

What's so Special About Cyberspace – Reflections on Elkin-Koren And Salzberger

Ejan MACKAAY¹

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Lex Electronica has now existed for 10 years. That is a cause for pride and congratulations to those who took the initiative at the outset, those who believed in it all along and kept it going, and those who now ensure its continued presence on the cyberscene.

In this short paper I want to ask what is so special about cyberspace to justify a law journal devoted to it. Are we not pursuing the « law of the horse »?² Niva Elkin-Koren and Eli Salzberger have looked into that question, first in a paper³, then in a full-length book.⁴ Let us take a look at the book for guidance about what is special in cyberspace.

The title of the book -- *Law, Economics and Cyberspace - The Effects of Cyberspace on the Economic Analysis of Law* – requires some explanation. It suggests that we are dealing here with a methodology book, explaining how the appearance of a new phenomenon, cyberspace, forces the law-and-economics community to adapt their tools. Superficially, that is indeed the tack the book takes. It argues that law-and-economics has to move from its strict neo-classical conception of markets with their four kinds of failure (monopoly; externality; public goods; imperfect information) and correction by government, to a richer conception, first incorporating transactions costs, under the influence of the writings of Coase and followers, then transforming itself into what the authors term a neo-institutional view. Transactions costs analysis, the authors explain, includes the analysis of the emergence of institutions, their internal decision-making process and their external interactions. Neo-Institutional analysis – the third generation of law-and-economics, in their view – is the broadest framework of them all insofar as it incorporates institutional structures as endogenous variables within the analysis of law. This means that economic actors use scarce resources to get the political institutions

¹ Professor in the Faculty of Law and Director of the Centre for Business Law and International Trade (CDACI), Université de Montréal. My thanks to Paul Geller for comments on an earlier draft.

² Easterbrook, Frank H., « Cyberspace and the Law of the Horse », (1996) *University of Chicago Law Forum* 207-216;

³ Elkin-Koren, Niva and Eli M. Salzberger, “Law and Economics in Cyberspace”, (1999) 19 *International Review of Law and Economics* 553-581. A wide-ranging but largely American bibliography of the law of cyberspace is given at <http://h2obeta.law.harvard.edu/61117> (visited 13/11/2005).

⁴ Elkin-Koren, Niva and Eli M. Salzberger, *Law, Economics and Cyberspace - The Effects of Cyberspace on the Economic Analysis of Law*, Cheltenham, Edward Elgar, 2003

that serve them best. This use of resources is in competition with other conceivable uses. Economic analysis of law, on this enlarged view, would include what public choice has to offer.

I doubt that standard economic analysis of law is really in disagreement with this view. Public choice considerations are part of Posner's standard treatise.⁵ Cooter, co-author of another widely used book on the subject,⁶ has also written on constitutional matters.⁷ My own book has a chapter on public choice.⁸ So perhaps the authors are merely making explicit a development on which there is broad agreement. Some authors see an even further broadening of the approach and suggest that the teachings of law-and-economics have been fully absorbed into mainstream legal scholarship, at least in the United States. One of them considers that in the process, the characteristics originally defining law-and-economics such as 'rational choice, utilitarianism, efficiency, wealth maximization, markets, predictive power, and coherence have been questioned, abandoned, or smudged beyond recognition.'⁹ But she also thinks that law-and-economics, whilst apparently declining and being diluted, has 'reached heights scaled by no other jurisprudential school. Its success has consisted mainly of telling lawyers, lawmakers, and legal scholars how and why they must keep their eye on the welfare ball when making policy - but it has also fostered other triumphs: the importation of interdisciplinary findings into law and across campuses; the insistence on (if not quite the achievement of) empirical research as integral to legal policy; and the touch of science - whose perils and pretensions I have noted but that also can spur lawyers to reach for more rigorous work.'¹⁰

All in all, law-and-economics should be seen as a method for deepening our understanding of legal issues and underlying policy questions. It is a tool useful to lawyers in all aspects of lawyerly work. Rather than focusing on questions of method in Elkin-Koren and Salzberger's book, it would seem rather more interesting to look at what it can teach us about cyberspace.

Cyberspace 'increasingly resembles an economic market – a traditional outlet for goods and services.' A market is where buyers and sellers of particular goods and services meet to trade their wares. Originally many people would gather in one physical location, but as telecommunications technology evolves, they no longer need to for there to be a market. In cyberspace, sellers who have web sites offering their wares 'meet', for instance, on the lists compiled by bots to tell a buyer where a particular good or service may be procured, at what price and on what terms. From physical places markets will increasingly transform themselves into virtual ones. Is this entirely new with cyberspace? Perhaps glimpses of this change could already be seen with earlier advances in telecommunications such as the telegraph, the telephone, the fax. But cyberspace plays on virtually all of our senses (literate, audio, visual, though not yet our sense of smell) at once, which creates the quantum jump.

⁵ Posner, Richard A., *Economic Analysis of Law*, New York, Aspen Law & Business, 2003, (6d ed.);

⁶ Cooter, Robert D. and Thomas Ulen, *Law and Economics*, New York, Pearson Addison Wesley, 2003, (4d ed.);

⁷ Cooter, Robert D., *The Strategic Constitution*, Princeton, Princeton University Press, 2000

⁸ Mackaay, Ejan, *Analyse économique du droit – I. Fondements*, Montréal/Bruxelles, Éditions Thémis/Bruylant, 2000

⁹ Bernstein, Anita, "Whatever Happened to Law and Economics?" (2005) 64 *Maryland Law Review* 303-336, 324.

¹⁰ *Id.*, 335.

Much of our well-being depends on how well markets function and much of our political and social organisation, including law, could be seen as structured around the imperative to make markets work as well as they can in what they are good for, and no more. Historically, many restrictions on markets could be taken for granted as physical constraints would set automatic limits. But in cyberspace, many of the traditional constraints tend to pop and this then suddenly makes us aware of their absence and face the problem of what, if anything, to replace them with. In cyberspace, you no longer physically inspect goods before purchasing them, nor signal your agreement to buy by a handshake. Taxing your purchases raises the question of which political entity or entities should be entitled – and have the means – to do so. ‘Keeping an eye on your wares’ no longer has the same meaning in a universe where intellectual content can instantly and flawlessly be copied and transmitted. ‘Sweeping the market clean enough for business’¹¹ takes on different dimensions where a virtual market place is concerned.

To tease out the implications of cyberspace for law, Elkin-Koren and Salzberger use the traditional categories in which neoclassical economic theory predicts that markets will not function (well) and in which government corrective action is considered warranted: monopoly; public goods; imperfect information; externalities. Most such corrections will be reflected in legal rules and hence studying the market imperfections should give us a preview of at least some of the changes to expect in the law.

As regards monopoly, the authors observe that in the physical world, high entry costs can be a source of market power; in cyberspace, these costs should decline significantly. Furthermore, consumer information in traditional markets is often conveyed through advertising in ways which may confer some market power; again in cyberspace, information provision is of the essence of the medium and the problem is rather to master the wealth of it. On the internet, it is sometimes said, point of view is everything¹². Search engines are one response to this problem, but they may introduce their own slants. In cyberspace, markets are no longer ‘naturally’ defined by nation-state borders. Cartel arrangements which are reflected in national legislation are suddenly exposed to the winds of competition from elsewhere. Finally, the scarcity of physical goods may confer some market power in traditional markets; in cyberspace, information content is not naturally scarce. Whilst these developments suggest a decline in older sources of market power, they create new forms of it in that compatibility, connectivity and interoperability are of the essence in cyberspace. Are standards wars replacing competition of the older variety?¹³ Control of a standard may be a new source of market power which can lead to lock-in or to exclusion. Network or bandwagon effects – the usefulness of a product increases as more people use it, so everyone in due course has an interest in joining the bandwagon – may mean that competition no longer works in the traditional ways and that what would look like a near monopoly in a traditional setting need not be so in cyberspace.

¹¹ Rose, Lance, «The Emperor's Clothes Still Fit Just Fine — Or, copyright is dead; Long live copyright», (1995) 3.02 *Wired* 103-106 : ‘Cops have plenty of experience in sweeping the public markets clean enough for business.’

¹² See Barlow, John Perry, “The Economy of Ideas - A framework for rethinking patents and copyrights in the Digital Age (Everything you know about intellectual property is wrong)”, (1994) 2.03 *Wired* 84-90, 126-129; <http://www.wired.com/wired/archive/2.03/economy.ideas.html> (visited 11/11/2005)

¹³ See *The Economist*, Technology Quartelry (4 Dec. 2004), p. 16, and 5 Nov 2005, p. 67, on the battle about the new DVD standard.

The second form of market failure in neo-classical economic analysis is public goods, that is objects which are hard to keep exclusive and which can be used by one person without diminishing their utility to the next. These characteristics would make it difficult for anyone to run such a service or market for such a commodity profitably and hence would seem to indicate a need for public provision. There is debate about how pervasive public goods in fact are. What was once thought to be a good example of it, the lighthouse, was shown to have been provided by semi-private initiative in a ground-breaking article by Coase.¹⁴ Information, which is the substance of cyberspace, would seem to have public goods characteristics in most of its uses. Economic analysis recommends that goods be sold at their marginal cost of production and since it costs next to nothing for an extra copy of information to be produced on the internet, this would suggest that information ought to circulate freely. Restrictions on use would create deadweight loss and this would be particularly damaging in that new creations build almost always on earlier ones. Intellectual property, which creates restrictions on use with a view to providing a decentralised potential of reward for current creators, will complicate follow-on creation later on. If intellectual property is extended too far, it may interfere seriously with the overall level of creation and innovation in society. As you open the door for the current creators, you close it to the same extent for future creators. The structure of intellectual property rights reflects this trade-off: they are granted for limited periods and on restrictively defined objects which exhibit some measure of originality or novelty, leaving abstract ideas and theories as well as staple knowledge in the public domain for follow-on.

Difficulties of exclusion are one of the defining characteristics of public goods. Technology may change what is excludable. In cyberspace, any use of information requires copying – leading to a fortuitous extension of copyright – and is traceable. Technological locks (code) may make information reasonably excludable and hence a property right viable. But technological locks call forth their own opposite in the form of code crackers and we then have the makings of an arms race, which is a costly and frustrating business. Law can step in here to prevent the arms race. But where should it set the boundaries of the virtual property rights? If it protects the code for any information it can fence in, as anti-circumvention legislation tends to do, we may well wind up with far less space for follow on than was contemplated under the traditional intellectual property legislation. Interest group pressure, about which public choice can usefully inform us, may explain this. Open source, copyleft and creative commons initiatives, of which there are many¹⁵, may be read as signals that intellectual property protection has gone too far. Do they show that we can dispense with special incentives to create altogether, that these are modes of creation “outside the market” (quoting Benkler¹⁶ on the *commons-based peer production*)? In all such ventures that have been studied, people contribute to the common venture, held in common space through licensing arrangements borrowed from copyright – an institution designed to secure exclusive control – in the hope of cashing in elsewhere on the skills and reputation so acquired. Big players like IBM and Oracle

¹⁴ Coase, Ronald H., « The Lighthouse in Economics », (1974) 17 *Journal of Law and Economics* 357-376. Other examples of such refutations are discussed in Mackaay, Ejan, *Analyse économique du droit – I. Fondements*, Montréal/Bruxelles, Éditions Thémis/Bruylant, 2000, p. 161 ff.

¹⁵ Lerner, Josh and Jean Tirole, “The Scope of Open Source Licensing”, (2005) 21 *Journal of Law, Economics and Organization* 20-56, available at <http://www.nber.org/papers/w9363>

¹⁶ Benkler, Yochai, “Coase's Penguin, or, Linux and the Nature of the Firm”, (2002) 112 *Yale Law Journal* 369-446 (<http://www.benkler.org/CoasesPenguin.html> - visited 13/11/2005)

do so because the cost to them of letting the market be monopolised by a competitor looks more awesome and costly. The remarkable discovery is that this formula leads to solid products whose bugs are quickly corrected, even for very complex programs such as the Linux operating system. Whether the formula is also good for producing highly innovative software is an open question, on which no evidence is as yet available.

In the scientific world, the virtues of sharing are being rediscovered. The first three quarters of the twentieth century saw massive expansion of private copyright journals as the preferred media for distributing scientific ideas. The advent of cyberspace has turned the evolution round 180 degrees towards free sharing of scientific knowledge¹⁷. Richard Nelson had predicted this result in 1959 and has restated it recently.¹⁸

Information deficiencies are the third form of market failure identified in the neo-classical economic discourse. Cyberspace is of course geared for information transmission, so collection and communication are not the problems they are in the physical world. But here, too, new problems arise. There is, if anything, an abundance of information; amongst the overload, the problem is how to select what information you need. This depends not merely on relevance but also on reliability or trustworthiness. We do still experience information being pushed on us (spam), but more readily than in older markets, we can pull in information and do our homework before engaging in a transaction. To do this, we use search engines, each of which reaches only part of the internet content (16% for the most efficient ones, is the number the authors cite – 75) and scours cyberspace for searchable content, classifying it for future reference. These procedures may be adjusted as the engines observe which references users actually consult.

Externalities – the fourth market imperfection in the traditional view – is defined as ‘an effect on a specific market, the source of which is external to this particular market.’ One person’s welfare is being influenced otherwise than through a market or voluntary exchange. Vaccination of most citizens creates positive externalities for the few hold-outs who refuse to be vaccinated. A light installed on a common parking lot creates a positive security externality for all users. The more problematic externalities are the negative ones such as a wood mill’s dumping poisonous chemicals in a stream used by others for drinking or swimming. In cyberspace, if your welfare is affected by information you do not like, your exit options are generally easier than in physical space: you can quit the virtual community (discussion group, website etc.) where that information circulates. Spam is broad scale externality, but it is being addressed by filters and now also by criminal law of the various nation states. In the opposite sense, the restrictions nation states impose on various activities and forms of information provision are at odds with the essentially borderless nature of cyberspace. The Yahoo! cases dealing with making available for sale neo-nazi objects illustrate the problem: this is prohibited

¹⁷ The Economist of 24/9/2005, 97, referring to the OECD Report of 4 September 2005, entitled *Digital Broadband Content: Scientific Publishing* (<http://www.oecd.org/dataoecd/42/12/35393145.pdf>)

¹⁸ Nelson, Richard R., “The Simple Economics of Basic Scientific Research”, (1959) 67 *Journal of Political Economy* 297-306; Nelson, Richard R., *The Market Economy, and the Scientific Commons*, (2004) 33/3 *Research Policy* 455-474, reprinted in: *Droit et économie de la propriété intellectuelle*, Marie-Anne Frison-Roche and Alexandra Abello (eds), Paris, Librairie générale de droit et de jurisprudence, 2005, pp. 27-50, 39 : ‘I do not know of a field of science where knowledge has increased cumulatively and, through cumulative advance, dramatically, that has not been basically open.’

in France and leads to criminal conviction there, but is perfectly legitimate in the United States, where the servers were located. These are the jurisdictional problems of national legal systems which, in physical space, were solved by rules (private) international law.

Chapter 8 delves into how transaction costs shape up in cyberspace. The cost of identifying potential contracting partners and of specifying the terms of contract should be significantly lower in cyberspace than they are in the physical world. Enforcement of rights through encryption and access codes should similarly be relatively more effective than are corresponding methods in physical space. Enforcement through the courts may be spotty because of jurisdictional problems. All of this would argue, in the framework set out by Calabresi and Melamed,¹⁹ for protecting interests by property rules (owner of a resource can stop you from using it without his or her permission; backed up in law by the availability of injunctions) rather than by liability rules (owner cannot stop you from using the resource, but can make you pay court-set damages – a usage fee). Property rules rely less on state intervention than do liability rules. Overall, cyberspace would seem more amenable to what since Hayek is called ‘spontaneous ordering’.

This idea is further pursued in the last two chapters setting out ‘preliminary thoughts about neo-institutional law and economics and cyberspace’ (ch. 9) and ‘the effects of cyberspace on the economic theory of the state’ (ch. 10). Chapter 9 sees room for democratic rule-making in cyberspace, a multitude of communities with their own customised norms and enforcement by code (technology). It is a view articulated a century ago by Santi Romano.²⁰ The authors expect us to develop a different view of what law is. They do not appear to see all this as a uniformly positive development: ‘Individuals in the online environment are therefore cut off from their historical, cultural and geographical context, on the one hand, and widely exposed to a relatively homogeneous information environment, which affects their preferences, on the other hand. Indeed, a globalized market for goods could benefit from a relatively homogenized body of consumers, consuming goods under fairly standard interoperable settings.’ But they do see a role for the traditional states, arbitrary and historically contingent as their existence and boundaries may appear to be. This echoes Douglass North in a different context : ‘You do not get government out of it.’²¹

The final chapter, on the theory of the state, comes to a negative conclusion: ‘In Netanel’s [liberal] framework we examined whether the principles of individual liberty, civic equality, popular sovereignty and government by the consent of the governed should direct us to a political system with representative government elected by popular majority. We argued that in the new world of Cyberspace the answer should be negative. Based on the same normative foundations, we must re-think the conventions of the existing concepts of the state.’

So what, in the end, is special about cyberspace? The book does not give a clear answer to that question. Perhaps a concluding chapter would have led the authors to do so, but there is no

¹⁹ Calabresi, Guido and Douglas Melamed, “Property Rules, Liability Rules, and Inalienability: One View of the Cathedral”, (1972) 85 *Harvard Law Review* 1089-1128.

²⁰ Romano, Santi, *L'ordinamento giuridico. Studi sul concetto, le fonti e i caratteri del diritto. Parte prima*, Pisa, Tipografia editrice cav. Mariotti, 1917; translated into French as *L'ordre juridique*, Paris, Dalloz, 1975.

²¹ North, Douglass C., *Understanding the Process of Economic Change*, London, Institute of Economic Affairs, 1999, 23.

such chapter. I agree that cyberspace is a place where things (including ideas) are exchanged and in that sense a market. Is it a separate market or an extension of traditional markets in different guise, as politics is said to be warfare by other means? Perhaps a bit of both. In a slightly different context, Posner does not believe the New Economy not to be amenable to application of traditional antitrust law.²² To the extent that it is the latter, we might look to earlier technological advances to see what happened to markets: advances in transportation, earlier telecommunications advances. In each case, new contracting partners come into view and hence, new opportunities for profit, but also new possibilities of falling victim to fraud or other opportunistic behaviour. In each case we see institutions being set up to inform about strangers who are potential contracting partners (even vouch for them) and to provide recourse (even just blacklisting) against those who behave opportunistically. Since courts cannot necessarily be relied on in this process, much takes place at the initiative of interested persons: creating trust and preventing it from being undermined (by free riders in their midst) is in their collective interest.

Where new objects are being fashioned for exchange, means (technical, marketing, contractual) must be developed to secure control over them to a sufficient extent to make virtual property rights viable²³. Property rights of some sort are a condition for any exchange to take place, for any market to function.

I believe much of what the authors present as illustrations throughout the book in fact demonstrates this very logic of discovery at work. In this way, the existing social order is extended, using tools available within it, to encompass a wider range of objects and trading partners. One might describe it as a form of experimentation, a social learning process. The important thing is that it can take place at the initiative of interested persons, even if it is consolidated afterwards by state institutions specially empowered to that end. We may rationalise these consolidations in retrospect as corrections of a limited number of market failures. But as the work of Coase and followers has demonstrated, it would be unwise to use these rationalisations prospectively as an agenda for intervention or regulation on new frontiers such as cyberspace. My guess is that we need decentralised discovery here and that we are in fact getting it. If this is what is happening before our eyes, cyberspace should inform us about the workings of spontaneous orders and indeed give pause to those who have become too ensnared in a positivist conception of law.

But of course, you don't get the government out, to quote North again. Much of the norm setting designed to govern cyberspace takes place through the institutions especially empowered to that end. This process is subject to such distortions as rent-seeking, to which public choice has drawn attention. The unbridled extension of all forms of intellectual property must be explained this way, it seems to me. David Nimmer, for one, has brilliantly demonstrated the workings of this regrettable logic, to the tune of two amending statutes a year on average, for copyright law in the US over the past 25 years, with the result that even in his learned eyes the act has become barely readable.²⁴ And in patent law – now also available on

²² Posner, Richard A., Antitrust in the New Economy, rapport, U Chicago John M. Olin Law & Economics Working Paper no 106 (2d series), 2000 http://papers.ssrn.com/sol3/papers.cfm?abstract_id=249316 .

²³ Mackaay, Ejan, The Economics of Emergent Property Rights on the Internet, in: *The Future of Copyright in a Digital Environment*, P. Bernt Hugenholtz (ed.), The Hague, Kluwer Law International, 1996, pp. 13-25.

²⁴ Nimmer, David, "Codifying Copyright Comprehensibly", (2004) 51 *UCLA Law Review* 1233-1387.

life forms, software and business methods – the situation may be even worse, considering the much more incisive powers conferred by patent.²⁵ The reaction here has been to create *open source* software, *copyleft* and *creative commons* cultural content, and to make scientific discoveries in the fields of genomics publicly available so as to prevent patenting and to keep them freely available to all.

All of this may be seen as a discovery process in search of new social arrangements. What should interest us are the general features of the process and of the new norms, which ensure that the arrangements will work out to the benefit of the community at large rather than to that of particular players and to the detriment of the rest. We may want to turn to Hayek and others who have thought about spontaneous orders for guidance about how state institutions can support the discovery process without themselves initiating it or foreclosing innovation which upsets current institutions, whilst preserving the foundations of the market order. Public order will presumably have to be ultimately secured by the government of nation-states. The last two chapters of the book seem to be groping towards principles of this kind but without succeeding in fully articulating them. Law-and-economics provides appropriate tools for such an inquiry, but no automatic answers. So perhaps this book should be seen as a work in progress, in which case, appropriately, it has no conclusion.

²⁵ Jaffe, Adam B. and Josh Lerner, *Innovation and its Discontents: How our Broken Patent System is Endangering Innovation and Progress, and What to do about it*, Princeton, Princeton University Press, 2004.