

'Intellectual Property' and Knowledge Creation in Disorganisations

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ABSTRACT Given the current forms of economic production and corporate markets, the liberating and democratic potential of digital information is counteracted by the concentration of media ownership, as well as by policy, legislation, and the development of proprietary forms of technology. The notion of 'intellectual property' produces artificial scarcity where digital technology could remove it. This tension between the proprietary and non-proprietary aspects of the information society can be analysed by looking at two types of knowledge creation: organisational and disorganisational. While organisational knowledge work can benefit from a notion of 'intellectual property', disorganisational knowledge work is disrupted, if not destroyed, by proprietary barriers on information. This is unfortunate if and when the crucial innovations and ethical potential of the information society are connected to disorganisational communities, even though the organisational type is more visible and better represented in the traditional structures of society.

The Ideal of Cybernetics and 'Intellectual Property'

The so-called information society means a restructuring of the modes of production, including the set of beliefs that go with or sustain the necessary social and economic structures. One of the cornerstones of this set of beliefs is the 'cybernetic' idea that some kind of information or code is the basic ontological level that guarantees both the explanation and control of all phenomena. This cybernetic ideal includes the beliefs that the functions of a computer are based on code, that human thinking is basically some sort of information processing – maybe of a self-organizing kind – and that the structure of biological organisms is ultimately based on code (the DNA). Aspects of human life are understood and operationalised as if they were in the last instance information processing according to a codified system of representations. Thus, thinking is seen as the processing of representations according to the abstract form of the representations. The form and function of biological organisms supposedly reside in the DNA code and the ways in which it is 'read'. The operations of a computer are specified by an algorithm. Even social skills and coping in the world are thought to be included in practices and agreements that can be formally represented. 'Cybernetics' in this Heideggerian sense is not only a scientific way of looking at the world and explaining phenomena as if they were in the last instance algorithmic.[1] It is also an economic and social principle of organisation.

As and when information and knowledge are quickly gaining importance as means and ends of production in the information society, it is becoming clear that the cybernetic ideal is closely coupled with ideas of the ownership of information and concepts such as 'intellectual property'. These ideas have their pertinence in a world where economic production is dependent on intangibles. 'Intellectual property' as a concept is a way of controlling and colonising the new production: the concept is essentially used in order to widen the digital divides. Two things are needed to sustain this process: first, a belief in the existence of code, a belief that 'code' is the right description of the functions of biological, technological, social or psychological systems, and

second, a belief that the code can and should be owned, that it should be treated as property. This double-bind creates a commodified society and nature.

It is essential to note that these processes and the concepts behind them – 'code', 'digital', 'property' – are historically and socially contingent. What kind of information society is to come depends in part on how these concepts are understood and employed. One of the most prominent themes in twentieth-century philosophy was a philosophy of technology that viewed technology not as a neutral tool but as inherently interest-laden. The interesting questions about technology, including information technology, can only be formed when this kind of 'who' analysis (analysis of the structures of power) is combined with the insight that technology is not one thing, not one identifiable whole with a lasting essence or drive leading to particular formations of society. 'The same' kind of technology (its forms and use) may today benefit this group of people, the next day that group of people or 'form of life'. So the questions become more concrete: what formations of power (community, subjectivity, and so on) does a particular way of using technology support, need, presuppose or undermine?

As a property of information processing, digitality is created by different technological means (electrical, optical, magnetic, and so on), but has the general characteristics of making possible the (almost) perfect copying and (almost) unlimited distribution of the information content.[2] The reproduction, copying and distribution of digital information, 'code', are substantially different from the reproduction, copying and distribution of analog information (such as the printed page or a speech). The crucial point is not only that copying and redistribution of digital information is much more precise, but also that digital information can be copied and redistributed at a minimal price compared to analog information.

One of the technological beauties of the Internet is that the network is an effective multi-purpose distributor of information packets.[3] The Net does not discriminate between packets on the basis of their content (in fact, the TCP/IP protocol does not provide a way of knowing what the content is). This basic technological fact has wide socio-political consequences. In terms of political economy the most pertinent implication is the close-to-zero price of copying in conjunction with the near-to-perfect quality of copies which, together, make digital contents possible as free public resources. This means that digitization has democratic potential: it can act as a scarcity-remover. Once adequate infrastructure exists, digital information can become available for everyone at a very low price. However, this technological possibility is far from real at the moment. Since the business model of large content-producing corporations (Hollywood industry, software industry, news and entertainment industry) is based on the scarcity of content, and since digital information and communication technology (ICT) has the potential to remove that scarcity, it is in the interest of the corporate world to try to create mechanisms of 'artificial' scarcity, and to erect barriers to the abundance of digital content. These mechanisms include legislation ('intellectual property'), technology itself, policy, and education. Digital technology is reducing scarcity, legislation is producing it: this is one of the basic tensions built into information societies.

Even if digital information can remove major barriers of distribution, there is no guarantee that it would actually do so. On the contrary, there is every reason to believe that relative wealth rules the Internet. The notion of 'intellectual property' functions largely as a scarcity-producer. Most assets on intellectual property rights are owned by a few mega-companies from the northern hemisphere. The idea behind the concept of intellectual property rights is to commodify content by creating both the legal and technological means, and, more importantly, the ideological will to treat digital content as commodities, with the ensuing benefits of protection that property enjoys. Given the current forms of economic production and corporate markets, it is important to note that the liberating potential of digital information necessitates countermeasures manifested not only in media ownership, but also in policy, legislation, and the development of technology. The details of the technological infrastructure on both the hardware and software sides have wide-ranging consequences for possibilities of use. Once again, what matters is not only the architectural details per se but, even more importantly, the questions of ownership of technological means (patents and so forth) as well as digital content (copyrights and so on). The digital technologies that liberate information are the very same technologies that make possible almost perfect control over the distribution of content. A systematic tension between civil societies and the corporate world

occurs again and again since the possibility of liberating content applies to copyrighted content too, and because in the digital age the extension of copyright has grown almost exponentially.[4]

The profusion of digital technology contains a mixed if not contradictory set of practices that both support and undermine the development of widespread digital literacy. The basic contradiction is as follows. The quick development and distribution of digital technology promises to deliver digital information to any place at any time (the great democratic potential of digital technology). However, the structure of production and the corporate logic are based on a market where digital content is considered a scarcity whose distribution can be controlled, so that a continuous revenue stream can be guaranteed. This is the tension included in all the digital utopias.

The political and violent colonialist practices of the previous centuries resulted in the usurping of previously 'non-proprietary' land by a limited group of people. In a similar way the processes of 'intellectual property' are ways of limiting certain resources into the hands of essentially the same group of people. Copyright legislation and the laws concerning other so-called immaterial rights are fast moving in the direction of protecting the rights not of authors but, rather, of corporate intellectual property owners. This trend is most marked in the United States, but the European Union is following close behind. It has been claimed that 'never before have so few owned so much a part of intellectual property' (Lessig, 2002); these words, intentionally or not, have a familiar ring.

Community and Knowledge Creation

Let us take an example of this tension. One of the most interesting debates concerning the ownership of information has been centred around software, not least because computer software provides extreme examples of both the proprietary and non-proprietary forms of interpreting and writing the existence of the digital. On one hand we have the idea and way of acting according to which computer software consists of identifiable works that are owned by their authors. Through this we get the system in which the owners of software (typically software companies) give the user the right to use the software under certain condition specified in the end user licence agreements. On the other hand, there is the idea and way of acting according to which computer software is algorithmic also in the sense that it cannot be owned; it is created in the interaction of a body of individuals and organisations and signed in the sense of 'the author who discovered something' rather than in the sense of 'the author who owns something'. These extremes are exemplified, for instance, in the level of operating systems, where the dominant Microsoft Windows system is the purest example of a proprietary system, and the GNU/Linux system the best-known example of a non-proprietary, free system.

The main economic-cum-social argument for the ownership of software (or code in general) is, of course, that only the economic incentive of property and wealth can guarantee the prosperity of a society. The arguments for the freedom of software are similar to the arguments for the freedom of science: the speed of development, the trustworthiness of the software and the availability of code are all improved by the non-proprietary nature of software, and at the same time the values of cooperation and sharing are embedded. Both ways of operating are possible, both are included in the functions of the Internet, for instance, and there is a constant tension between them.

The idea of free software can readily be compared to the ideal of science. Scientific knowledge receives its special status and credibility from the very fact that it is not owned: knowledge becomes scientific only through the open and free critique of the scientific community. To quote Jacques Derrida: 'in a scientific text ... the value of the utterance is separated, or cuts itself off, from the name of the author without essential risk, and, indeed, must be able to do so in order to lay claim to objectivity' (2002, p. 47). As a speech act, a scientific text has to be distinguished from the person(s) who signs it, otherwise we are not dealing with a text that can assume the special characteristics, authority and allowances acceded to a scientific text. This has been and still is largely the way in which scientific information and knowledge are severed from the concept of private property that is dependent on the link between a person and an entity. The author, the one who signs science, is the scientific community: a particular way of speaking, a particular type of speech act, that of scientific texts, creates a community and a way of appropriating knowledge that is different from the case of private property (as understood, for example, in the Lockean sense).

A similar device for speaking and interaction without the intrusion of private property has been developed in the case of computer software. The so-called free software movement intends to build a community of share-and-share-alike: the aim is to develop software that the user is free to use, modify and redistribute provided that the same freedoms are transferred. For this purpose the movement needs a legal and social tool, one that uses the copyright claim set on a piece of software for community building rather than for private property building. This tool, developed by Richard M. Stallman and his co-workers, is often colloquially called 'copyleft': the copyright statement in question gives the user the right to modify and redistribute the modified version of the software provided that the right is also transferred (see Stallman, 2002). This viral nature of the 'copyleft' copyright protects the information and knowledge amassed in the software from becoming appropriated outside the control of the community.

In the cases of both science and free software, the goal and the prerequisite is a community of sharing based on a certain set of common values. Both can be seen as ways of acting, as power-structures, that are instrumental in creating an information society that contradicts the trends of codification and ownership. As such they also demonstrate that digital information processing (or any other technology) does not force us to accept the commodification of code.

The tension between the proprietary and the non-proprietary ways of building an information society can be investigated from the point of view of knowledge work and production. Both the development of proprietary software in software companies and the development of free software in volunteer 'hacker' organisations are certainly instances of knowledge intensive work resulting in goods that are 'information'. But the contexts, including the underlying ethical, social and political ideas, are divergent. These sets of beliefs are not uniform, to be sure, but they do result in different views of the information society.

Software development in a big software company is organised and institutionalised, more or less a Taylorist enterprise. The knowledge production happens in an organisation with its structure, aims and functions. Such knowledge production has been studied extensively, for example, in view of the types of implicit and explicit knowledge circulating in the organisation (see, for example, Nonaka & Takeuchi, 1995). To use a definition by the sociologist Scott Lash (2002), the functions of an organisation are structured through norms and the power legitimised by the norms. An organisation like this is hierarchical, with the ensuing channels of command and division of labour.

In contrast to this, the development of free software of the GNU/Linux type happens in a widely distributed and non-institutional manner in a global volunteer community cooperating mainly through the Internet. Thus this kind of knowledge creation is not that of the organisational type. Rather, using Lash's terminology, the free software community is a disorganisation based not on norms and rules but, instead, on shared values. Lash illustrates the difference between an organisation and a disorganisation with the difference between a church and a sect. The functioning of a church is typically based on a certain hierarchy, set of norms and legitimised use of power, whereas a sect is formed around a set of shared beliefs or convictions, visions, often exemplified by a charismatic leader. The difference is crystallised in the operative force: in an organisation people are controlled and commanded by the use of legitimate power, whereas in a disorganisation people can only be controlled and persuaded through the use of (physical or non-physical) violence. A disorganisation is formed around a set of shared values. Hence, the leader (the guru, in the case of Linux, Linus Torvalds) can control the disorganisation by saying what is right and what is wrong, what works and what doesn't, even though the leader does not have any normative power, let alone legalised power. Even if a disorganisation is non-institutional and informal it is not by any means chaotic. It can be much more tightly controlled and 'organised' than an organisation, because the appropriation of resources does not obey the normativized compartments of an organisation. A sect, movement, or tribe can function in a very controlled, effective and rational manner. This is one of the elements that has surprised and continues to surprise economic theory in free software and open source development: according to received economic theory, they are impossible.

Against this background, the question of ownership of intellectual property (in this case software) can be seen in detail. Software development in a company, in an organisation can benefit from the fact that pieces of information, knowledge and code are seen as property. The ownership of code forms not only an economic motivation, but also gives a tool for the streamlining, rationalising and

economising of the organisational structure, gives a measure for effectiveness and information flows, and so on. The proprietarisation and commodification of intangible, abstract code is therefore a real asset to organisational knowledge creation. Knowledge creation in organisations gains when code is appropriated along the lines of private property, when it is commodified and controlled through digital rights management.

In contrast, knowledge creation in a disorganisation is, at the least, disturbed, and, at worst, destroyed if information is the property of owners. In the GNU/Linux community the developers take part out of their own will, they 'scratch their own itch', and the systematized sharing of information guarantees that their work contributes to a growing, common body of knowledge. The participants can contribute only insofar as the flow of information is not controlled by ownership. In the case of software, the underlying values forming the community include a belief in the freedom of information and a passion for improved information technology. The functions of the disorganisation are based on informal and non-institutional cooperation and sharing, that cannot be compartmentalised by decree or rationalised by use of power; it is largely self-organising. As Pekka Himanen (2000) has argued, this kind of disorganizational 'hacker ethic' contains a large portion of the radical socio-political potential of the information age. The shared values are embedded in the functions of the disorganisation, and those functions are at the same time the telos of the disorganisation. Disorganisations work as finalities. Therefore they do not, in general, benefit from the introduction of external goals. The proprietarisation of information and knowledge are harmful to knowledge creation in disorganisations.

From the point of view of the information society it is crucial to recognise the existence of these two different types of knowledge work, and their different preconditions. A bias is produced by the fact that the visibility of these two processes is different. Organisational knowledge creation is organised also in the sense of having its own effective lobby and representative system, while disorganizational knowledge creation relies on more underhand methods of social and political influence. This bias is all the more unfortunate if there is reason to believe that the information society is increasingly dependent on disorganisations. This is the economico-political side of the issue that, however, cannot be separated from the ethical one. A society where knowledge is divided and fragmented is less effective, less innovative and less equal and democratic than one in which knowledge is considered non-proprietary (see the arguments in Lessig, 2001, 2004).

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Notes

- [1] For a critical ontological discussion of this tendency, see Heidegger (2001, pp. 20-21).
- [2] A definition of digitality in terms of the process of near-perfect copying can be found in Haugeland (1998); see also Vadén (2004).
- [3] For the effectivity and 'blindness' of the net, see Lessig (2001), ch. 3.
- [4] For an analysis of copyright extension in the United States, see Lessig (2001); the 'globalisation' of intellectual property law is described in Drahos & Braithwaite (2002).

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