

CHAPTER I

Introduction

1.1. The Intellectual Commons at the Forefront

Nowadays, the epicentre of wealth creation in our societies has rapidly shifted from tangible to intangible assets (Pagano 2014; Zheng, Santaaulalia and Koh 2015). In recent years, technology corporations (in blue in the table below) have overtaken ‘traditional’ companies in terms of stock market capitalisation.

Top	2001	2006	2011	2016	February 2018
1	General Electric (\$406B)	ExxonMobil (\$446B)	ExxonMobil (\$406B)	Apple (\$582B)	Apple (\$905B)
2	Microsoft (\$365B)	General Electric (\$383B)	Apple (\$376B)	Alphabet (\$556B)	Alphabet (\$777.5B)
3	ExxonMobil (\$272B)	Total (\$327B)	Petro China (\$277B)	Microsoft (\$452B)	Microsoft (\$725B)
4	Citi (\$261B)	Microsoft (\$293B)	Shell (\$237B)	Amazon (\$364B)	Amazon (\$731B)
5	Walmart (\$260B)	Citi (\$273B)	ICBC (\$228B)	Facebook (\$359B)	Facebook (\$527B)

Table 1.1: Top companies by market capitalisation on a global scale.

Source: *Visualcapitalist.com*

It is exactly at this cutting edge of wealth creation that people have started to constitute intellectual commons free for all to access, by devising collaborative peer-to-peer modes of production and management of intellectual resources. The surge in new intellectual commons, such as open hardware design, open standards, free software, wikis, open scientific publishing, openly accessible user-generated content, online content licensed under creative

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commons licences, collaborative media, voluntary crowdsourcing techniques and activities, political mobilisation through electronic networks and hacktivism, and internet cultures and memes, has revitalised the accumulated knowledge commons of the past, such as language, collective history, tradition, the public domain and past scientific and technological advancements. This kaleidoscope of sharing and collaborative creativity and innovation constitutes our digitised environments not as private enclosures but as shared public space, a social sphere divergent from the one reproduced by the market and the state.

Intellectual commons proliferate at the core of our knowledge-based economies, where capitalist modes of production are supposed to reach their climax of competitiveness and efficiency. This new mode of production, distribution and consumption of intellectual resources emerges in the ruptures and contradictions of capitalist intellectual production and distribution, in all cases where people form self-governed communities of collaborative innovation and produce resources free for all to access. The emergent intellectual commons have the potential to commonify intellectual production and distribution, unleash human creativity through collaboration, and democratise innovation, with wider positive effects for our societies. The law plays a crucial role in the regulation of the contemporary intellectual commons, either by suppressing or by unleashing their potential.

1.2. The Laws of the Intellect and the Commons of the Mind

Intellectual property law constitutes the primal social institution framing and regulating the societal production, distribution and consumption of information, knowledge and culture. It confers legally enforceable powers to private persons to exclude the general public from sharing and collaborating over a significant part of the accumulated information, knowledge and culture of mankind. Backed up by state enforcement, intellectual property rights arise as the social mechanism par excellence for the construction of artificial scarcity over the inherently abundant commons of the intellect. Enclosure through intellectual property law is the foundation of commodity markets inasmuch as sharing constitutes the archetypal practice of the intellectual commons.

The normative approach followed by this book stresses the moral necessity for a set of institutions protecting and promoting commons-based peer production. It argues that the freedom to take part in science and culture ought to become the rule and private rights of exclusivity upon intellectual works the exception to the regulation of intellectual production, distribution and consumption. In this context, the transformative use of intangible resources for non-commercial purposes would remain unrestricted as essential to the participation of the public in science and culture, and relevant forms of private or public non-commercial contractual syndication of sharing, creativity and

innovation, such as open licensing, would be recognised and promoted by the law. In addition, the institution of the public domain would be reconstituted in order to include all types of intellectual works considered the fundamental infrastructure for creativity, innovation, social justice and democracy. The protection of the public domain by law would also be proactive, featuring explicit statutory provisions against its encroachment. Finally, exclusive rights upon intellectual works would be granted only for the purpose of providing sufficient remuneration to creators, only to the extent that exclusivity is adequate, relevant and necessary in relation to such purpose and only for time periods deemed necessary for the fulfilment of that purpose.

Contemporary intellectual property laws fail to address the social potential of the intellectual commons. We are, therefore, in pressing need of an institutional alternative beyond the inherent limitations of intellectual property law. The moral significance of the intellectual commons requires the enactment of a distinct and independent body of positive law for their protection and promotion. This law ought to be designed in such a way as to decouple the current conjoinment of intellectual commons and commodity markets under the rule of capital and provide the institutional infrastructure for the exploitation in full of the potential of the intellectual commons for self-development, collective empowerment, social justice and democracy.

1.3. World Views Inverted: Fundamental Notions of the Intellectual Commons

Societies evolve through time according to contending modes of reproduction (Narotzky 1997, 6). Social reproduction is a dual process. It is related, on the one hand, to the circulation and accumulation or pooling of social values and, on the other hand, to the production, distribution and consumption of tangible and intangible resources (De Angelis 2007, 176).

The reproduction of contemporary societies is determined by the dialectic between commodification and commonification. At the negative, dominant pole of the dialectic, commodification is the social process of transforming resources valued for their use into marketable commodities by destroying the communal relations and social values that underpin such use value and management in common (De Sousa Santos 2002, 484; Mosco 2009, 129). Processes of commodification gradually extend commodity market exchange rationality into both public and private life (Mann 2012, 10). At the positive, insurgent pole of the dialectic, commonification is the countervailing practice of transforming social relations, which generate marketable commodities valued for what they can bring in exchange, into social relations, which generate things produced by multiple creators in communal collaboration, openly accessible to communities or the wider society and valued for their use. Commonification can thus be considered the actual movement towards commons-based societies.

At the forefront of commonification, the intellectual commons are conceived as sets of social practices pooling together and managing in common intangible resources produced by sharing and collaboration within and among communities. These practices are at the heart of the contemporary wave of openness in intellectual production, which features such diverse phenomena as open science, open standards, open design, open hardware, free software, open databases, community media, open scientific publishing, online content openly accessible and/or licensed under copyleft licences, alternative cultures, street art, and other forms of non-commercial and/or openly accessible forms of art.

Being an integral part of social reproduction, the intellectual commons are also reproduced according to their dual process, which involves the combination of social activity with both resources and values. On the one hand, they are reproduced according to a specific mode of production, distribution and consumption of intangible resources, termed commons-based peer production.¹ This mode is the dialectical unity of forces and relations of commonification.

Forces of commonification are both subjective and objective. The subjective powers of commonification are the totality of commoners organised in intellectual commons communities. In unison, they constitute the productive power of the social intellect (Fuchs 2014, 30; 2016, 15). The social intellect can be defined as the subjective productive force, producing in community prior and existing information, communication, knowledge and culture through cooperative work and an aggregation of the work of many humans. It consists of our combined and common pooled intelligence, affect, language, skills, experience, creativity, inspiration, inventiveness, ingenuity, talent, insight and imagination, as this is put into action through en masse sharing and collaboration (Marx 1990, 644; 1973, 470). The objective forces of commonification refer to the means of the practice of commonification, upon which subjective forces work and thus come into dialectical interrelation in the productive process. They are further divided between the objects and the instruments of commonification.

Objects of commonification include any resources, tangible and intangible, used as raw input in the process of commonification; these include raw materials and radio spectrum, prior informational resources in the form of data and information, prior knowledge resources in the form of ideas, concepts and meanings, along with prior cultural resources in the form of shared symbols, ethics and norms (Benkler 2003b; Hardt and Negri 2004, 148). The communities of the intellectual commons combine their creative activity with the foregoing resources to produce the outcome of commonification. The instruments of commonification aggregate all the elements of the infrastructure employed by the subjective forces of the social intellect as means of production in the process of commonification, such as language, social structures, networks, databases, machines, equipment, devices, protocols, standards, software, applications and information/knowledge/cultural structures (Dyer-Witheford 1999, 42). The relations of commonification are social relations in each historical

context, through which the production, distribution and consumption of common pooled intangible resources are organised. Relations of commonification are manifested in the social relations related to (i) the management of the means of commons-based peer production, (ii) the process of such production, and (iii) the process of distribution and consumption of the outcome of such production (Bauwens 2005; Benkler 2006; Hess and Ostrom 2007b; Rigi 2013; Kostakis and Bauwens 2014; Benkler 2016; De Rosnay 2016).

On the other hand, the intellectual commons are reproduced according to a specific mode of value circulation and value pooling. Social value generally refers to the multiplicity of collectively constructed conceptions of the desirable in each socio-historical context, i.e. dominant and alternative conceptions of the importance people attribute to action (Graeber 2001, 15, 39, 46–47). Commons-based value is the set of alternative conceptions of what constitutes important activity within the communities of the intellectual commons and the conceptions of such activity in society in general (De Angelis 2007, 179). Commons-based values are generated through communal productive practices aimed at certain goals (Graeber 2001, 58–59). Hence, the source of commons-based values is productive communal activity, i.e. unalienated work defined in the widest possible way (De Angelis 2007, 24; Fuchs 2014, 37). Commons-based values circulate in society and challenge dominant perceptions about social value, in particular the dominance of exchange value as the primary, or even exclusive, form of social value and the commodity markets as the primary, or even exclusive, societal value system.

1.4. The Moral Aspects of Commons-Based Peer Production

From an ontological perspective, the intellectual commons can better be conceived as sets of social practices of both pooling common intellectual resources and reproducing the communal relations around these productive practices. They consist of three main elements, which refer to the social practice of pooling a resource, the social cooperation of productive activity among peers and, finally, a community with a collective process governing the (re)production and management of the resource. The intellectual commons have inherent tendencies towards commons-based societies, which, depending on their social context, produce (i) spheres of commonification, (ii) contested spheres of commonification/commodification, or (iii) co-opted spheres of commonification/commodification. Their manifestations in the domains of culture, science and technology provide the core common infrastructures of our culture, science and technology.

The tendencies of the intellectual commons bear moral significance because of their potential for society. Contemporary theories of the intellectual commons investigate this potential in the context of the dominant power of capital. Rational choice theories draw from the work of Elinor Ostrom and deal with

the institutional characteristics of the intellectual commons, offering a perspective of complementarity between commons and capital. Neoliberal theories elaborate on the profit-maximising opportunities of the intellectual commons and further highlight their capacities of acting as a fix to capital circulation/accumulation in intellectual property-enabled commodity markets. Social democratic theories propose the forging of a partnership between a transformed state and the communities of the commons and put forward specific transition plans for a commons-oriented society. Finally, critical theories conceptualise the productive patterns encountered within intellectual commons as a proto-mode of production in germinal form, which is a direct expression of the advanced productive forces of the social intellect and has the potential to open alternatives to capital. Each of these four theoretical families offers substantive ethical arguments for the morality of commons-based peer production, which, in combination, formulates a strong normative theory for the intellectual commons.

The evolution of art and culture throughout the ages has fundamentally been based on practices of sharing and collaboration and has always been an inherently collective and communal process. In recent times, though, modern and postmodern processes of commodification in the domains of art and culture have formed a dialectical relation with the emergence and consolidation of copyright law, subjugating the cultural commons in the value system of commodity markets. Hence, from the fourteenth to the seventeenth centuries, the communal elements of artistic and cultural production gave rise to the master artists of the Renaissance. From the eighteenth century until the 1960s, the commodification of the cultural commons led to the apogee of the Promethean artist and the gradual transformation of copyright into intellectual property law. From the 1970s to the 2010s, the decentralisation of the creative practice boosted new forms of cultural commons, while the consolidation of the cultural industries has resulted in the archetype of the celebrity artist as the primal form of commodification.

The historical perspective of the intellectual commons reveals that legal institutions have generally neglected the historical prevalence of sharing and collaboration in the evolution of culture across the ages. Given that law has been dialectically interrelated with society throughout history, both being shaped by dominant modes of social reproduction and shaping legal subjects and social practices, copyright law has quashed the social potential of the intellectual commons, instead of accommodating it. Accordingly, the rules of intellectual property have advanced normative ideologies, which had a transformative effect on the material world towards the commodification of information, knowledge and culture. Historical evidence, thus, shows the discrepancy between the centrality of commons-based production in art and culture and laws overly tilted in favour of the enclosure of intangible resources. Overall, this alternative historical perspective unveils the significance of the cultural commons as the

cornerstone of human civilisation and underpins the moral arguments in favour of an intellectual commons law.

The contemporary communities of the intellectual commons generate, circulate, pool together and redistribute to society immense amounts of social value. Commons-based value circulates in specific sequences and circuits of multiple forms across the economic, social, cultural and political spectrum of social activity. These sequences and circuits can be codified into chain-like formulae, which show that weak forms of commons-based value at lower links of the chain result in the absence of commons-based value at the upper levels of circulation and pooling of values. Commons-based values also come into dialectical interrelation with monetary value circuits and the commodity market value system, thus leading to contested or co-opted spheres of commons-based value. The intellectual commons, thus, have the potential to construct alternative modes of value circulation. Nevertheless, commons-oriented communities face severe crises of value owing to their dependence on the dominant value system of commodity markets and the structural power of monetary values as the universal equivalent of value in our societies. Overall, the morality of commons-based value justifies the removal of socially constructed obstacles by positive law, so that the net social benefits of commons-based peer production acquire their full extent.

Taking into account the solid ontological, epistemological, historical and social research findings described above, the critical normative perspective of the intellectual commons highlights their elements and characteristics, which have moral significance, and lays out the fundamentals of an intellectual commons law, which can adequately accommodate their potential. Its critical element lies in the axiom that all forms of domination are fundamentally unethical, because they estrange persons from what they could be and, thus, hinder their potential. Within this framework, the role of law as a social institution is to operate towards the abolishment of domination and the promotion of freedom, equality and democracy. By taking the standpoint of the oppressed, the critical normative approach purports to transform the current discipline of law in all its facets into a science for the negation of the unjust. In terms of methodology, the critical normative theory of the intellectual commons is founded on (i) an explicit orientation towards progressive social transformation, (ii) the dialectics between potentiality and actuality, (iii) the interrelation between structure and agency, and (iv) the moral significance of the dimensions of the intellectual commons. In terms of structure, such a theory justifies the ethical value of personhood, work, value and community in the context of the intellectual commons, by providing sets of arguments from all lines of moral justification, whether deontological and political or consequentialist and utilitarian. In terms of substance and potential, the normative theory of the intellectual commons proposes the basic tenets of an intellectual commons law, which basically concern the proactive protection and expansion of the public domain and the

recognition of an enhanced freedom to take part in science and culture for non-commercial purposes.

1.5. Towards a Commons-Oriented Jurisprudence

The purpose of this book is to lay down the foundations for the moral justification of the intellectual commons and to provide an integrated normative model for their protection and promotion. In this context, the book's main question is: why are the intellectual commons morally significant and how should they be regulated so that their social potential is accommodated? The foregoing main question of the book is further articulated in detail in the following five sub-questions:

- Which are the elements, characteristics, tendencies and manifestations of the intellectual commons and their potentials for society?
- Which are the main theories regarding the social potential of the intellectual commons and how are the intellectual commons in these theories perceived to be related to the dominant power of capital?
- How have the cultural commons been shaped across history and, in turn, how have they shaped society?
- How is social value generated, circulated, pooled together and redistributed within and beyond the communities of the intellectual commons? What relationship is there between commons-based and monetary values?
- Which elements and characteristics of the intellectual commons have moral significance and which ought to be the fundamentals of an intellectual commons law that will adequately accommodate their potential?

The book is structured into ten chapters. Each chapter examines the intellectual commons from a different discipline and perspective. The second chapter of the book analyses the ontology of the intellectual commons. The third chapter introduces the main trends in theory that have been formulated in relation to the analysis of the intellectual commons. The fourth chapter deals with the interrelation between the cultural commons and the law from a historical perspective, concentrating mainly on Anglo-American and Continental European history. Chapters 5–8 formulate together a coherent research project on the circulation and pooling of social value in the context of the intellectual commons. The ninth chapter relies on the ontological, epistemological, historical and social research conclusions of the previous chapters of the book in order to produce a critical normative theory of the intellectual commons.

Overall, the eight chapters of the main body of the book are integrally related to each other and together form a consistent analysis of the intellectual commons and their interrelation with morality. The general structure of the study follows a scheme of gradual escalation from the empirical to the normative, starting from the ontological and epistemological analyses of the intellectual

commons, proceeding to their historical and sociological examination and concluding with their normative evaluation. The second (ontological) and third (epistemological) chapters thus open the way for the historical research in the fourth and the social research in the fifth to eighth chapters and, thus, offer a solid theoretical base for the normative justifications of the ninth chapter.

This book contributes in multiple ways to the current level of knowledge on the intellectual commons and their normative aspects. The second chapter of the book offers a dynamic ontology of the intellectual commons, by conceiving of them as communal practices of sharing and collaboration with the potential to become the dominant mode for the regulation of intellectual production, distribution and consumption. The chapter begins by identifying the inherent elements and characteristics of the intellectual commons, building upon relevant work on the field (Ostrom and Lessig 2002b; Boyle 2003; Hess and Ostrom 2003; Benkler 2006; Linebaugh 2008; Bollier and Helfrich 2015). It proceeds by pointing out their tendencies and manifestations in the context of their dialectical interrelation with capital and commodity markets. This chapter is an analysis of the elements of personhood, work, value and community within the intellectual commons, which bear moral significance. It thus constitutes the ontological basis for the normative theory of the intellectual commons developed in the study.

The fourth chapter of the book narrates the history of culture from the prism of the intellectual commons. It thus shifts the focus of analysis from the enclosures of intellectual property law to the significance of intellectual sharing and collaboration across history. Further developing arguments of legal historians over the evolution of copyright (Nesbit 1987; Hesse 1990; Jaszi 1991; Rose 1993; Woodmansee 1984, 1994; Drahos and Braithwaite 2002; Bracha 2004, 2008; Deazley 2004; Coombe 2011), this chapter unfolds the argument that, despite their prominence, in recent historical periods socialised creativity and inventiveness have been framed by copyright laws in a way that has suppressed the social potential of the intellectual commons, instead of accommodating them.

Chapters 5–8 unveil an integrated theory of commons-based value. Elaborating on anthropological theories of value (Graeber 2001; De Angelis 2007), these chapters exhibit the pluriversity of value in the realm of intellectual activity. Accordingly, they support the view that the dominant value system of commodity markets is countered by the alternative mode of commons-based value circulation. The sequences and circuits of commons-based value are, then, analysed in detail, codified according to specific formulae of circulation and counter-examined vis-à-vis monetary values. The chapter concludes by pointing out the unsustainability of value flows from commons-based towards monetary value circuits and the need for counter-balancing flows to avert value crises in intellectual commons communities.

The ninth chapter of the book establishes the foundations of a holistic normative theory of the intellectual commons as a social totality. According to such a theory, the intellectual commons are held to be important from a

normative perspective, because they bear moral aspects of personhood, work, value and community in their practices. This chapter transforms well-known deontological and consequentialist justifications of the public domain (Hettinger 1989; Litman 1990; Samuelson 2003; Benkler 1999, 2004, 2006; Drahos 2016; Dusollier 2011; De Rosnay and De Martin 2012; Geiger 2017) into a coherent and integrated normative model for the moral justification of the intellectual commons as a social totality. It thus concludes by asserting the morality of the enactment of an intellectual commons law in relative independence from intellectual property law, which should embody statutory rules for the protection and promotion of the intellectual commons.

Overall, this book follows a multi-disciplinary approach as a means to include in its analysis the multiple forms of the intellectual commons, the wide variations between them and the diversity of their social contexts. Throughout its analysis, the intellectual commons are viewed as contested terrains of domination and resistance and modes of regulation are examined to achieve their potential in advancing freedom, equality and democracy. In this context, the fragmentary manifestation of the intellectual commons is considered the direct effect of their domination by capital. Therefore, this study distances itself from liberal theorisations, which invest in fragmented case studies of social phenomena related to the intellectual commons. Instead, it relies on their conception as social totalities in dialectical interrelation with their societal context.