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## A LICENSE TO KNOW

*Regulatory tactics of a global network*

MAJA VAN DER VELDEN<sup>1</sup>

*Department of Information Science and Media Studies,  
University of Bergen,  
P.O Box 7800, 5020 Bergen, Norway*

**Abstract.** The sharing of open content using free peer-to-peer technology is a challenge in a world dominated by intellectual property laws and high profile court cases against people and organisations accused of illicit file-sharing. From a legal perspective this challenge seems insurmountable for a global network that seeks to enable the sharing of local knowledge for local development. Feenberg's work on the democratisation of technology and Lessig's work on architecture as a regulatory modality helps to understand the role of technology in both constraining and protecting knowledge sharing. This paper describes how technology and techno-legal instruments such as software and content licenses can become tactical interventions in the regulation of knowledge sharing.

### 1. Introduction

In an art installation, Tracey Andrews, a member of the Barkindji people, painted her ancestors' tracks on satellite images of the Lake Mundo region of Australia. Together with Lyn Moore, the artist researched the many ways the Lake Mundo region has been mapped, and in their installation they presented their images next to a colonial map of 1835, showing the colonial discovery of the region (Moore and Andrews, 2001)

The ancestral presence painted on satellite images is a powerful metaphor for the interaction of knowledge and technology. In order to address the diversity of ways of knowing, and of ways of understanding development, the initiators of the Open Knowledge Network (OKN) considered the democratisation of computer code fundamental to a new way of knowledge sharing. The OKN developed a distributed database technology, a form of peer-to-peer networking technology. Elsewhere, I have described the Open Knowledge Network (OKN) as a democratic rationalisation of database technology (van der Velden, 2005). The palimpsest of Moore and Andrews raises the question of the possibility of 'drawing the tracks' of local knowledge on this

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1. Author can be reached at [maja@xs4all.nl](mailto:maja@xs4all.nl)

technology. In *Code and Other Laws of Cyberspace* (1999), Lawrence Lessig presents architecture – the way things are built, such as nature or the code of computer software – as one of four modes of regulation. In this essay I explore the OKN technology as architecture, examining how it regulates, directly as well as indirectly, knowledge sharing within the Open Knowledge Network.

## 2. The Open Knowledge Network: Licensing for the Common Good<sup>2</sup>

The Open Knowledge Network is a network of independent organisations that share local knowledge for local development. Each participating organisation becomes an OKN hub, an intermediary with internet access, in the global OKN network. Participating organisations are selected on the basis of the role they play as facilitators of information exchange between local communities, grassroots and other civil society organisations in their own countries or regions. Becoming a hub in the OKN allows these organisations to link their local networks with other local networks in other parts of the world. OKN hubs can be found at the moment in India, Nepal, Sri Lanka, Kenya, Senegal, Zimbabwe, Uganda, Mali, and Mozambique<sup>3</sup>.

Locally, the Open Knowledge Network facilitates information sharing through the use of existing information sharing networks, using a variety of technologies and media such as radio, telephone, theatre, notice boards, and community loudspeakers. On a regional and global level, information is exchanged via the OKN's peer-to-peer file sharing network. This p2p technology enables decentralised information sharing: there is no centralised editorial control over whose knowledge and what kind of knowledge is shared. The knowledge worker at a local hub receives locally generated content and adds this content, after formatting it, translating it or describing it, to the OKN network. Each hub in the OKN can be different in terms of its information needs and the knowledge it contributes to the network. The information flows from the local to the global, making “global aggregation possible by empowering individual organisations” (Oneworld International, 2000). The hubs also play an important role in addressing local information needs, such as market prices of produce, weather information, health information, governmental information, and information about jobs and business opportunities.

In February 2006 I visited an OKN access point in the village of Embalam, near the city of Pondicherry in South-East India<sup>4</sup>. The access point is located in the *Embalam Village Knowledge Centre*, a one-room building attached to Embalam's temple. The Centre provides the sociotechnical infrastructure for several information sharing projects, including the OKN. One of the woman volunteers working in the Centre is Kasturi. She explained that access to health information is one of the reasons women come to the centre. Her task is to identify local knowledge needs and to address these

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2. Armstrong et al. (2002), a short version of the proposal for the establishment of the OKN, states “licensing for the common good” as the third key principle of the OKN.

3. See URL <http://sync.openknowledge.net:8080/eNRICH/index.do?siteid=103> for a presentation of the “OKN for the Internet”.

4. I was invited to join a delegation of representatives of OKN hubs in Africa on their visit of some OKN hubs in India in February, 2006. See URL [http://www.openknowledge.net/show\\_cont.php?id=71](http://www.openknowledge.net/show_cont.php?id=71)

needs with information she finds via the OKN hub<sup>5</sup> or the database system of the M. S. Swaminathan Research Foundation in the town of Villianur, the host of the OKN hub. Another task is to collect local knowledge for local development and to share this knowledge in the OKN system.

Some of the women in the village are traditional healers. Kasturi has asked the healers to share their knowledge of medicinal plants with her so she could share this knowledge with other people via the Open Knowledge Network. One of the healers was not willing to share her knowledge. Kasturi explained that this healer did not want to share her knowledge without getting something in return. Another healer, Mrs. Pattamal Pandurangam, was willing to share her knowledge with Kasturi. We visited Mrs. Pandurangam in her garden where she explained to us the medicinal characteristics of some of her plants. We asked her why she is willing to share her knowledge with other people. The traditional healer raised her hands and said: "I have learned this knowledge from my parents and they learned it from their parents. I will receive my blessings through giving".

The use of ICT in knowledge sharing in Embalam brings up important questions: whose knowledge is Mrs. Pandurangam sharing? Is it her personal knowledge? Is it her family's knowledge? Is it common knowledge, and if so, common to whom? Who – if anyone - owns the knowledge that is shared? Who decides that it can be shared in the OKN? Who will benefit from this knowledge sharing? And what, if anything, happens to this knowledge when it is shared via the OKN?

Mrs. Pandurangam's understanding of these questions, as well as her answers, will be very different from a legal advisor to a government, company or NGO. In the case of Mrs. Pandurangam's knowledge it may mean that she owns the exclusive rights to this knowledge, because she able to produce that knowledge in her practice as a healer. However, the laws of intellectual property fail to include alternative modes of creating knowledge and it can therefore not consider other ways of owning and sharing knowledge. For example, Mrs. Pandurangam may consider her knowledge about plants common knowledge but considers the use of that knowledge as her right, a right that gives her the status and role of a traditional healer in Embalam. The law would indicate, however, that if Mrs. Pandurangam does not have exclusive rights to this knowledge, she does not own this knowledge. This can mean that someone else may hear of her knowledge about a certain plant and sell that knowledge to a pharmaceutical company. This company may patent this knowledge and produce a commercial product without her consent and without compensating Mrs. Pandurangam and the Embalam community.<sup>6</sup>

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5. A hub can connect with several access points and is the gateway to other OKN hubs, nationally and internationally. The Embalam access point connects with the hub operated by the M.S. Swaminathan Research Foundation in Villianur.

6. Mrs Pandurangam's knowledge may be protected from biopiracy via the principle of prior art. To assess the validity of a patent application, patent offices explore the prior art that was disclosed before the invention occurred. Prior art is all information that has been disclosed to the public in any form before a given date. In most patent laws, prior art does not include unpublished work or mere conversations. It is disputed whether the publication of traditional knowledge such as the medical properties of a certain plant in digital databases constitutes prior art. See Mathur

The Open Knowledge Network operates within global and national legal frameworks that recognize only two ways of owning knowledge: private and public ownership. The local knowledge exchanged in the OKN can often not be captured in these two categories. Some of the knowledge is collectively produced and/or collectively owned. The Open Knowledge Network needed to find a solution that would address this diversity of understanding of owning and sharing. It had to protect Mrs. Pandurangam's knowledge from biopiracy<sup>7</sup> and at the same time it had to make sure that every item added to the OKN fulfilled the requirements of national laws and international treaties.

The OKN opted for what can be termed an "open knowledge" solution. "Open knowledge" in the OKN refers to "open source" software and "open content". The knowledge that has materialized in the OKN software is shared as open source software. Everyone is free to download a copy of the software, read its source code, and make changes in the code in order to change the workings of the software programme. The release of OKN software as free/libre open source software (FLOSS) also means that all OKN hubs and users own their copy of OKN software. The ability to own the software that organizes one's knowledge is an important issue in the democratization of technology and knowledge.

The term open content has a similar meaning. Wikipedia (2006a), the largest repository of free and open content<sup>8</sup>, states that the term "describes any kind of creative work including articles, pictures, audio, and video that is published in a format that explicitly allows the copying of the information." The *open knowledge* shared in the OKN is such open content and can be:

- Public domain knowledge: "the body of knowledge and innovation (especially creative works such as writing, art, music, and inventions) in relation to which no person or other legal entity can establish or maintain proprietary interests within a particular legal jurisdiction. This body of information and creativity is considered to be part of a common cultural and intellectual heritage, which, in general, anyone may use or exploit, whether for commercial or non-commercial purposes (Wikipedia, 2006b).
- Commons or community-owned knowledge: cultural or natural resources that a community recognises as being accessible to any member of the community. "While commons are generally seen as a system opposed to private property, they have been combined in the idea of common property, which are resources owned equally by every member of the community, even though the

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(2003) for an explanation of this issue in a discussion of the Indian *neem* tree, which has been the subject of at least 153 patents worldwide.

7. Intellectual property rights (IPRs) are generally inadequate when it comes to traditional and indigenous knowledge and folklore. See Posey and Dutfield (1996) and Shiva (1997).

8. Technically there are differences between free content and open content; and free source and open source, see Wikipedia (2006).

community recognises that only a limited number of members may use the resource at any given time (Wikipedia, 2006c)<sup>9</sup>.

This techno-legal solution created real challenges. The Open Knowledge Network is active in different national jurisdictions and in a global environment with a variety of cultural and political understandings of what is knowledge; who owns or should own that knowledge; and how that knowledge should be shared. The OKN was forced to grapple with the question of how to protect local knowledge rights while maximising its usefulness for the common good (Armstrong et al, 2002)? In addition, peer-to-peer networks have been associated with so-called illegal file sharing, resulting in high profile court cases in several countries. Here the OKN faced a second challenge: How to protect the local organisations hosting an OKN hub from possible liability for disseminating copyrighted or potentially libelous materials?

The Open Knowledge Network sought legal advice on how to protect the knowledge shared in the network as well as on how to protect the organisations involved in enabling this knowledge sharing from accusations of illicit file-sharing. The OKN acquired the expertise of the Berkman Center for Internet & Society of the Harvard Law School, which provided a report on possible liability issues (Cabell et al, 2002). According to this council there is also possibility that the OKN might disseminate “harmful content that may give rise to liabilities under other laws such as defamation, negligence, and business torts” (Cabell et al., 2002:3). The Berkman Center proposed an organisational structure that distributes the liability risk over several legal entities. Thus from a legal perspective, each hub in the OKN is a news service. The OKN knowledge workers act as correspondents, presenting local knowledge, contributed by local communities and individuals, as news items in the global file-sharing system. When other OKN users download such an item, they access, in legal terms, a news report. The Berkman Center also advised the use of a so-called Open Knowledge License to distribute proprietary material in the network. Initially, this license was similar to the GPL license of the Free Software Foundation<sup>10</sup>. More recently, the OKN has been looking into Creative Commons Licenses<sup>11</sup> and how they can be adapted to the legal jurisdictions in which the OKN is active. Creative Commons Licenses gives local knowledge providers, the individuals and communities contributing their knowledge and experiences to the network, more control over how their knowledge is licensed and thus how their knowledge can be used by others.

The diversity of local knowledge for local development, and of ways of sharing and owning this knowledge, required the democratization of database technology. The design of the OKN as a decentralised network, based on peer-to-peer open source technology, is a deliberate attempt by the OKN initiators to keep local knowledge

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9. Bollier (2002:179) describes the difference between common knowledge and public knowledge as follows: “[Public] property – building, objects, real estate – is what the Romans would have called *res publicæ*. But common assets are different because they are typically unowned, unpriced, and increasingly vulnerable to enclosure by privat owners. These assets would be considered *res communes* in Roman law”.

10. See <http://www.fsf.org/licensing>

11. See <http://www.creativecommons.org>

locally visible, locally available, and locally controlled, while offering global dissemination. The OKN had to create a techno-legal framework in which knowledge sharing can take place, such as software licenses for the release of its software and open content licenses for the dissemination of open knowledge. The people who share their knowledge in the OKN can thus declare their ownership of this knowledge and their permission for use. The example of the OKN shows how technology and law enable and constrain open knowledge sharing. But there is a broader regulatory ecology of knowledge sharing at work in the OKN to which I now turn.

### 3. A Regulatory Ecology of Knowledge Sharing

In *The New Chicago School*, Lawrence Lessig outlines four modalities of regulation - markets, social norms, law, and architecture - in his aim to understand “structures of regulation outside law’s direct effect” (Lessig, 1998:661).<sup>12</sup> Markets, norms and law play a significant role in creating indirect forms of regulation of the OKN. The global digital content industry, e.g. music and film, has initiated high profile lawsuits against peer-to-peer file-sharing services whose users are allegedly involved in illegal file-sharing<sup>13</sup>. The intent has been to impose intellectual property rights laws, such as copyrights law and patent laws, to regulate market transactions involving intellectual or cultural goods. In this way, the global digital content industry uses law to regulate the market of global content. The effect has been to create real legal challenges in the jurisdictions in which the OKN operates because the Open Knowledge Network exchanges third-party content and it is not always clear who owns that knowledge. In addition, the campaigns of the global content industry have clearly affected the perception of peer-to-peer networking (see Vaidyanathan, 2004), a social norm against free and open knowledge sharing that runs counter to the assumptions of the OKN. Social norms regulate through the enforcement by a community. The OKN operates in a community of grassroots organisations, development agencies, small businesses, and civil society organisations in which social norms regulate what will be shared in the Open Knowledge Network and how this should be shared. For example, this community would not allow the OKN to generate a profit from sharing open knowledge, nor would it allow centralised editorial control (van der Velden, 2005). The release of OKN software as free/libre open source software can also be understood in terms of regulation by the social norms of the OKN’s community.

The Open Knowledge Network combines two different knowledge rights discourses. One discourse is that of the knowledge economy – access to knowledge equals economic development – in which knowledge is a commodity. The other is that of the sustainable knowledge society – access to knowledge equals a civil right – in which knowledge is free, so-called public domain knowledge (e.g. Heinrich Böll

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12. Both the “old” Chicago School and Lessig focus on regulators other than law. But while the Chicago School mainly focuses on markets, Lessig proposes a fourth mode of regulation: architecture. Although a continuation of the liberal discourse of the Chicago School, Lessig’s proposal is of interest because it enables a more dynamic understanding of regulation across the local-global continuum that operates in each of these modes of regulation.

13. See for a summary of some of the court cases in 2005: <http://www.ifpi.org/site-content/press/20051115f.html> and <http://www.riaa.com/news/filings/default.asp>

Foundation, 2003). Knowledge rights as civil rights include the right to access places where this knowledge is stored, such as knowledge bases and knowledge networks, and the right to distribute and use that knowledge. Both discourses understand knowledge as an object that can be stored, owned, and shared, but the second discourse acknowledges the social embeddedness of knowledge, incorporating more forms of knowledge.

Lessig's framework helps to describe how the Open Knowledge Network addresses the knowledge rights of its users in the context of national intellectual property laws and an increasing global legislation of intellectual property rights through international bodies such as WIPO, the World Intellectual Property Organisation, and TRIP, the multilateral agreement on intellectual property of the World Trade Organisation. It also assigns regulating power to architecture, enabling an understanding of technology as a modality of constraint as well as a modality of protection from constraint. Lessig (1998) describes architecture as both nature and the world made by people. He uses the example of how railway tracks separate two neighbourhoods and constrain citizens' capacity to integrate, or how our incapacity to read people's minds constrains us from knowing if people tell the truth.

Knowledge sharing in the OKN is both enabled and constrained by the interactions of law, market, norms, and architecture. Important market actors concerned with protecting their control of digital content generated a backlash against peer-to-peer file-sharing and were able to enroll copyright law into constraining this form of sharing. In this environment it could seem impossible for the Open Knowledge Network to facilitate both the protection of open knowledge shared in the OKN as well the legality of knowledge sharing. A closer look at the architecture of the OKN shows that it regulates *what* can be shared in the network, i.e. only knowledge that is commodified and digitalised, and *how* it is shared, i.e. in a distributed, non-hierarchical manner, and *who* can participate in this sharing. The OKN's architecture is also able to constrain the law through its technological design as a distributed network of hubs. This enables the OKN to organize itself as a network of independent news services, spreading the risk of liability over a number of organisations as each hub in the OKN is a separate legal entity in the OKN as a whole (Cabell et al, 2002). Also the OKN's licenses, such as the open source license of its software and the open content licenses that are being developed, constrain the law in regulating knowledge sharing in the OKN.

The Open Knowledge Network is able to engage the four modes of regulation into a construction that enables open knowledge sharing in a peer-to-peer network. Tsiavos, Husein, and Whitley (2003) describe such a do-it-yourself construction as "regulatory ecology". This form of regulatory self-organisation is possible through activities that affect what Lessig (1999) calls "indirect regulation", the interaction between the four modes of regulation. Tsiavos, Husein, and Whitley (2003) argue that many have failed to recognise how technology regulates other modes of regulation, i.e. law, markets, and social norms. This regulatory power of technology becomes clear in the case of the Open Knowledge Network. The initiators of the OKN studied the regulatory framework in which they were planning to become active. They had to deal with a "negative" market vis-a-vis peer-to-peer file sharing - market actors were able to enroll copyright law to protect its interests; "positive" social norms towards peer-to-peer knowledge sharing; and cultural and legally a very diverse context. The OKN constructed its own regulatory ecology through the development of a set of techno-legal instruments, its

open source software and open content licenses, and its use of peer-to-peer technology. It is able to use architecture to constrain the regulating power of markets and law and to enable the sharing of open knowledge.

#### **4. Concluding remarks**

Assumptions about knowledge guide the design of knowledge sharing systems (van der Velden, 2005). The resulting bias creates technological control over what is considered knowledge and how this knowledge is owned and shared. Feenberg (2002:76) discusses this control as “technical code”, the “technological rationality (...), that brings the construction and interpretation of technical systems into conformity with the requirements of a system of domination”. The technical code is unnoticeable - the technology appears neutral to its users - when the code reflects their laws and their interests. Lessig's work on architecture as a fourth modality of regulation contributes to the understanding of the role of the technical code as regulator of human behaviour.

Feenberg describes the democratisation of technology as inscribing alternative rationalities in the technical code, changing the technological design. The tactical intervention of Andrews and Moore visualise such alternative inscriptions in an artistic manner by re-inscribing the history of the land and its people in a satellite image. Their palimpsest interrupts the perceived linearity of technological development and progress and makes alternative ways of knowing the land and its people visible.

The artwork of Moore and Andrews shows how knowledge that has been scraped away can be made visible again. Understanding technologies as palimpsests helps to uncover their technical codes. Looking at the Open Knowledge Network as a palimpsest helped to uncover its regulatory tactics. De Certeau (1984) described such tactics as “an art of the weak” .... which “must play on and with a terrain imposed on it and organized by the law of a foreign power” (p.37). Information and communication technologies become such a foreign power in the context of local and community-based knowledge sharing, in particular when these technologies are wrapped in powerful development discourses (van der Velden, 2002; 2005). But the OKN's tactical interventions, its peer-to-peer technology and open source and open content licenses, enable the OKN to constrain the regulating power of powerful “foreign” market interests and “foreign” law.

Constructing ones own “regulatory ecology” is a tactical intervention in the regulatory framework that constraints the way we act. The tactics of the OKN are characterised by what de Certeau (1984) calls an absence of power. They may not have the power to change these powerful discourses and interests or to change intellectual property law in order to protect Mrs. Pandurangam's way of knowing, owing, and sharing knowledge. But the OKN's tactics are able to constrain these discourses and law in such a way that alternative ways of knowing, owning, and sharing knowledge become visible and possible. They enable a degree of diversity where otherwise uniformity would rule. It is in this diversity where options for change may be found.

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