds of communitarian movements. The title of Ithiel de Sola Pool’s fine book, *Technologies of Freedom*,<sup>41</sup> then becomes more apt than that distinguished scholar likely foresaw. Indeed, Emile Durkheim reminds sociologists (and us as well) that people have become *more* free even as the powers of the state have grown.<sup>42</sup>

In terms of legal doctrine limiting the state, although formidable, the state’s legal powers to gather and control the dissemination of information remain limited. Katsh correctly suggests that “the movement of information is the primary focus of many legal doctrines,” and that this is important because “[p]ower is enhanced whenever one can manipulate who receives or does not receive certain information.”<sup>43</sup> Yet the traditional legal concern for a (relatively) free press has withstood the test of time well. Freedom of information legislation diverts some information back to the populace at large. Individuals are today far more “litigious” on these sorts of matters *vis-à-vis* the state. Ombudsmen, and other forms of investigatory commissions, play vital roles. At the end of the day, it seems that the state is ultimately no more able to monopolise information than is the individual.

Notwithstanding this insight, the largest difficulty in both public and private law is that individuals, commercial concerns and the state contin-

38. *Id.* at 108-10 (quoting JAMES BENIGER, *THE CONTROL REVOLUTION: TECHNOLOGICAL AND ECONOMIC ORIGINS OF THE INFORMATION SOCIETY* 9 (1986)).

39. See generally GEORGE ORWELL, *ORWELL: THE LOST WRITINGS* (W. J. West ed., 1985).

40. MARSHALL MCLUHAN, *UNDERSTANDING MEDIA* 300 (1964).

41. ITHIEL DE SOLA POOL, *TECHNOLOGIES OF FREEDOM* (1983).

42. See also Colin Cherry, *On the Political Significance of the Telephone Service*, in *THE SOCIAL IMPACT OF THE TELEPHONE* 124 (Ithiel de Sola Pool ed., 1977).

43. KATSH, *supra* note 5, at 116.

ually attempt to commodify information for private gain.<sup>44</sup> Today, information is reified, traded, and litigated over, like a piece of timber, or a lathe, in both the public and private sectors. Businessmen speak of their "proprietary information" as being their single most important asset. To protect and promote this asset, intellectual property law, and even contract, tort, equity and criminal law doctrines are squeezed into play in ways unforeseen by their originators.

This legal strategy is increasingly strained, if not downright inappropriate,<sup>45</sup> and leads to paradoxical results. For instance, in New Zealand, the state recently privatised the Government Printing Office. The new commercial concern now sells the statute law of that jurisdiction, evolved with the citizens' money, back to those citizens!<sup>46</sup>

Katsh correctly emphasizes that most of our law on the "flow of information" derives from the print era.<sup>47</sup> These legal doctrines attempt to accommodate concerns for free speech, property and other economic rights as well as social and moral values.<sup>48</sup> Some kind of balance has to be struck. But the old balances are no longer appropriate. Perhaps the concepts themselves are no longer viable.

Copyright provides a very good example. Copyright began its life as a restrictive form of state licencing. In granting stationers the exclusive right to republish literary works, the English crown practiced a limited form of censorship. But eventually, the republication right became that of the "author." Struggling authors traded that right to publishers in exchange for royalties. All worked well enough, at least for print. Yet with electronic information things do not work so well and, perhaps, not well enough to justify maintaining the status quo.

Part of the problem is semantic.<sup>49</sup> What people (and machines) actually do today does not relate well to the current language of the law.<sup>50</sup> But the way we create has also changed, and "the act of creation in the future will involve working with copied information."<sup>51</sup> As I have noted elsewhere, the same information may be created electronically by a different computer program, though the information itself remains identical in every respect.<sup>52</sup> Manipulation of information to create

44. See R. Grant Hammond, *The Legal Protection of Ideas*, 29 OSGOODE HALL L.J. 93 (1991).

45. See the attempt to reify "information" as a commodity that may be stolen in the Canadian decision *R. v. Stewart* [1988], 1 S.C.R. 963, 50 D.L.R. 4th 1, discussed in R. Grant Hammond, *Theft of Information*, 100 LAW Q. REV. 252 (1984). See also Arnold S. Weinrib, *Information and Property*, 38 U. TORONTO L.J. 117 (1988); R. Grant Hammond, *The Misappropriation of Commercial Information in the Computer Age*, 64 CAN. B. REV. 342 (1986).

46. See R. Grant Hammond, *Intellectual & Industrial Property*, N.Z. RECENT L. REV. 226, 228 (1990).

47. See KATSH, *supra* note 5, at 171.

48. *Id.* at 170.

49. *Id.* at 178.

50. For example, what do we mean by an "author" today?

51. KATSH, *supra* note 5, at 176.

52. Grant, *supra* note 44, at 113.

“new” items out of many items of other works is commonplace, the most recent dispute being the so-called “sampling” debate in the music industry.<sup>53</sup> Hybrid forms of intellectual creation continue to emerge. The current body of intellectual property law remains a relatively crude instrument to address the nuances and sophistication of electronically manipulated creation.

Moreover, and this is a point Katsh does not raise, the law may not be able to differentiate *quickly* enough. The present time frame of creation greatly differs from the assumptions of traditional legal concepts. Commercial lead time matters most today lest one’s creations be “copied” in one form or another by competitors.

In many ways, these current problems with copyright exemplify the problems of the law and electronic technology in general. Is there a case for legal protection at all? If so, is it a matter of simply working the new technologies into existing statutes and the common law? Or, are those regimes now obsolete and in need of replacement?

Katsh rightly points to the problems. Moreover, his general point that they intrinsically arise from a change of medium is obviously sound. Yet Katsh fails to move from the descriptive to the prescriptive. He does not point to the desirable or necessary features of a new regime or regimes. And the moment that this last issue is raised, a very large economic issue comes to the fore. If a producer of potentially valuable information is unable to overcome the free-rider problem, why should that producer produce at all?<sup>54</sup> Altruism, or pure interest, extends only so far in an age when research and development costs are prohibitively high. Katsh never fully acknowledges this most difficult of problems: the clash between humanism and the economic view of creativity.

Copyright was a post-print concept. Do we need a post-electronic technology paradigm? If we do, it must be more flexible and less technology bound in order to respond quickly to a wider range of creations than anything we have seen to date in the law.<sup>55</sup>

#### D. The Legal Profession

In this section of the book, Katsh first notes some of the more obvious features of recent changes in the legal profession: the great increase in

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53. On digital sampling, see Quail, *Digital Samplers: Can Copyright Protect Music from the Numbers Game?*, 7 INTELL. PROP. J. 39 (1991). On the problems of post-modern artistic creativity, see *Rogers v. Koons and Sonnabend Gallery*, 751 F. Supp. 474 (S.D.N.Y. 1990), *modified* 777 F. Supp. 1 (S.D.N.Y. 1991), *aff'd* 930 F.2d 301 (2d Cir. 1992) and Martha Buskirk, *Art and the Law: Appropriation under the Gun*, ART IN AMERICA, June 1992, at 37. There is also the problem of digital retouching, literally illustrated by KATSH, *supra* note 5, at 176.

54. See Edmund W. Kitch, *The Law and Economics of Rights in Valuable Information*, 9 J. LEGAL STUD. 683 (1980); Ejan MacKaay, *ECONOMICS OF INFORMATION AND LAW* (1982); Stanley M. Besen & Leo J. Raskind, *An Introduction to the Law and Economics of Intellectual Property*, 5 J. ECON. PERSP. 3 (1991).

55. For a suggestion that we ought to develop a technology code, see R. Grant Hammond, *The Misappropriation of Commercial Information in the Computer Age*, 64 CAN. B. REV. 342 (1986).

the number of practitioners; the corporatisation of the profession (smaller practices are under threat); the elimination of some anti-competitive practices; and the increasing heterogeneity in the profession.<sup>56</sup> Political and economic factors are commonly assumed to be responsible for these changes.

In perhaps the book's most arresting and original section, Katsh then suggests that the current "transition to electronic modes of communication is part of the latest phase of a lengthy historical process of definition of who and what lawyers are."<sup>57</sup> The legal profession, he thinks, welcomes the new technologies for increased productivity without understanding that the perceived benefits may be like a Trojan Horse—"welcomed at first but holding hidden and unwelcome powers inside."<sup>58</sup>

As presently conceived, the characteristics of a legal profession include the acquisition of an organised body of knowledge; authority over client relationships; control over admission standards; ethical codes of practice; professional organisation; and (allegedly!) a public service orientation.

How might the electronic technologies impact upon such an institution? Once again Katsh sees tremendous significance in the move away from print. "Print served as a catalyst for the organisation of both knowledge and people."<sup>59</sup> Electronic media *may* empower the lay person's access to legal information, though Katsh does not seem to see this possibility as a significant force for change. He thinks the real force for change lies in what *kind* of legal information is produced, who produces it, and how this information is organised.<sup>60</sup> He discusses the evolution of Lexis and Westlaw, and concludes that "the categorical lines and organizational boundaries that were fostered by print will be weakened."<sup>61</sup>

These lines are not simply the traditional doctrinal lines of the law, but more general informational lines. Although not employed by Katsh, an example is the way many law firms now subscribe to *general* information services such as CompuServe. Law firms now also provide a much expanded range of services which range far beyond the traditional doctrinal analysis of the law. As the boundaries between who performs what functions erode, the traditional concept of the profession fades, perhaps to a pale shadow of its traditional self. The legal profession becomes "more ambiguous."<sup>62</sup>

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56. KATSH, *supra* note 5, at 199-201. See also LAWYERS IDEALS/LAWYERS PRACTICES: TRANSFORMATIONS IN THE AMERICAN LEGAL PROFESSION (Robert L. Nelson et al. eds., 1992).

57. KATSH, *supra* note 5, at 203.

58. *Id.* at 202.

59. *Id.* at 218.

60. *Id.* at 220.

61. *Id.* at 222.

62. *Id.* at 226.

It is easy to empathise with some and perhaps most of Katsh's observations under this head. The legal profession clearly has become "more ambiguous." But it is a long step to suggest that something truly transformative has occurred. The vast bulk of law office transactions continue primarily to involve a client coming to the practitioner for advice on what the law is. Given that the law does not and never has operated in a vacuum, it is all to the good that a lawyer should be a woman of public life, well versed in the events occurring around her. Lawyers will inevitably and for the best, acquire a better sense of context through technology. But she is not a general soothsayer and adviser on all things. If she tries or pretends to be such, the Trojan Horse may well open in her courtyard. In such an event the enemy will be seen to be an older one than the electronic media: none of us can know it all, though some behave as if they do!

### E. The Legal Mind

This section of the book opens with an outline of the way some scholars, particularly Professor Roberto Unger, perceive legal culture and the modes of legal thought.<sup>63</sup> Katsh then suggests "two facets of the modern legal mind that may be under stress because of the very novel qualities of the new media."<sup>64</sup> The first is "the individual orientation of modern law."<sup>65</sup> The second is "the abstract quality of law."<sup>66</sup>

As to the first, the existing legal paradigm regards the individual as the basic unit of society. This view stands in marked contrast to the world views held by other societies which held that "[m]an was conscious of himself only as a member of a race, people, party, family, or corporation—only through some general category."<sup>67</sup> Similarly, "rights" attached, to the extent they attached at all, on a quite different basis. Although a mass medium, Katsh views print as contributing to the individualization of persons "by providing information and opportunities to individuals that it had not been possible to obtain in earlier times."<sup>68</sup> Or, as David Reisman explains, "print is the isolating medium *par excellence*."<sup>69</sup>

Electronic media can be atomistic, but it can also reach large audiences concurrently as well as particular groups in a way print does not. In Katsh's view, print exists as a kind of invisible censor; electronic communication, on the other hand, conveys without this barrier. The new

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63. Specifically, the author refers to Unger's categorisation of the three different "forms" of law: customary, bureaucratic, and the legal order. See KATSH, *supra* note 5, at 230-31 (discussing ROBERTO UNGER, *LAW IN MODERN SOCIETY* (1976)).

64. *Id.* at 231.

65. *Id.*

66. *Id.* at 247.

67. 1 JACOB BURCKHARDT, *THE CIVILIZATION OF THE RENAISSANCE IN ITALY* 143 (S. G. C. Middlemore trans., 1958).

68. KATSH, *supra* note 5, at 235.

69. *Id.* (quoting David Reisman, *The Oral and Written Tradition*, in *EXPLORATIONS IN COMMUNICATIONS* (Edmund Carpenter & Marshall McLuhan eds., 1960)).

media do not "merely extend . . . the trends fostered by print."<sup>70</sup> The spoken word was a group medium; print is both a mass and an individual medium; electronic communication fosters all three.

The new linkages reflect a different perception of the individual than an "autonomous, independent, rational, and whole person."<sup>71</sup> The individual fragments in an electronic medium and is seen as a collection of interests, values, and desires, to be exploited in various ways.<sup>72</sup> Groups become not merely collections of individuals, but take on an altogether different character. The result, Katsh claims, is a conception of the individual and the group differing from the prevailing conception underlying traditional liberal legal theory.

As to the abstract quality of law, Katsh finds our present law largely built upon a set "of ideas and concepts that exist apart from the actual buildings and people of the law."<sup>73</sup> This reliance on abstract concepts sharply contrasts with the "sensed experience" basis of law. For instance, ownership did not turn on property rights, but rested on actual possession. Writing helped promote the recognition of intangible things, such as "rights" themselves. There occurred what has been described as a shift from an image culture to a word culture.<sup>74</sup> In law, this word culture possessed a dehumanising and abstracting influence. In a telling point, Katsh notes the lack of photographs and illustrations in the law reports.

What happens in a world of highly flexible and interactive communications and computer technologies? "The effort of the law to maintain an imageless body of knowledge that appeals to only our sense of sight will become more difficult . . ."<sup>75</sup> Katsh pursues this line of thought in the context of the so-called rights revolution since World War II. The "law often provides a right to equal treatment rather than equal treatment . . ."<sup>76</sup> This can be overcome only on the basis of individuals in their concretised, social specificity. The new media, or so the argument goes, bring home a different conception of these actualities.

What are we to make of these arguments? First, as to the suggested shift from an image culture to a word culture, some scholars identify a reverse trend. For instance, Jane Gaines recently suggested that intellectual property law has sanctioned a shift back to an image culture.<sup>77</sup>

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70. KATSH, *supra* note 5, at 240.

71. *Id.* at 245.

72. This is precisely the view emerging in the entertainment law area. Consider the attempts, already sanctioned by the common law to some extent, to allow commodification of various aspects of one's personality. See the cases collected in R. GRANT HAMMOND, *PERSONAL PROPERTY: CASES AND COMMENTARY* 92 (1991).

73. KATSH, *supra* note 5, at 247.

74. ELIZABETH EISENSTEIN, *THE PRINTING PRESS AS AN AGENT FOR CHANGE* 67 (1979).

75. KATSH, *supra* note 5, at 262.

76. *Id.* at 263.

77. JANE M. GAINES, *CONTESTED CULTURE: THE IMAGE, THE VOICE, AND THE LAW* (Alan Trachtenberg ed., 1991). See also *IMAGE ETHICS: THE MORAL RIGHTS OF SUBJECTS IN PHOTOGRAPHS* (Larry Gross et al. eds., 1988).

In her work, Professor Gaines raises at least two primary concerns. First, intellectual property law may be aiding and abetting the appropriation of meaning "as it ties up property rights."<sup>78</sup> Second, Gaines raises a communitarian concern that, as any aspect of culture "is organised around the individual form," it compromises the "social form."<sup>79</sup>

To my mind, however, the question of the relationship between rights in the print age and in the electronic age seems much more difficult. Obviously "rights," or the lack of them, stand much more visible in the electronic age. Yet, although more visible, it remains unclear whether there exists any true differentiation or difference in kind in the rights associated within these two broadly conceived eras.

## II. A General Critique: A Deterministic Thesis?

Katsh developed a meta-thesis. As with any such thesis, the benefit is that real insights may be generated along the way. But it would be extraordinary if he had been able to articulate a unifying theory which would explain all the problems and nuances of the relationship between law and the new electronic media, let alone the "modern" nature of law.

The central argument of this book is threefold. First, law exists as "a process of communication."<sup>80</sup> Second, that process is being transformed by the new electronic media, which have fundamentally different qualities from print media. Third, or so the argument seems to run, this transformation is heavily deterministic—that is, it happens inexorably as a result of these changes.

As to the first proposition, I should think that most people would concede that law is, *in part*, a "process of communication." Most of us would want to learn more precisely what is meant by a "process" in this dimension. But leaving aside for a moment that kind of close analysis,<sup>81</sup> the response to Katsh surely would be: "is that *all* that law is?" The problem with a phenomenon like law is that it possesses many facets. If one concentrates on a single facet, it can be brought into focus—some-what—but one cannot contemporaneously concentrate on all the facets at once. Law is commands, power, ethics, language, economics, and many other elements. It is right to turn the spotlight on "law as commu-

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78. GAINES, *supra* note 77, at 238. This view might need to be revised in light of the general philosophy of copyright law recently expressed by the Supreme Court in *Feist Publications, Inc. v. Rural Telephone Service Company, Inc.*, 111 S. Ct. 1282, (1991). Speaking for a unanimous Court, Justice O'Connor noted that the primary purpose of copyright law is the promotion of learning; protection of the economic interest(s) of the producer subsists as a secondary consideration.

79. KATSH, *supra* note 5, at 240.

80. KATSH, *supra* note 5, at 3.

81. See generally Sandra M. Huszagh & Fredrick W. Huszagh, *A Model of the Law Communication Process: Formal and Free Law*, 13 GA. L. REV. 193 (1978); Sandra M. Huszagh & Fredrick W. Huszagh, *Production and Consumption of Informal Law: A Model for Identifying Information Loss*, 13 GA. L. REV. 515 (1979); WALTER PROBERT, *LAW, LANGUAGE AND COMMUNICATION* (Ralph Slovenko ed., 1972).



nications," but one spotlight, or actor, does not usually a play make and certainly not something as complex as law.

As to the second proposition, can it really be said that the evidence is in, let alone conclusive, on the transformative character of the new media on law? What is most striking about the electronic invasion is the surprising ease with which lawyers have adapted it to the relatively traditional ends of the law. If this is so, the critical characteristic for social scientists to note about law in relation to the arrival of electronic technology may be precisely the adaptability of law.

The question of whether Katsh's thesis is deterministic is very important. I use the term determinism here in Pieter Geyl's sense: "a concatenation of events, one following upon the other inevitably, caused as they all are by a superhuman force or by impersonal forces working in society independently from the wishes or efforts of individuals . . . ."<sup>82</sup>

The critical importance of this question lays in how we comport ourselves with respect to electronic technology. If technology is deterministic, we have little or no choice, little or no free will, and hence very little in the way of responsibility. If, on the other hand, we do have wider spheres of choice, how matters come out is ultimately a matter of human—and legal—responsibility.

Marshall McLuhan thought the evolution of this kind of technology to be deterministic—all one can do is hang on for the ride, and one might as well enjoy it. Indeed, McLuhan appears to believe that some kind of Utopia lays at the end of the ride.<sup>83</sup> Other scholars lament this perceived slide into technological dependency, which they claim ultimately fragments and isolates humans.<sup>84</sup>

Those viewpoints represent the bipolar ends of a spectrum. Some political economists tend to see the problem more as one of political accommodation and struggle to reach a middle ground.<sup>85</sup> A sophisticated view of this may be found in the work of the Canadian political economist Harold Innis, who suggests a need to find a balance between the claims of culture and power.<sup>86</sup>

Yet perhaps this spectrum is itself too simplistic. One of the finest historians of technology, Daniel Boorstin, has reminded us that there are really two kinds of revolutions to contend with. Political revolutions have a "Why?" "People are moved to political revolutions by their grievances, real or imagined, and by their desire for a change."<sup>87</sup> Yet with technological revolutions, "although in retrospect we can always

82. PIETER GEYL, *DEBATES WITH HISTORIANS* 238 (1955). See also Thomas L. Haskell, *Deterministic Implications of Intellectual History*, in *NEW DIRECTIONS IN AMERICAN INTELLECTUAL HISTORY* 132 (John Higham & Paul K. Conklin eds., 1979).

83. See generally MARSHALL McLUHAN & QUENTIN FIORE, *THE MEDIUM IS THE MESSAGE* (1967); MARSHALL McLUHAN, *UNDERSTANDING MEDIA: THE EXTENSION OF MAN* (1965).

84. See generally GEORGE GRANT, *LAMENT FOR A NATION* (1982).

85. HAROLD A. INNIS, *EMPIRE AND COMMUNICATIONS* (Mary Q. Innes ed., 1989).

86. See generally ARTHUR KROKER, *TECHNOLOGY AND THE CANADIAN MIND* (1984).

87. DANIEL J. BOORSTIN, *HIDDEN HISTORY* 234 (1987).

see large social, economic, and geographic forces at work," we have no Why? Such revolutions are not "conscious and purposeful."<sup>88</sup> Political revolution and change is purposeful. Technological change is a quest—to boldly go where we have never gone before.<sup>89</sup> Yet, as Boorstin sees it, we have confused these two endeavours. "We have tried to make government more experimental and at the same time to make technological change more purposive than ever before."<sup>90</sup>

The failure to make the distinction leads to what Boorstin calls a Gamut Fallacy. Gamut is an old English term meaning "the complete range of anything."<sup>91</sup> "When we think of the future of our political life we can have in mind substantially the whole range of possibilities . . . . [this] authenticates the traditional wisdom of political theory . . . . that political wisdom does not substantially progress . . . . [but w]e cannot envisage, or even imagine, the range of alternatives from which future technology will be made."<sup>92</sup> Politics is of our making; the physical world is not.<sup>93</sup> Hence, "[P]olitics is the Art of the Possible and . . . . Technology is the Art of the Impossible."<sup>94</sup>

Perhaps this explains Katsh's ambivalence. Much of his book bears distinctly deterministic overtones; it seems to suggest distinct things are inexorably occurring, and that either we cannot do anything about them in the legal sphere, or that we have not been able to identify the problems. Yet in other statements he remains distinctly cautious. "Research in the area of communications has not yet succeeded in explaining the exact relationship between a new technology and changes in institutional and personal life."<sup>95</sup>

Where does this leave lawyers? The answer may be decidedly conservative, and even contradict Katsh's very thesis: lawyers are likely left where they have always been—mediating change. In the absence of knowable, absolute answers, we have to come up with something less: workable solutions, often of a temporising and contingent character, in relation to technological developments.<sup>96</sup>

For instance, who amongst us would confidently assert how the "copyrightability" of computer programmes should be resolved as the pace of development in that area swirls about us? Disputes, and important ones at that, will inevitably arise. And they have to be decided, *now*.

88. *Id.* at 235.

89. With apologies to Gene Roddenbury!

90. BOORSTIN, *supra* note 87, at 240.

91. *Id.* at 241.

92. *Id.*

93. *Id.* at 242.

94. *Id.* at 243.

95. *Id.* at 267.

96. Learned Hand's abhorrence of absolutes comes to mind here. As this consummate intellectual property lawyer said of his Harvard Professors: "In the universe of truth they lived by the sword; they asked no quarter of absolutes and they gave none. Go ye and do likewise." LEARNED HAND, *THE BILL OF RIGHTS 77* (1958). Surely Hand was right—we have to be prepared to discriminate, to grapple with details, to get our hands dirty in this area, just as much as in any other.

Hence the further the law is away from providing ultimate solutions of its own, the greater the role of law in mediating the pace of change.

Three points merit attention in that dimension. First, political moderation possesses distinct virtues in times of rapid change. The approach of the authors of the preface to the Book of Common Prayer comes to mind here, when they speak of that “happy mean between too much stiffness in refusing, and too much easiness in admitting variations in things once advisedly established.”<sup>97</sup>

Second, there *are* some underlying principles that *can* be identified and need to be firmly adhered to. For instance, on the basis of all the work done in many disciplines, it seems clear that open systems are preferable to closed systems. Information flows of all kinds are critically important to human welfare; yet, lawyers instinctively break up such flows.

Third, in terms of technique, technology bound solutions are obviously obsolete. The *form* of present day legal instruments—judgments and statutes—needs rethinking in technology related issues.

### III. Directions for Future Research and Theory

If all we can do today in a practical sense is struggle for our answers, in what way can those academics pursuing longer-term socio-legal research assist in providing insights and possible solutions? What follows is a tentative (and perhaps even presumptuous) agenda for socio-legal studies in the law and technology area.

It is useful to begin by asking oneself: “What is *worthy* of inquiry?” At least one can bare one’s mind, as it were, on that. Then one may also attempt to reach agreement with one’s fellow scholars as to the right kind of questions to be asked, even though the research of many scholars would be necessary to tackle them, and a consensus on answers might be difficult.

#### A. Politico-Legal Theory and Law

In its infancy, electronic technology was viewed by many in a utopian light. It heralded, some thought, a greater distribution of wealth and would generally promote more egalitarian societies and legal arrangements.

Since that time something of a divergence of viewpoints has occurred, particularly between Europe and North America. North American social, economic and political theory, and practices have largely absorbed electronic technology as a form of advanced capitalism. Europe, on the other hand, perceives information technology more in the nature of a national resource. Japan tends to see electronic technology both ways—as an internal domestic resource for Japan, but also something to be marketed externally as a commodity. These over-arch-

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97. THE EPISCOPAL CHURCH, THE BOOK OF COMMON PRAYER 9 (1979).

ing viewpoints at least inform, and in many cases visibly drive, legal doctrine.

The current North American viewpoint is simplicity itself: to a significant degree property rights should be attached to information interests. The state in turn should “commodify” its information interests, as it does, for instance, in the theory of modern freedom of information statutes. Hence the debate tends to be more over the strength, or incidents attaching to the particular property interest.

Of course, more sophisticated, and also contradictory, analyses exist. David Bell evolved a quite complex concept of a post-industrial society.<sup>98</sup> Marxists berated him.<sup>99</sup> But this was on a simplistic basis—the end of an industrial age represented to many (most?) Marxists a change in subject matter that yanked the rug out from under them. If the industrial age ends, what happens to the basic Marxist postulates of material primacy and the ultimate triumph of the proletariat? But, of course, the Marxist thesis may possess even more staying power than its proponents give it, or its students read into it, for there is no intrinsic reason why capitalism should be limited to *industrial* capitalism.<sup>100</sup>

The learning and the problem for researchers is surely this: the meaning of class and power is absolutely fundamental in today’s world, when information technology now overlays older agrarian and industrial traditions. If Marx put his finger on capital as the fundamental concept of the industrial age, Bell put *his* finger on information as the organising concept of the new society.<sup>101</sup> But what has happened to the idea of class? Has *it* just withered away?

David Lyon helpfully points out that analytically three answers may be possible to this question.<sup>102</sup> It may be that we have or will achieve a classless society from this technical revolution. Lyon calls this “class rejected.” Alternatively, capitalism may get into bed with information technology, thus leading to “class reasserted,” but in an even stronger form. Or, finally, the resulting mix may be different—fundamentally so—resulting in “class reconceptualised.”

Lyon’s analysis is revealing. We can already reject alternative one: in fact information underclasses abound, and the Third World protests information imperialism. Alternative two seems to be the alternative

98. DANIEL BELL, *THE COMING OF POST-INDUSTRIAL SOCIETY* (1973).

99. See *infra* text accompanying notes 100 and 102.

100. Easily the most significant Marxist work in relation to intellectual property was published in French by Bernard Edelman: *LE DROIT SAISI PAR LA PHOTOGRAPHIE: ELEMENTS POUR UNE THEORIE MARXISTE DU DROIT* (1973). An English language translation exists, see BERNARD EDELMAN, *THE OWNERSHIP OF THE IMAGE: ELEMENTS OF A MARXIST THEORY OF LAW* (Elizabeth Kingdom trans., 1979). This work received practically no attention from North American legal scholars, notwithstanding its important theoretical dimensions, which also extend well beyond intellectual property law.

101. See R. Grant Hammond, *Quantum Physics, Econometric Models and Property Rights to Information*, 27 *MCGILL L.J.* 47 (1981).

102. DAVID LYON, *THE INFORMATION SOCIETY: ISSUES AND ILLUSIONS* 55-63 (1988).

North America consciously aims to achieve, whereas alternative three lies closer to the European viewpoint.

### B. Economics and Law

I have suggested elsewhere that it is essential that lawyers get to grips with the economics of information, and endeavour to relate that to law generally and legal rules in particular.<sup>103</sup> This is a fiendishly difficult task. Part of the problem is that the age-old lawyers' instinct to reify information comes to the fore. It is easier to commodify information, even though one knows that some of the characteristics of information are not anything like those of a widget.<sup>104</sup> The reification is also attractive to entrepreneurs, because it triggers a ready made pool of exclusionary property doctrine.

We need more and better theory on the economics of information, as well as more localised investigations against which to test that theory. Given the careful record keeping associated with the law, the legal enterprise would be a fertile ground for investigation.

### C. Geography of Law

What are we to make of the fact that in all the advanced economies, recent economic growth has been concentrated in the service industries, particularly those associated with information technology, *and in particular places*? Only a minimal amount of work by socio-legal scholars exists on the geography of law;<sup>105</sup> a similar dearth exists in studies by geographers on the geography of information.

Manuel Castells' monumental *The Informational City*<sup>106</sup> remains the classic work in the area of informational services from a geographical perspective. Castells offers an immense amount of sophisticated analysis, but his message is plain enough on several fronts. Castells rejects what he calls a new informational mode of development as the product of the new technologies; nor does he find that technologies are some sort of mechanical response to the current kind of organisational systems. As Castells sees it, the new technologies follow their own kind of logic. Indeed, information technology in particular has a great deal to do with the three major changes in capitalist economies in the last decade. These changes are the increasing surplus from production; the move in state intervention away from social redistribution; and, finally, accelerated internationalisation. Most importantly, from his perspective as an urban sociologist, Castells finds what he labels a "new industrial space," reflecting different kinds of spatial divisions of labour, the generation of information in new innovative milieux, extreme flexibility in location, and decentralization of production functions. The result, in

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103. Grant, *supra* note 44; see also Grant, *supra* note 45.

104. See *supra* notes 44-45 and accompanying text.

105. For a useful introduction, see Kim Economides et al., *The Spatial Analysis of Legal Systems: Towards a Geography of Law*, 13 J.L. & Soc. 161 (1986).

106. MANUEL CASTELLS, *THE INFORMATIONAL CITY* (1989).

all, is a geography of flows, rather than a geography of places. Organisations themselves become placeless.

Castells is also concerned about the outcome, because “[p]eople live in places, [yet] power rules through flows.”<sup>107</sup> His ideal answer—in fact already happening in many ways—is the reinvention of the city state.<sup>108</sup> Amongst other things, “citizens’ data banks, interactive communications systems, and community based multi-media systems” can be powerful weapons for “citizen participation.”<sup>109</sup> In the end, Castells would like to see *informational cities* that are community based.

The implications of this analysis extend to the way lawyers think on many structural and technical issues. Markets, for the purposes of anti-trust and trade practices legislation might well look quite different. Intellectual property law should be far more resource based. What would passport law look like? Local government structures and law would similarly have to undergo quite radical alterations.

In relation to the development of electronic technology, these are only some of the areas of concern which need more attention in socio-legal studies. Along with the valuable work being done in communications studies and law—which is really where Katsh’s book fits—they hold at least some promise of helping us come to grips with the meaning of the world we now live in and to help us to shape our individual and collective destinies, to whatever extent we can.

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107. *Id.* at 349.

108. This sentence echos of his brilliant study of community power. MANUEL CASTELLS, *THE CITY AND THE GRASSROOTS* (1983).

109. CASTELLS, *supra* note 106, at 353.

