

first publication

»Liberty is constructed by structures that preserve a space for individual choice«
Larry LessigThis contribution was presented in:
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The aim of this paper is to trace some consequences of the technologies behind the information revolution on the traditional institutions of control. I hope to show a point of discontinuity in the history of the means of control and will point out that this discontinuity will consequently result in the emergence of new means of control in general as well as in specific fields. At the end of the paper I demonstrate my thesis with an example of copyright legislation concerning the legal protection of databases and the inconsistencies caused by the current legislative approach.

1 Beniger, James R.: *The Control Revolution*. Harvard UP 1991.**Introduction**2 Cf. Lessig, Lawrence: *Code, and Other Laws of Cyberspace*. London: Basic Books 1999.

In the search for the roots of institutions of control one can choose many different disciplinary approaches. My reason for choosing Beniger as a starting point (instead of Weber or Durkheim) is his direct approach of controlling forces in relation to technological development unleashed by the industrial revolution in his famous oeuvre *The Control Revolution*¹. Thus, in this paper, after Beniger, the notion of technology will cover all the things a society is capable of doing, to all that can be done, regardless of the space (real or virtual) we are in. This approach is convenient as long as we regard technology in contrast to the notion Lawrence Lessig has referred to as »architecture«, the constraints and possibilities defined by the »built environment«. ² Technology and architecture are then used with a similar meaning, describing the space of possibilities allowed within this structure, innovations serving as amendments to this space adding something to all the things a society, or an individual is capable of doing.

3 Beniger 1991, p. 7.

By control, I mean here a whole range of different types of influence that are backed up with a specific purpose, or as Beniger put it, »purposive influence toward a predetermined goal«. ³ When I speak about control then I logically mean an agent that has an influence, another set of agents who are influenced, a purpose as well as the means to practice that control. For this concept of control one also has to include the information input, processing capability and feedback that make the control process a closed loop of regulation.

Control Revolution

Beniger describes the evolution of control mechanisms in relation to processing material flows, management capabilities of material production, distribution and consumption. He traces the history of technical innovations of the 19th century, from James Watt's steam governor, a simple mechanical instrument of control, via the mechanized means of industrial production – such as continuous process production or the assembly line –, to the newly emerged means of distribution and transportation, like rail networks, steamship lines and urban traction systems. He notes that these innovations were valuable as long as the administrative and controlling forces were capable of keeping track of the increased throughput of materials. Thus, he argues, the technologies of material flows were co-evolving with inventions of control techniques that enabled the management of these material processes. Bureaucracy, Taylor's scientific management, statistical quality control, accounting on the one hand, and modern communication and information processing technologies like the telegraph, the telephone or postal service on the other were supporting and actuating the revolution of industrial production and distribution.

For the purposes of this paper, I follow his conclusion that there is a history of the means of control we can point to, and this history is closely connected to the history of technological innovations. I also go one step further when I try to examine the means of control in contrast to the innovations during the later half of the last century that catapulted us into the digital realm. Which path will the evolution of control techniques take, when the agents and processes to be controlled slipped into the virtual domains as well? The question is, whether the appearance of digital technology creates a discontinuity in the history of control, or in other words, when we step into the virtual, can we take with us the traditional control mechanisms?

In the following pages I try to prove that we cannot, but first we have to clarify the significant differences in the contexts in which the occurs control.

4 Durkheim, Emile: *The Division of Labor in Society*. Trans. by G. Simpson. New York: Free Pr. 1933 [original French ed. in 1893], pp. 369-370.

5 Sassen, Saskia: *Electronic Markets and Activist Networks: The Weight of Social Logics in Digital Formations*. Keynote Speech to this Conference, held on December 10, 2003. Forthcoming in: <http://www.kakaniien.ac.at/ncs/beitr/SSassen1.pdf>

6 Shapiro, Andrew: *Control revolution*. PublicAffairs 1999, p. 7.

7 *Ibid.*, p. 10.

Informational Society

Exactly 110 years ago, Emile Durkheim wrote in *The Division of Labour in Society*:

Fusion of different segments draws the markets together into one which embraces almost all society. [...] The producer can no longer embrace the market in a glance nor even in thought. He can no longer see limits, since it is so to speak, limitless[.]⁴

It is astonishing how well these word describe the situations of contemporary everyday-life. The only difference is that the limits of this limitlessness have expanded considerably, the »all« that is embraced now covers fields that did not even exist in 1893. One of these fields (e.g.) is the global flow of immaterial commodities: financial instruments, news, electronic services, knowledge, all the information of the world wide web: music, movies, bits and bytes that in many cases – as Saskia Sassen has noted in her contribution⁵ – are dematerialized images of real life, very material commodities. At the same time, anonymous avatars, pseudonyms or identifiable representations of individuals – all very virtual agents – are constantly constituting their very being by communication, acts of information production, reproduction, distribution and consumption in the virtual realm. Beniger's sentence, that is »information processing and communication is to define life itself« seems no exaggeration when looking at existence in the virtual world.

We have a whole new domain of immaterial flow, built on a material base, but detached from many of the rules of materiality, constantly forming its own rules. We have a PC culture, digital gadgets branded by »Go create!« slogans that result in the technology of uncensored, Do-it-yourself content production. We have a common digital platform, standards that provide interoperability and ubiquitous transparency resulting in a technology of no cost content reproduction, transformation and copying. We have several networks of computers and other appliances that manifest themselves as a technology for no cost content distribution.

But what is the technology to control these technologies? Do we have a »governor« for these engines?

Andrew Shapiro envisioned the »potentially monumental shift in control from institutions to individuals made possible by new technology«⁶ and the conflict of such change between individuals and powerful entities (governments, corporations, media) in his book *Control Revolution*. Shapiro continues:

It is a time of diminishing stature for many authority figures: legislators and other public officials, news professionals, commercial middlemen, educators. Hierarchies are coming undone. Gatekeepers are being bypassed. Power is devolving down to »end users«.⁷

Shapiro seems to support my suspicion of the lack of control institutions as discussed above. But let me note that even though Shapiro talks about control, – even uses the same title as Beniger – the control he talks about is different from Beniger's. He talks about possibilities, capabilities of end users, but overlooks the context in which these capabilities are based, the very architecture of the digital space. The end user might have some level of control over his or her faith in the digital realm, but has very little power over those structures that define the rules by which s/he is obliged to play. This new type of digital divide within the digital realm is more obvious at the periphery of technological development, where the lack of expertise and knowledge as well as its consequences are more visible. Thus the more important question is not about control *within* the environment, but about control *of* the environment. And this latter issue is far from even being understood.

8 Lessig 1999.

Lessig

Lessig defines four fields of control in his 1999 book *Code, and Other Laws of Cyberspace*⁸. He takes control for the synonym for regulation and distinguishes the market, the law – command backed up by the threat of a sanction – , norms that govern socially salient behavior and

8 Wellman, Barry: »The Network Community«. An Introduction to Networks in the Global Village. In: <http://www.chass.utoronto.ca/~wellman/publications/globalvillage/in.htm>

architecture – built environment, or the way the world is – as modalities that have influence on the digital realm. All of us know to some extent the strengths and weaknesses of each modality.

Laws are strongly embedded in slowly but steadily transforming offline contexts: territoriality, the institutional background of sovereign states that provide the enforcement capability, or – as is the case with current copyright legislation – a techno-cultural tradition, which stem from the early days of modernity and are tested only in modernity, meaning that they might prove to be useless as soon as that one step into the digital realm occurs.

The context in which we have to renegotiate norms has also changed extraordinarily. As Barry Wellman notes on the transformation of communities that negotiate and maintain these norms:

[C]ommunity ties are narrow, specialized relationships, not broadly supportive, while people are not wrapped up in traditional densely-knit, tightly-bounded communities but are maneuvering in sparsely-knit, loosely-bounded, frequently-changing networks.⁸

In these communities new norms emerge, norms that are strong enough to resist influence by real life institutions, market forces or even other, competing norms. One obvious example is the contrasting treatment of intellectual property online and offline.

Market forces seem to have an overwhelming influence on the digital realm as the architectural characteristics (both offline and online) are at best defined by corporate interests. The never ending standards-war seems to be a good example here.

One also has to note that the traditional goal of regulation, the compensation of market induced inequalities, the internalization of externalities and the provision of commons is weakened in the digital realm as its traditional tool, the legal framework, is weakened the most.

I have shown so far that there are going to be some relative changes within the structure of control, but does this prove that there is a discontinuity? In general it certainly does not, but through the following example will show that there are cases in very crucial fields where this change is not only a simple shift in the means of control, but where a radical reinterpretation is needed, since one crucial element, the legal component, has become altogether dysfunctional.

Deep Linking as a Copyright Issue

Deep linking (placing internet links anywhere within the site structure of a www homepage) is on the one hand the very essence of the world wide web and on the other hand a legal front-line, where companies can prohibit the creation of »a link from any Web site, including any site controlled by you, to our site«, as can be read on an online travel site's legal disclaimer⁹.

For those who dare, German and Danish court decisions should serve as a deterrence, shutting down news harvesting and aggregating services following complaints by content providers based on a copyright legislation, namely the EU database directive that gave copyright protection to databases¹⁰.

This EU database directive is an extension of the copyright for (note the universality of the definition!) »collections, sometimes called »compilations«, of works, data or other materials which are arranged, stored and accessed by means which include electronic, electromagnetic or electro-optical processes or analogous processes.« What is left out? The protection »should be extended to cover non-electronic databases« as well.

But where does this extension of copyright lead us? According to the opponents of this directive this proposal protects investment, not creativity. It creates new legal regimes that fail to guarantee the balance between the rights of information owners and the rights of users, it provides exclusive rights to control the uses of databases resulting in a change from full and open exchange to pay-per-view. In consequence, it creates a radical new regime where that is not necessary, since there has been no demonstration of market failure or lack of incentive to invest in databases that would require the implementation of such a radical new protections for databases. As a result of the global debate following the EU directive, US plans for such legislation were put aside, reflecting these negative externalities of the protection of »the author's own intellectual creation« on a digital medium, still using a concept that is essenti-

⁹ For example at cheapfares.com, (<http://www.cheapfares.com/termsAndConditions.shtml>) one amongst 5290 other websites with the same legal disclaimer according to Google at 07/14/2004. This also signals the emergence of legal standards of linking policies.

¹⁰ Directive No. 96/9/ec of the European parliament and of the council of on the legal protection of databases. Accessible on the internet at: <http://europa.eu.int/ISPO/infosoc/legreg/docs/969ec.html>

11 Camp, Jean: DRM: Doesn't Really Mean Digital Copyright Management. John F. Kennedy School of Government, Harvard Univ.: Faculty Research Working Papers Series 2002, p. 2.

12 Ibid., p. 3.

ally the one coined in the social and technological context of the 18th century. As Jean Camp notes: »In a world where paper is no longer the medium, copyright no longer protects the message.«¹¹ The notion of information property was a creation of the industrial revolution, since in previous times, all information had belonged to the Sovereign or the Church, with very few authors receiving some ownership. Only as late as the 18th century did the individual tradable ownership of authorship and information rights become an issue. As Camp notes further:

Printed paper, like other forms of information storage and transmission, created fundamental problems of economics and reliability of information. Copyright solved these problems as it addressed the issue of ownership and payment in a media that was relatively cheap, reasonably permanent, straight-forward to archive, and one that shows alterations rather easily. [...] Copying enabled mass creation and necessitated distribution. Distribution and reproduction were intimately related in the nature of copying via printing press.¹²

Copyright is therefore intimately related to the means of reproduction and distribution made possible by the printing press, providing a solution that proves to be either ineffective or simply damaging in any other medium.

There are several solutions that try to address the original issues that define the relationship of author and intellectual work and do not result in the elimination of, e.g., the fundamentals of the www, the links. Creative commons, open source initiatives and open archives address issues that were once covered by copyright, but which in the digital realm this print-based control technology is not capable of ensuring. Reputation (the right to associate an author's name with the document, fair use), epistemological trust (registration of information, registration of authorship, archiving-accessibility), freedom of expression (usually an anti-copyright argument) and moral rights (for the author a pro-copyright argument, for the corporation or owners a leftish anticapitalist contra argument) are the original issues in question.

Copyright in the digital realm in its present form mostly regards intellectual property as a commodity (sale, copy, adaptation, use) and as a result concludes to a definition like that of databases in the above-mentioned EU directive that »should be understood to include literary, artistic, musical or other collections of works or collections of other material such as texts, sound, images, numbers, facts, and data; whereas it should cover collections of independent works, data or other materials which are systematically or methodically arranged and can be individually accessed«. A no-good legal monster unleashed.

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