

# Common Cause

Information between commons and property

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Philippe Aigrain

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For Suzanne and Louise

During the drafting of this book, a small group of readers provided their comments and suggestions, reacting to a synopsis, to reading a chapter, to the choice of an angle of analysis. This first circle of friendly readers included Jacques Robin, pioneer and inspirer, Valérie Peugeot, vigilant and friendly reader, Jean-Claude Guédon, warm and demanding critic, and Patrick Viveret, weaver of humanity. The rest of the core group of the French NGO Transversales Science-Culture<sup>1</sup> formed a second circle of readers. Special thanks to Henri Trubert, friendly proof that publishers and editors are more necessary than ever, to Mireille, Suzanne for Louise for a thousand invisible aids and a hundred very concrete ones, as well as to Florent Latrive, David Bollier, Jamie Love, Manon Ress, Fabio Petri, Joseph Giustiniani, Béatrice Korc and the team fo the Society for Public Information Spaces: Raphaël Badin, Anne Brisset, Karine Chevalet and Raphaël Salle de Chou.

Ignore the page numbering in the table of contents below. It is not significant for chapters after chapter 1. The French edition has 276 pages for around 425,000 characters.

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<sup>1</sup>Transversales Sciences Culture was founded at the end of the 1980s to develop multidisciplinary thinking on essential issues of our times, whether they regard science and technology, the environment, economics, lifestyles, ethics, or world affairs. It built upon the past experience of the Group of 10, that brought together in the 1970s some key French-speaking thinkers and policy makers, including Jacques Robin, Edgard Morin, Michel Rocard, René Passet, André Gorz, or Joël de Rosnay. Originally centred around the identically named journal, Transversales Science Culture presently organises public meetings on emerging issues, and publishes a Web-based newsletter and a book collection at Editions Fayard.

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# Chapter 1

## Two worlds in one

Common: *belonging to or participated in by a community as a whole, public;*

Worldnet Web dictionary <http://www.cogsci.princeton.edu/>

Dear reader, let's assume for a while that, as in a Doris Lessing science fiction book<sup>1</sup>, you are part of an extraterrestrial survey squad, in charge of taking the pulse of our planet. Your brief for the mission would seem strange to an Earthian. You are asked to ignore for the time being the symptoms of an ecological crisis : growth of the concentration of greenhouse effect gases in the atmosphere, rapidly unsustainable use of energy resources, new health problems connected with the environment or with lifestyles. You are asked to focus on a largely intangible domain : information exchange between humans and how it gives rise to political fights. You start looking for observations.

### **First observation: Wikipedia**

On 15 January 2001, Larry Sanger, Ben Kovitz and Jimbo Welsh launched a project aiming at the creation of an encyclopedia that would be accessible freely and free-of-charge, whose readers could reuse and modify the articles provided that the modified articles would remain themselves freely accessible, usable and modifiable. The production tool for

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<sup>1</sup>Doris Lessing wrote a cycle of science fiction novels under the title «Canopus in Argos: Archives», and more recently an isolated novel titled «Mara and Dann».

this encyclopedia was a Wiki, that is a software enabling anyone to edit any of its pages (articles) using simply a Web browser. Yes, that's what you just read: anyone with Web access can at any time modify the contents of any article of this encyclopedia. An earthian surveyor of this activity, Clay Shirky, acknowledged in his paper «Social Software and the Politics of Groups»[2], that even among the advocates of the cooperative creation of information, very few believed that this wide open approach, without any a priori editorial control, could lead to anything else than a destructive chaos. Four years later, the English-speaking version of this encyclopedia has more than 450,000 entries, and Wikipedia<sup>2</sup> exists in more than 80 languages, 21 of them having more than 10,000 articles. The dynamics vision of the progress is even more impressive: once a certain critical mass of articles and users is reached in a given language, the quality of articles quickly progresses. For an example of a mature article, one can for instance check the «Ludwig Wittgenstein»<sup>3</sup> entry.

How can Wikipedia work and lead to such a success? That seems to be because it liberates the creative capability of tens of thousands of contributors, and permits them to contribute through small efforts, incrementally. And also because it makes sure that it takes at least as much time to destroy than to create, and that destructions are easily reversible. That is made possible by the sound technical design of Wiki software and how it is used in Wikipedia. Wikipedia has some security mechanisms, for instance blocking attempts to modify many pages at the same time (something no well-intended contributor would want to do). Only for some critical pages such as the home page for the project were editorial control mechanisms necessary to install (one has to submit the request to an editorial team instead of being able of doing the change directly). Just as in most free cooperative projects dealing with information, Wikipedia has many mechanisms for supporting the cooperation, making it easier to progress towards shared aims: discussion lists between contributors, conflict resolution mechanisms, history management, linguistic coordination metaprojects, satellite projects on synonyms, quotes, and last but not least what Clay Shirky terms the «project constitution», the charter expressing its aims and common rules.

At this stage, our extraterrestrial surveyor is likely to be somewhat

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<sup>2</sup><http://www.wikipedia.org>

<sup>3</sup>[http://en.wikipedia.org/wiki/Ludwig\\_Wittgenstein](http://en.wikipedia.org/wiki/Ludwig_Wittgenstein)

puzzled. It is not frequent that he or she is sent on such faraway missions to just find out that everything is fine. However, here is a second observation that seems hard to reconcile with the first one.

### **Second observation: Information multinational companies at war against their customers**

Under the title «Vivendi boss to lead war on piracy», the Financial Times reports [3] that on 12 October 2004, Jean-René Fourtou, President and CEO of Vivendi Universal, and President of the International Chamber of Commerce addressed executives of pharmaceutical, petro-chemistry, software and consumer goods multinationals. He announced a global industry offensive against intellectual piracy, calling global business leaders to unite in this war. On the same day, according to a news release from Associated Press, a US federal committee recommended to install new investigation and police powers as to fight «intellectual property theft» ranging from counterfeiting of drugs to music file sharing on the Internet. For instance, the report suggests to authorise phone wire tapping and Internet surveillance, as well as to create an obligation for Internet service providers to reveal names of users accused of exchanging files whose contents is covered by copyright. Nothing specific of the US in this matter : a similar «strengthening» of procedures, including for instance preventive seizure of possessions and bank accounts of alleged infringers, has been installed by the «IPR enforcement» European directive adopted on 29 April 2004.

Earthians seem little surprised that one would handle with the same legal instruments the industrial counterfeiting of physical goods and the not-for-profit exchange of files by individuals. They do not seem more surprised to witness a global coalition of business executives organising itself to lobby together the governments of 80 countries, and embracing the idea of preventive wars to the point of fighting them against their own customers.

### **The two worlds**

Let's become simple Earthians again. Is this coexistence of apparently inconsistent phenomena just anecdotal, a by-product of some random selection by our intergalactical surveyor? Not at all. One will find

below two tables. The first one lists some cooperative efforts in the information domain that give us new technical tools, new media, new shared knowledge and scientific advances, new coordination mechanisms between the promoters of public interest views. The second table is but an extract of the long list of tensions that arise from the frenzied appropriation of information and knowledge by some economic players.

It all happens as if two worlds inhabited the same planet, and would trace different roads on its surface.

In the first world, free software developers create technical artifacts that are more complex than anything humanity dreamt about until recently, and do so without having recourse to monetary transactions between them. The sharing of creation and the mix of influences reinvents cultural diversity as much as it redistributes it. The use of information and communication technology, from email to discussion lists, from cooperative Web sites to the networking of mutualised information, fuels new global and local solidarity networks. Information tools and resources demonstrate the benefits of cooperation and solidarity and reinforce the idea that commons in general are a source of progress for humanity. Information community players become supporters of the fights to preserve the fragile public goods of the physical sphere (water, air, climate, environment). Social solidarity becomes less shy and builds the means for a qualitative control on production and exchange models, promoting in the same motion fair trade rules, energy savings and knowledge sharing. New movements try to invent new means to collect sufficient resources for social public goods such as education, health, and universal income. A new era of politics opens, that relies on various levels of government and on global institutions but without calling them to control social life in its details.

In the second world, large multinational corporations create a limited number of contents and products (movies, brand consumer goods, drugs, TV show formats) that they decline into localised versions. They spend huge amounts on promoting them towards those rich enough to buy them, or for their attention to be valuable enough for sale to advertisers. They build multiple property fences to defend their monopolies: patents, copyright whose enforcement is now ensured by technology and surveillance, and to a lesser extent trademarks. The complex transaction mechanisms associated with patent and copyright licensing become huge tax evasion sources. In this world, we become passive terminals of the music we are listening to, of media that no longer en-

able us to distinguish between reality and staged fiction. Government information campaigns invite us to have healthy food habits, while the vast majority of the population even in the developed world is not in a position to follow such advice due to the local supermarket offer, general advertising messages or time budget constraints. We become «targets» of drugs that are soon to be tailored to our specific genetic characteristics, software uses us more that we are using it and we go through their updates as through unchosen trials. The profit margins of those corporations that hold monopolies titles on information reach such levels that in comparison, the economy of physical goods and services becomes a dependent kingdom under permanent pressure of maximising financial income. Local territories, workers are disposable items, or just good enough for permanent reconfiguration. In the margins of this world, those who do not meet the income threshold or socialisation abilities to become profitable targets survive at the fringe of legality or from the reduced (in comparison to needs) financial resources of redistribution systems. Organised crime exploits the disconnection between price and production costs <sup>4</sup>, and the resulting counterfeiting industry uses exactly the same financial and tax evasion mechanisms than multinational corporations. Those who benefit from the means of a comfortable life try to escape the general loss of meaning by self-centering and the reconstruction of a protected environment in the private sphere.

## Overview

Both of these worlds are present in our world. However their cohabitation is so explosive, so tense, that we reach the stage where choices can no longer be avoided. In the coming years, we will make decisions that will determine in an irreversible manner which of these worlds will dominate our future. Where do these worlds come from is maybe the first question to ask. A *common cause* set them in motion. The birth of technology for the extraction of information, the creation, transformation, shaping, exchange of information, and the ability to identify information elements in what previously seemed to be simple arrangements of matter or mysterious phenomena in living organisms constitute this common cause. There has been so much talk of information,

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<sup>4</sup>When the selling price of a physical good is 10 to 100 times higher than its production, it becomes extremely tempting - for some - to produce industrial copies.

Nature and results of cooperation	Examples
Free / open source software	GNU/Linux, thousands of software components and applications used by tens of millions of people and the general infrastructure of the information society.
Cooperative media	Slashdot, Indymedia, blogs: specialised or general information media
Open scientific publishing	The Public Library of Science, tens of their freely accessible scientific journals, hundred of thousands of preprints freely accessible on the Web
New art forms	Hip-hop and remix music, poetry forums, <i>art libre</i>
Listener archiving and networking of public radio	Archiving and sharing through peer-to-peer networks and other mechanisms of public radio broadcasts after they are no longer accessible on line on radio websites. A project exists in France to institutionalise it through a National exchange network.
Cooperative annotation and analysis of genomes	The ENSEMBL project: cooperative annotation by researchers from many countries of genomic data for many organisms, pooling knowledge and hypothesis on the functions of genes and their expression mechanisms.

Table 1.1: Some information-based cooperative endeavours

Mechanism	Resulting effects or tensions
Extension of patentable subject matter (molecules in particular in pharmaceuticals, vegetal varieties, genetic sequences, cell lines, software and information processing)	Private appropriation of knowledge or natural resources previously considered as commons. Barriers to access to essential resources (drugs, seeds, knowledge). Obstacles to innovation.
Uniform globalisation of patent schemes	Obstacles to development
Repeated extension of duration of copyright	Absence of a public domain for audiovisual media. Lack of usage literacy for these media.
Criminalization of not-for-profit sharing of information	Restrictions to dissemination of culture and its diversity. Undermining the standing of the law because it seems tailored to specific interests.
Control through technology of usage rights for information	More restrictive definition of usage rights. Barriers to access to some contents with some types of machines or software, or for some categories of users (disabled for instance). Proprietary control by corporations on distribution channels. Artificial scarcity of cultural contents.
Presumed guilt in «intellectual property» matters	When property mechanisms are applied to activities of individuals or to some fundamental acts of social life, a real danger for freedoms arises.
Huge and fragile power of the corporations that hold monopolies on information	Increased penetration of governments by economic interests, extreme media concentration, crisis of democratical processes, control on representations and terms of debate.

Table 1.2: Examples of private appropriation of information and resulting tensions

of the information economy, of information and communication technology than many a reader must have considered all of this to belong with the vague concepts that come and go with intellectual fashion waves. Nonetheless, it is today possible to depart from these vague references, and to truly comprehend in which sense information and its technology are a major transformation of human civilisation, and how their collision between their birth and previous mechanisms of the monetary-based economy and property regimes are launching us in these contradictory worlds.

Chapter 2 describes the technical, social and intellectual revolutions that led to the emergence of information and its technology. Furthermore, it shows how their fundamental properties can make possible new forms of cooperation and human development and, at the same time, an immense concentration of power for those who are able to acquire monopolies on information or control its usage. Up to now, commentators have concentrated on properties of information that only explain a small part of its effects. They insist on the possibility of perfect replication (copying) at a tendentially zero cost, and the effects of such replication. These phenomena are in reality older than many think, and though of course important, they take their true meaning only when associated with the human capability to create, exchange, share, represent information which is the true specificity of the information and networks era. Information makes possible new ways to cooperate, share and produce everything that belongs to the immaterial, from culture to knowledge.

Chapter 3 is an account of an initially silent tragedy that has overturned in 30 years the balance of our societies, of our economies, and of our planet. This tragedy is the surge of an information appropriation madness, and the fact this madness has for a long time hidden the benefits of the new cooperative modes of creation and innovation. Before new forms of cooperation are able to develop to their full potential, we go through a period in which large firms build new forms of centralised control by using intellectual monopolies (patents, new forms of execution of copyright). These information-property industries seem very different one from another, since some produce seeds, other software or media and TV shows, or yet other biotech drugs. Some even distribute physical goods such as clothes to which they incorporate an information «surplus» through trademarks and branding. What they hold in common are monopolies on an extremely cheap and essential

activity : the reproduction of information included in their products. As these monopolies are fragile due to the difficulty to enforce them, they complement them by the control of distribution channels, and by police and surveillance measures. The same corporations try to organise the synchronised consumption of their products through a frenetic promotion, everyday more intrusive in the public space and the private life.

All this would be anecdotal if these players could impose their model without destroying the precious potential of the information revolution. In parallel with the appropriation madness, a new world unfolds : information commons, creations that belong to no one because they belong to all. This new world includes free software, open science, free encyclopedia, new art forms, cooperative media where each person contributes to create and comment information. It is the world of sharing and multiplying knowledge, but also of global political cooperation of public interest NGOs. As with every radical change, the new capabilities associated with free information sharing are immature, fragile, they could still be perverted or driven away from their potential benefits. They call for all our attention and will show their full breadth only with time. However, they already sketch new forms of abundance, of societies that are sparing in their use of physical resources though rich of the abundance of creativeness by human beings. What can then the commerce of scarcity do in the midst of the creation of abundance? What can the promotion at one given time of 40 musical tracks achieve when hundred of thousands of creations are accessible? What can property be worth when common goods take more value each time a human being uses them? The colossi with clay feet who live off capitalising intellectual property can not tolerate this competition from commons. While they represent only a limited part of the economy, and a yet smaller one of the social and human universe, they intend to transform the rest into a desert, or at least a shrunken ghetto, an exception that their ideologists describe as an anomaly.

The definition of what we share and what we subject to restrictive right monopolies, the choice of how we do it become then essential issues. Chapter 4 tries to build solid foundations in this matter. It builds largely on American commons thinking, while situating it in a more global social and political project. It proposes to go back to the source of positive rights, of these rights that are constitutive of our ability to socially exist, to relate to others and to collectively act to take hold of

our destiny.

Chapter 5 charts the global dimension of tensions between commons and restrictive rights. It unfolds the strategy that led to the globalisation of «intellectual property». It recalls its disastrous effects on public health systems, education, and more generally development in the third world. Even more; it shows how the world wide promotion of commons-based innovation and creation is the thread uniting a new coalition between public interest NGOs, intellectuals, scientists, and countries from the South. This coalition has obtained its first victories but is still met with a stubborn resistance from governments in the developing world, that identify their interests with those of interest groups in proportion of their financial surface, even when this financial power undermines each day a little more the resources available to governments and their ability to act. This global coalition for the commons, despite its fragility, is most precious. Far away from the illusions of «thirdworldism» in the decolonisation era, this coalition acknowledges the complexity of issues, and finds new paths to give birth to a global «public<sup>5</sup>», watchful player in the future of our planet.

At the heart of how difficult it is to get hold of our common destiny in the information era lies the question of how to articulate information-based activities with the physical and monetary economy. Chapter 6 is entirely devoted to this question. It is proposed to take stock of the failure of the measuring instruments that are dominating after 150 years of economism. It is shown that information-based creation must be seen as a new production mode. The information sphere must be thought of and organised as a human ecosystem, freed from direct coupling with economic transactions, funded at a global level, and contributing to a new form of economic development.

Finally, the reader will find in the concluding chapter some concrete proposals. A coalition like the one I propose to build is worth what its priorities are worth. They are about redefining the fundamental arbitration mechanisms between commons and property-like restrictive rights. About supporting information-based cooperation, and maturing the technology that permit it ... and our relation with this technology. About reclaiming the human time that has been predated by television, and reconstructing a balance in how we use this time, in particular between informational and physical activities. About reforming taxation, starting by intellectual property taxation and financial support to cre-

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<sup>5</sup>The world «public is used here with the meaning that John Dewey gave it. See [1].

ating commons. Its also about helping the physical goods industries to find new development models, that are respectful of our planet and of social rights, by freeing them from the absurd competition of profit rates in property-based industries. And it is about building new alliances between societal players and governments.

These choices are made all the more urgent by an international context in which the exercise of military and political power and the political use of violence take new forms. If the regressive barbarity of fundamentalism and terrorism is faced only with a brutal and disingenuous domination, that invokes their real threats but keeps reinforcing them, what room will we have for the patient exploration of new possible paths? Commentators such as Emmanuel Todd have proposed an «optimist» vision of the future evolution of fundamentalisms. Their emergence would result from the disarray created for some by the progress of literacy and birth control, that is of salutary freedoms that are clearly part of the «first world» described above, the world of information exchanges and cooperation. Whether one agrees or not with this explanation, the accompanying optimism can only be justified if the path towards this first world is kept open and further developed for all.

The irruption of violence is connected to the information era from another view point. What would Bush and Blair be without Murdoch? What would the fundamentalisms be without the echo chamber of Al Jezira<sup>6</sup> or the amplifier of Clear Channel? Similarly the emergence of information capitalism is not more independent of policy and politics. What would Microsoft, Sanofi-Aventis, Monsanto, Pfizer, Vivendi Universal or Bayer Crop ne without the subservience with which some governments consider themselves in charge of defending their interests? However, though connected, the 2 phenomena (the information revolution and the mirroring images of military power and fundamentalisms) must not be confounded. Among those who accept to close the doors of restrictive intellectual property rights on the emergence of commons, one finds cynical neo-conservatists, who aim at building a new instrument of domination. However one also finds disoriented social-democrats (liberals in the US sense) who undermine each day a little more the basis of social justice that they would like to create by offering to information corporations new means to escape from the

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<sup>6</sup>The contents of Al Jezira and other Gulf country satellite channels [4] is more complex than those of Clear Channels radios. It reflects the ambiguous positioning of the political regimes that fund them, their need to accomodate fundamentalim as to appease local tensions, as well as their adhesion to CNN's model.

constraints of society and human labour.

Day by day, the promoters of commons become more conscious of themselves and create the mediations of new human solidarity. They coalesce to affirm the legitimacy of their project, and to resist those who wish to destroy it. They sketch new roles for the state, trustee of the existence of commons, and organiser of their conditions of existence, and they propose new models for economic development, benefitting from the existence of commons, and developing in ways that are compatible with their nature. It is time to listen to these promoters of the commons, and to give them a hand. The time of harvest will come, and when it is there, commons will have many parents and many friends, just like victory. But it would be better for it to come soon enough, before barbarity, even if it is a temporary hiccup, would spread too much.

\* \* \*

The tension resulting from the contradictory symptoms describes in this chapter explains the great confusion surrounding debates on «intellectual property» and life in the information era. This tension acts within each of us. For instance individuals are at the same time subject to the exteriority to oneself, to the derealising view conveyed by centralised media, and made more capable to build their own representations and share them with others. Depending on whether the technical and social context will be favourable to a constructive and ethical appropriation of technology or on the contrary will favour its perverse and compensatory usage, we will witness behaviours that are of a totally different nature. The same planet is hosting the horror of torture photographs within jails and the monstrous mirror of images of execution of hostages, and the marvels of new cooperation and expression forms.

To make sense of this tangle, to find ways to influence its future development is worth a little historical trip to explore its roots.

## **Chapter 2**

# **Where does it come from? Information and its technology**

**A few additional technical devices or a new  
civilisation?**

**Miniature genealogy**

**Universal machines**

**What about communication?**

**Serfdom or liberation?**

**Nature of the information revolution**



## **Chapter 3**

# **A tragedy in four acts**

**First act - The silent birth of information commons**

**Second act - Appropriation frenzy**

**Property industries**

**Ideological counter-revolution**

**30 years frenzy**

**Third act - Commons become self-conscious**

**Free software**

**The proliferation of information commons**

**Towards art commons**

**Fourth act - The great collision**



## **Chapter 4**

# **Back to basics: the reconstruction of rights**

**Tragedy of enclosures**

**Positive intellectual rights: a constitution for the information era**

**Delinquescence**

**The contents of positive intellectual rights**

**Positive intellectual rights as a condition for democracy**



## **Chapter 5**

# **Which information planet?**

**The South gets in**

**Information commons-based development**

**A new way to look at physical commons**

**The role of governments regarding commons**



## **Chapter 6**

# **Immaterial civilisation, economy, and capitalism**

**A small exploration of complexity**

**The fourth layer of exchanges**

**Domains of the economy**

**Time and activities**

**«Every moment is a merchandise» or «going out of the economy»?**

**Social public goods**

**Societal production**

**The human ecology of information exchange**

**What about creative works?**

**Coupling with the monetary economy**

**Fundind the information ecosystem**

**What will become of the economy, of currencies and of taxation?**

**Sustainability of the information ecosystem**

**Genders**

**Informeducation**

## **Chapter 7**

# **Proposals**

**Redefining the arbitration between commons and property**

**Consequences in sectors dominated by information capitalism**

**Innovation in mixed industries**

**Taxation of information capital**

**Autonomising the information ecosystem**

**Reclaiming out time (the reduction of TV viewing time as a fundamental social priority)**

**New alliances between societies and governments**

**For the road**



# Bibliography

- [1] John Dewey. *The Public and Its Problems*. 1954, originally published in 1927.
- [2] Clay Shirky. Social software and the politics of groups. accessible at: <http://www.shirky.com/writings/>.
- [3] Mark Turner. Vivendi boss to lead war on piracy. *Financial Times*, 12 October 2004.
- [4] Miloud Zaater. Les chaînes satellitaires arabes et la guerre en irak. *Les Cahiers d'Histoire Immédiate*, Spring 2003.

NB: this reference list corresponds only to references from the first chapter.