JUSTICE IN INTELLECTUAL PROPERTY: THE NARRATIVE OF KNOWLEDGE AS A COMMONS

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B.S., San Diego State University, 2007

THESIS

Submitted in partial satisfaction of the requirements for the degree of

MASTER OF ARTS

in

GOVERNMENT

at

CALIFORNIA STATE UNIVERSITY, SACRAMENTO

SPRING
2011
JUSTICE IN INTELLECTUAL PROPERTY: THE NARRATIVE OF KNOWLEDGE AS A COMMONS

A Thesis

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Department of Government
Abstract

of

JUSTICE IN INTELLECTUAL PROPERTY: THE NARRATIVE OF KNOWLEDGE AS A COMMONS

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Michael D. Valle

Information is increasingly becoming an important part of the global economy as well as people’s lives. Intellectual property regulation provides a limited-term enclosure of intellectual expressions in order to incentivize the creation of new ideas. By privatizing information, however, this system limits access to an inherently valuable shared resource, excluding people from making use of knowledge as well as creating inefficiency in its production. Addressing these issues requires that the intellectual property system balance individual rights with social obligations. In the tradition of the natural commons, the formation of voluntary, self-governed associations can help people develop social rules to govern the use of shared resources. To consider knowledge as a commons allows for a narrative that instructs the intellectual property debate in a way which better actualizes the collective values of the community.
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Chapter 1
INTRODUCTION

Although an unequivocal right to personal property may seem at first to be unassailable, further examination shows this not to be so. The liberal promise of private property from individual rights is one of the core tenets of Western civilization, but society must also come to terms with the consequences the privatization of shared resources has for the common good. As knowledge increasingly becomes an important part of the global economy as well as people’s lives, controlling access to information seems to take on greater significance. The boundaries of ownership between private and public of such immaterial, abstract objects\(^1\) are in no way commonly accepted in either law or civil society. Anglo-American intellectual property (IP) regulation\(^2\) is derived from competing notions of justice which attempt to balance personal liberty and social utility—or the interests of the individual and the community. The American IP regime claims to incentivize innovation by providing limited monopoly on intellectual expression, prohibiting people from accessing the protected information in the process, though scholars challenge its effectiveness at accomplishing this.

Knowledge, like the Earth’s common-pool of natural resources, has an inherent use-value. Though knowledge in the market economy is commodified as an instrument of exchange to accumulate profit, it also essential for establishing a common social

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\(^1\) In an attempt to clarify terms, the following assumptions can be made throughout. Abstract objects as well as knowledge products refer to non-physical property. Knowledge property, informational, property, and intellectual property are used synonymously, as is ideas, information, and knowledge.

\(^2\) Though copyright and patent have different functions, they will primarily be treated the same here: as instruments which confer property rights on abstract objects. For this reason, referring to both authors and inventors is often used to represent any individual knowledge creators.
experience amongst people in the public realm. Thus, as with the physical environment, individual-use as well as open-access are both important values in intellectual property regulation. In the tradition of the natural commons, scholars champion the formation of voluntary, self-governed associations to develop social rules to manage the use of shared resources. Knowledge also may be thought of as a commons—part of a human socio-historical environment which must be cared for as a shared resource of mankind. In some ways, the current IP regime functions like a commons by releasing knowledge works into the public domain after a limited period; however, the narrative in the political debate surrounding intellectual property is much more focused on individual rights than it is on social obligations.
Chapter 2

THE NATURE OF INFORMATION AS PROPERTY

Intellectual property is not subject to the same precepts as is physical property. As people labor to make use of their environment, information is also labored upon—though its source, rather than what is found in nature, is the common stock of human knowledge. Unlike tangible objects, information is not diminished, depleted, nor made inaccessible by its possession. Any number of people can access information at the same time—occupancy is non-rivalrous and does not exclude or restrict others from use. Moreover, information does not suffer from scarcity by consumption—information is infinite as long as it is contained within some physical vessel, such as a schematic, a painting, a computer, or a brain. Thomas Jefferson remarks, “He who receives an idea from me, receives instruction himself without lessening mine, as he who lights his taper at mine, receives light without darkening mine” (qtd. in Barlow 1997, 349). As such characteristics differ with physical objects, society’s treatment of intellectual property is different than tangible forms of property, the results of which are not a direct subset of traditional property jurisprudence, but a distinct legal regime altogether (Peñalver & Katyal 2010, 39).

Intellectual property refers to a large body of legal rights (Ghosh 2007, 212). All rules and doctrines involving the ownership of ideas work to do two things: one, “relate to some aspect of the association of the creative process with the manufacture of information,” and, two, “give to the legally designated creator of information the right to
exclude others from copying and distributing the information” (Ibid.). The Anglo-American IP regime utilizes two primary devices to confer private ownership: patent and copyright. Patent is a first-to-invent system that grants a limited monopoly over novel and non-obvious inventions—including machines, processes, and compositions of matter—for a period of up to 20 years from the earliest claim of the creation’s inception (Merges, Menell, & Lemley 2003, 24). Courts have recently sought to enhance patent enforcement, weakening the requirements for novel innovation and expanding patent protections for biotechnology, computer software, and Internet business methods (Carrier 2004, 16-19). Copyright, a provision for authors and artists to control their work, protects original, tangible mediums of expression for a term of 70 years after an author’s death (Merges et al. 2003, 24). The term of copyright protection has greatly expanded through years of statute and legal precedent, as has the scope, which now includes translations and derivative works (Carrier 2004, 13-14). The growth of intellectual property exclusion is not without opposition, though: the philosophical assumptions by which these forms of ownership are justified contribute to contradictions in ownership that have been grappled with by Western society throughout the history of information-as-property.

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3 Other legal provisions include trademarks, trade secrets, right of publicity, and various contract-based rights (Ghosh 2007, 212).

4 The first copyright law enacted in the U.S. in 1790 privileged copyright holders with a term of 14 years for their work (Carrier 2004, 13). In 1831 copyright was lengthened to 42 years (Ibid.). This duration ballooned in 1976 to 50 years after the author’s death and, most recently, to author’s-life-plus-70-years in 1998 (Ibid.).
Chapter 3

A HISTORY OF INTELLECTUAL PROPERTY

With intellectual property, Western jurisprudence struggles to define how belonging functions between individuals and mankind in general (Borghi 2007, 205). In European and English history, theories of both natural right as well as social utility have been applied to justify the ownership of ideas (Ibid.). Though it must be by the initiative of the individual to share his or her thoughts with the world, once ideas have been communicated, everyone is able to make free use of them—understanding, drawing inspiration, criticizing (Ibid.). Jefferson, remarking on knowledge’s insusceptibility for private ownership, says that “an individual may exclusively possess [an idea] as long as he keeps it to himself; but the moment it is divulged, it forces itself into the possession of every one, and the receiver cannot dispossess himself of it” (qtd. in Barlow 1997, 349).

Individual ownership is thus distinguishable from the public’s domain, as argued by an early twentieth-century Italian scholar (qtd. in Borghi 2007, 206):

After the author has published his work, thus allowing society at large to share it, his work becomes part of human civilization, and the public appropriates it, so that it can criticize it, use it while creating new works, and so for and so on; the later the work is published, the more influence the work exerts on civilization, the less it becomes to its author and, so to say, breaks away from him to enter the public domain.

In this sense, ideas seem to rather naturally diffuse from personal to collective, for as time passes, society’s recognition of an idea’s origin becomes more obscure and it passes into the realm of public knowledge. The notion of attributing original credit to individual creators, what James Boyle calls the “romantic vision of authorship,” is itself challenged
by scholars (1996, 56). Boyle suggests that because “the language of authorship” tends to treat intellectual creations as arising *ex nihilo* from the individual, rather than from the public domain, conventions such as intellectual property remain “free from the claims of culture of morality,” obscuring future political, economic, and moral consequences (*Ibid.*, 153, 155). Though the law attempts to balance the interests of both the individual and society through intellectual property, the precise legal and moral boundary between public and private control provided by the IP system is by no means clear.

From a natural rights perspective, ideas are expressions of individual personhood created by a single mind (Borghi 2007, 205). John Locke’s 1690 *Second Treatise* is associated with the first articulation that individuals have property rights in their ideas (Hesse 2002, 33). Locke proposes that ownership is derived from an individual mixing his labor with nature (2007 Chapter V, §27). The labor theory of property forms the foundation from which a number of eighteenth-century thinkers, such as Edward Young and Denis Diderot, argue for regulation to protect the intellectual property of authors in the burgeoning literature trade (Hesse 2002, 35). Young advances the image of a

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5 Boyle, expanding on Michel Foucault’s *What is an Author?*, wonders “whether authorship is something that law has unwisely borrowed from literature, something that literature has unwisely borrowed from law, or something in between, as seems most likely” (1996, 59).

6 “Though the earth, and all inferior creatures, be common to all men, yet every man has a property in his own person: this no body has any right to but himself. The labour of his body, and the work of his hands, we may say, are properly his. Whatsoever then he removes out of the state that nature hath provided, and left it in, he hath mixed his labour with, and joined to it something that is his own, and thereby makes it his property. It being by him removed from the common state nature hath placed it in, it hath by this labour something annexed to it, that excludes the common right of other men: for this labour being the unquestionable property of the labourer, no man but he can have a right to what that is once joined to, at least where there is enough, and as good, left in common for others” (Locke 2007, Chapter V, §27).

7 Patents were not argued as natural rights in exactly the same way as copyright, for “authors create something while inventors merely uncover what is already there” (Drahos 1997, 29). Patents privileging inventors first appeared to protect architectural design in the Venetian guilds in the fifteenth-century
solitary author whose creation is predicated upon the labor of his own genius and originality (Woodmansee 1984, 430). Young’s essay, Conjecture on Original Composition, first published in England, found great following among German philosophers like Johann Gottlieb Fichte and Immanuel Kant (Ibid.).

Fichte and Kant incorporate an idealist perspective of human personhood for ideas, elaborating on Young’s justification of property rights for authors (Hesse 2002, 36; Woodmansee 1984, 430). In distinguishing between the physical and the ideational aspects of a book, Fichte argues that the uniquely individual expression (form) of ideas, belonging eternally to the author, cannot become the property of another—it is a work’s information (content) which is consumed by the audience (Hesse 2002, 35; Woodmansee 1984, 445). For Kant, artistic work is different from written action—art is something that is performed and can thus be alienated and recreated without credit given to the original maker; whereas, written text represents the actual speech or voice of a person (Kant 1996, 35). Artistic work exists, then, as its own thing; speech exists only inside a person—an author (Ibid., 35). The publication of a book, say, is merely the physical instrument for delivering the thing—the copy of a person’s thoughts (Ibid.).

Writing is the action which conveys the author’s discourse to the public (Kant 1991, 106). Fichte says, furthermore, that property rights provide the ability to “share the responsibility of thinking” between the author and the public, with books being the medium of such an interaction (Borghi 2007, 209). Kant, then, contends that the right of the author is not a

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(Merges et al. 2003, 106). Such systems functioned by circulating information within the guild, though not outside of it—similar to trade secrets in modern companies (Hyde 1983, 81).

Fichte asserts, moreover, that mechanical products cannot be considered as a unique expression of personality, for such objects must obey the form (physics) of their intended purpose (Borghi 2007, 210).
right to a thing, “but an innate right in his own person, namely, to prevent another from having him speak to the public without his consent” (Kant 1996, 35n). Maurizio Borghi argues that Kant’s purpose here is to “preserve a public sphere of communication where every man can be free to submit his or her own thinking to the scrutiny of the public, in order to prove its correctness and truth” (2007, 210). However, such claims for strict individual protections made in the authorial movement were opposed by many in Victorian Europe (Hesse 2002, 35-36).

Before the Renaissance, knowledge was primarily considered to be given freely by God, written text being but a vehicle for that which was considered already part of the public’s domain (Woodmansee 1984, 434). Responding to the reasoning of the natural rights theorists, the French mathematician and philosopher Nicholas de Condorcet contends that knowledge originates from sensory perception common to all humans (Johns 2009, 52)—so that ideas are formed not from a single mind but exist objectively in nature as intrinsically social abstractions (Hesse 2002, 35-36). Knowledge, therefore, is the collective process of a shared human experience (Hesse 2002, 36). Moreover, for Condorcet, the notion of originality exists only as a matter of personal style, not of individually conceived ideas (Johns 2009, 52). As opposed to Fichte and Kant, Condorcet positions public interest explicitly over that of the individual author, concerned chiefly that to assign particular ideas to individual minds distorts the public’s pursuit for objective truth (Hesse 2002, 36; Johns 2009, 52). As Adrian Johns explains,

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9 Moreover, as none were privileged creators, all craftsmen involved in the publication of an authorial work were equally considered deserved of credit for its production (Woodmansee 1984, 442).

10 With regards to patents in the pre-Renaissance period, Merges et al. note that providing individual credit and gain for inventions “was inconsistent with prevailing social mores” (2003, 105-106).
this serves to make “the principle of literary property not merely superfluous and unnatural, but actively harmful” (2009, 52). Condorcet argues that if knowledge is to be granted exclusive ownership, it should be on the basis of social utility for the sake of the public good (Hesse 2002, 36).\textsuperscript{11} In the late eighteenth and early nineteenth centuries, the emerging industrial political economy makes utilitarian rationales especially relevant for legal doctrine, shifting focus away from the relationship between the author and the public and towards the material betterment of society (Borghi 2007, 212-213).

The conflict between the objectivist-utilitarian position that ideas are discovered and the natural right position that ideas are invented results in a series of legal battles in England (Hesse 2002, 37). The 1710 Statute of Anne establishes exclusive authorial rights to publish for a fixed period (fourteen to twenty-eight years), after which works enter the public domain (Ibid.). Subsequent court cases\textsuperscript{12} challenge this acknowledgement of limited property rights. Donaldson v. Beckett (1774) recognizes there to be a natural right in the ownership of ideas but establishes that such claims should be limited to satisfy the “encouragement of learning” (Ibid., 37). This decision manifests itself in American common law and instructs the framers of the U.S. Constitution to balance public good and individual rights by making explicit mention of Congress’ power to regulate intellectual property so to “promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries” (Article I, §8). The jurisprudential

\textsuperscript{11} Condorcet goes so far as to propose knowledge be organized by category and not by author, replacing books with periodicals which would be made up of contributions of its readers, “creating a perpetual virtuous circulation” (Johns 2009, 52)—or an eighteenth-century version of Wikipedia.

\textsuperscript{12} Tonson v. Collins (1760); Millar v. Taylor (1769)
compromise in the Constitution privileges authors and inventors as owners of ideas but also requires their stewardship be limited in term to provide incentive for further advancement (Hesse 2002, 38). The clause “Progress of Science and useful Arts” (U.S. Constitution, Article I, §8), then, deals more with the advantageous effect of property protection than with the essence of the right itself (Borghi 2007, 213). Moreover, this ‘progress’ is interpreted in U.S. case law as “a never-ending enterprise binding past and future generations on the path of a continuous progress” (Ibid., 215, 213). Intellectual property regulation is, therefore, more a means to achieve further ends than a self-justifying right (Ibid.).

13 Baker v. Selden (1879); Emerson v. Davies (1845)
Chapter 4

PROBLEMS WITH CONTEMPORARY JUSTIFICATIONS

Though both individual and collective interest is important in IP, the Anglo-American scheme is largely justified on grounds of providing social utility. Intellectual property encourages innovation by granting ownership based on a premise of *ex ante* incentives provided for producers (Moore 2001, 42). If competitors are able to imitate abstract works, the producer may not be able to generate the profit needed to recoup the cost required to create the work, perhaps resulting in the producer from ceasing to innovate altogether (Bessen & Maskin 2009, 611). Generally, private ownership is also arguably more efficient than common ownership because it assumes that value is determined by consumer demand and willingness to pay a particular price (Boyle 2003, 12-13; Moore 2001, 42). Market competition also requires owners to maximize the value of their products and to internalize waste (Moore 2001, 42). Intellectual property regulation also guarantees that creators will receive reward for their works even after they have transferred their right-to-profit to a third-party, such as a publisher (Resnick 2003, 325). However, the exact advantage of such incentivizing is not certain: it is difficult to calculate the utility distribution change over time with 20-year exclusive patents and lifetime-plus-70-years protections for copyright and, moreover, it is problematic determining who the beneficiaries are in the international context of global property regulation (Moore 2001, 47). Adam D. Moore argues that a more sophisticated utilitarian scheme would make use of property protections selectively and only where necessary to promote
innovation, perhaps relying on non-rights-based incentives, such as being first to market and government subsidies (Ibid., 44). Furthermore, encryption and other electronic copy-protection practices are also potential means to protect a product’s value-stream without strict property rights (Barlow 1997, 369). There exists in the claim of intellectual property an assumption that providing incentives by excluding access is necessary to provide social benefit (Moore 2001, 43); however, it is unclear how effective the current IP system is at promoting creation.

In his work The Tragedy of the Commons, Garrett Hardin writes on the inherent instability of non-property-protected resources (Mitchell 2005, 77), invoking images of overgrazed fields and polluted air (Heller 2008, 624). Rapid and inevitable depletion of all usable resources is the outcome of open-access systems, Hardin contends (Ibid.). Donald J. Walters compares Hardin’s free-riding, selfish consumer to man in Hobbes’ state of nature: an egoistic individualist who, unchecked, would pillage and exploit any resource he is capable (2007, 150). Hardin provides two solutions: rely on the coercive power of the state (the Hobbesian ‘leviathan’) or trust the power of the market to generate higher prices due to scarcity and optimize rational man’s behavior (thus preserving the commons) (Ibid.). Michael Heller presents a contrary scenario for the information age: The Tragedy of the Anticommons (1998). Heller argues that the underuse of shared resources is a growing concern from overlapping IP rights that allow owners to block others from access (Heller & Eisenberg 1998, 701; Hess & Ostrom 2003, 128). Henry C. Mitchell describes an anticommons reality (2005, 77):
Imagine a world totally divided into individual holdings. In order to get my goods to market, it might be necessary for me to cross the property of dozens or even hundreds of owners. If all of them want a piece of the action, the cost of commerce could become so great that it would break down entirely.

Despite the promise to spur innovation, increased privatization may also result in economic inefficiencies as fragmented right-holders block others from competing in the marketplace.

Bessen and Maskin submit that strong patents, long in duration and broad in scope, may inhibit innovation in certain sectors (2009, 612). Patents protecting computer software were strengthened significantly during the ‘80s and ‘90s, but evidence suggests that the firms that acquired the majority of patents during this period reduced their spending on research and development (R&D) relative to sales (Ibid.). The authors argue that in dynamic industries, such as software or computer electronics, where innovation is both “sequential” and “complimentary,” imitation can enhance the pace of innovation and lead to the development of further inventions (Ibid., 628, 612). Many technologies produce iterative products which successively build upon past inventions (and so are sequential) (Ibid., 612). Moreover, dependent technologies which require interoperability between standards benefit from their widespread adoption (and so are complimentary) (Ibid.). It is advantageous in industries with these conditions for innovators to have competition in order to encourage development and raise the probability of future profits (Ibid.). In this sense, familiarity often exudes greater benefit than does scarcity, as the
more people who use, say, the same software platform, the more valuable products on that platform are (Barlow 1997, 362). 

Though the impetus of promoting progress in the U.S. Constitution is somewhat straightforward, there is no shortage of ambiguity in IP law (Ghosh 2007, 220-221). Courts frequently grapple with balancing ownership rights, privileges, and obligations in IP, as judges and lawyers dealing with issues on a case-by-case basis (Moore 2001, 49). Of primary concern is how to distinguish what is categorically original, as the Anglo-American regime includes certain intellectual products (arrangements of data) and leaves out others (discovery of natural and physical laws) (Boyle 1996, 164). Moreover, with collaborative works, knowledge creators must agree on the contribution of each individual, with groups many times failing to come to an agreement and leaving such determinations to the courts (Ghosh 2007, 220). Collaborating artists must agree on the proportion of originality each member has contributed and should be credited for; each inventor must have contributed to one of the specific claims in a patent to be considered a “coinventor,” though often in the patent process inventors do not even know what the exact claims of the patent will ultimately be (Ibid.). In the workplace, though general practice seems to be that an employer owns the intellectual products of its employees, there is in reality a multifactored balancing test which courts use to determine when a

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14 This increase in value is known to economist as a ‘network effect’ (Bollier 2007, 34). Companies such as IBM and Sun have even made their software patents freely available as a strategy to promote innovation in specific fields (Ibid., 35).

15 Bessen and Maskin conclude that an ideal patent policy limits “knockoff” imitations but allows for the development of potentially valuable complimentary contributions and, furthermore, that limiting patent breadth may allow encourages such development by better balancing protection and innovation (2009, 628).
recognized employment relationship actually exists (Ibid.). Finally, because the IP regime is a “strict liability system,” many individuals and intuitions are left in a poor position to challenge a patent or copyright claim (Boyle 2007b, 126), lacking the legal leverage to pursue legitimate use in any contested case—and are thus risk-adverse to innovating.

The effects of exclusive ownership of informational works are not entirely discernable (Moore 2001, 44). As a system built on philosophical presuppositions, intellectual property regulation fails to reconcile issues of private and collective property in a way that is both personally actualizing for individuals, respectful of the public domain, as well as economically efficient and able to in some way provide for the needs of the most disparaged in society (Ibid., 60). Because the IP system is based on economics, it fails to consider innovation or efficiency outside of economic terms (Boyle 2007a, 12). Thus the tendency has been to expand property rights at the expense of access to the public domain through extended IP terms in legislation, over-patenting, exclusive licensing, and overpricing (Hess & Ostrom 2003, 14; Moore 2001, 141). Moreover, with U.S. intellectual property law enforced the world over, developing countries are perpetual “late comers” to the knowledge appropriation free-for-all: a twenty-year patent term leaves those without access to play catch-up (Mitchell 2005, 102). Adam D. Moore ultimately concludes that society gives away too much in individual rights and gets too little in return as utility and, moreover, that an incentives-based, rule-utilitarian argument for intellectual property regulation fails to even justify anything remotely close to the current Anglo-American system (2001, 49).
Chapter 5

PROPERTY RIGHTS

The right to private property is an important tenet of the liberal project, one essential to individual freedom. Key to liberty is freedom from interference in the pursuit of one’s sovereign interests, including making private use of specific things as a necessary means to this end. As it is the biological individual that navigates the world, there is a conscious, universal interest to preserve one’s body; it is difficult to imagine any subjective pursuit without such freedom (Reiman 1990, 170). Therefore, it is “obvious,” claims Kant, “that the body constitutes part of ourselves” (qtd. in Ibid.). For Locke, as “man has property in his own person” (Locke 2007, Chapter V, §27), there is a fundamental baseline of ownership which takes place in the state nature, securing as property that which man has mixed his labor with (Radin 1982, 961n.7). Hegel, too, argues that once man recognizes himself as free, “he takes possession of himself and becomes his own property as distinct from that of others” (Hegel 2008, §57). Hegel’s position on property, however, begins within civil society, not the state of nature, as private ownership is a necessary positive right for man to actualize his will in society (Ibid.). Though both theorists examine the philosophical nature of property, providing justifications and conditions for its legitimacy, neither addresses to any satisfaction the peculiarities of information as property. With abstract and iterative knowledge products, the dichotomy between individual and society becomes a much more challenging relationship to reconcile with notions of liberty and justice.
There are several conditions Locke places on the justification of acquisition based on labor. As man controls his body, Locke asserts, he owns his person; therefore, the mixing of one’s labor with the natural commons justifies private ownership (2007, Chapter V, §26-27). Unowned objects, however, must be left “enough and as good” for others so that enclosure “does not prejudice any other man” (Ibid., Chapter V, §33). And so though labor-mixing sanctions individual ownership of property, enclosure is not legitimate if it unjustly worsens others. Locke offers an exception to this condition of ‘worsening’, however. With regards to land, Locke notes that private enclosure provides productive value and confers a general benefit by increasing “the common stock of mankind” (Locke 2007, Chapter V, §37). Such a benefit is consistent with traditional market relations: private farms, which when cultivated produce surplus food as a product for consumption, are legitimate as they provide an important value for others in society. Thus by justifying private property on the basis of collective good, Locke moves in an oddly utilitarian direction (Drahos 1996, 44).

In addition to ‘worsening’, Locke also qualifies labor acquisition on the condition of ‘spoilage’. He argues that natural resources should not be left to waste, as “[n]othing was made by God for man to spoil or destroy” (2007, Chapter V, §31). C. B.

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16 Jeffrey Reiman, in what he calls “natural ownership,” submits that when the ‘enough and as good’ condition is met, extending ownership from the body to nature makes sense to satisfy peoples’ sovereign interest because “[e]ither there will be enough for all to survive, in which case this right will give them ownership of what they need for survival; or there will not be enough, in which case each will have the right to what he needs in the Hobbesian sense that no moral requirement blocking this will be reasonable for him to comply with” (1990, 175). He continues: “It is thus a requirement of reason that everyone has the right to ownership of his body, his labor, and what he takes from nature for the promotion of his sovereign interest, either without limit when there is abundance enough for all to have whatever they want and can work on, or enough for his survival when conditions of scarcity obtain” (Ibid.).
Macpherson argues in *The Political Theory of Possessive Individualism*, however, that with the advent of monetary currency, spoilage is of no consequence, as anything can be exchanged for money and horded without waste (Drahos 1996, 46). Therefore, society’s use of money allows for lavish accumulation, despite the condition of ‘spoilage’. Locke thus makes for considerable exception to his two conditions of ‘worsening’ and ‘spoilage’. As Margaret Radin asserts, there is a “heroic inferential leap” from acquisition by labor-mixing in the state of nature to property that is *ipso facto* justified in market society with money and wage labor (1982, 979). Labor-mixing, moreover, though a useful concept for identifying individual owners, is rather ambivalent with regards to limitations on private acquisition, providing little concrete direction on society’s collective stake in property.

In *Intellectual Property & Information Control*, Adam D. Moore, rejecting a utilitarian justification for intellectual property, offers a rights-based theory centered upon Locke’s proviso of ‘worsening’ others (2001, 6). Moore argues that possession of knowledge ought to be permitted if no one is made worse off by its exclusion (*Ibid*.).

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17 Macpherson 1962, 209
18 Peter Drahos explains: “Locke recognized that [the condition of spoilage] would not serve, in a money economy, to limit large property holding because men could, through the process of exchange, amass non-perishable wealth though stocks and money but it was morally reprehensible to allow a bag of plums to go to waste. With breathtaking swiftness he glides over the connections between property, wealth, political and social power and the implications of this for a theory like his which claims that men are naturally equal and have a natural right to property” (1996, 43).
19 For cases without scarcity, moreover, in which nothing can possibly be spoiled or wasted, Locke suggests private property is a just reward for the industrious (Drahos 1996, 43–44). Locke says, “…this I dare boldly affirm, that the same rule of propriety, (viz.) that every man should have as much as he could make use of, would hold still in the world, without straitening any body; since there is land enough in the world to suffice double the inhabitants, had not the invention of money, and the tacit agreement of men to put a value on it, introduced (by consent) larger possessions, and a right to them; which, how it has done, I shall by and by shew more at large” (2007, Chapter V, §36).
Because abstract objects are non-rivalrous (can be occupied by many at one time) and do not suffer from scarcity (are not consumable), intellectual property should not be modeled as part of a zero-sum game, for enclosure does not necessarily take from or burden others (Ibid., 110). To determine if harm has been done, however, ‘worsening’, in terms of both “material standing” as well as the “opportunity to increase material standing,” must be appropriately defined and some theory of value adopted and defended (Ibid., 83). A patent which, for example, excludes the sick from accessing some life-saving drug, may be considered unjustifiable worsening under the proviso, but such an impact must be based on a separate value assessment. Moore ultimately downplays any social component of common knowledge, arguing individuals are fundamentally entitled to the market value generated from the production of even the most ordinary interpersonal processes and cultural artifacts (Ibid., 171-172). This conclusion, however, is dependent upon some specific theory of value, and though Moore emphasizes in his value-model the importance for individuals to control intellectual objects, he does not acknowledge any collective good in ensuring access to information.

Whereas Locke justifies private property with labor, Hegel’s theory is based on human will. For Hegel, personal property is the first embodiment of human freedom and represents a spiritual will more fundamental than the satisfaction of material desires (Drahos 1996, 77). Hegel believes that for will to exist as a self-determined “Idea,” it

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20 Here Moore alludes such to the content which individuals freely create and is sold for as advertising and for market research (Fuchs 2008, 209-210).
must be projected into the physical world beyond the abstract self (2008, §35, §41). It is an individual’s personality “which acts to overcome this limitation and to give itself reality—or, what amounts to the same thing, so posit that existence as its own” (Ibid., §39). The acquisition of property, therefore, is an absolute goal of individual personhood and an end in itself (Radin 1989, 972-973). Unlike Locke’s theory, in which the claim to ownership is permanent by way of labor, private property for Hegel requires continuous occupancy so that personality is actively present in the object (Ibid., 973-974). Society, however, must recognize a person’s embodiment in those things, validating individual will with the will of society and allowing people to recognize each other as self-conscious beings (Hughes 1988, 334). The state, then, is tasked with mediating property relations in a way which both maintains individual personhood and also satisfies society’s higher needs (Drahos 1996, 84). Overall, Hegel’s treatment seems somewhat descriptive, as he explains how human spirit finds expression through property rather than providing justification for specific forms of ownership (Ibid., 80). This approach can restrain the possibilities of free expression for certain groups of individuals (i.e., the impoverished) (Baer 1995, 265; Drahos 1996, 87), thus ultimately legitimizing the state in regulating ownership rights.

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21 “The person must give himself an external sphere of freedom in order to have being as Idea. The person is the infinite will, the will which has being in and for itself, in the first and as yet wholly abstract determination. Consequently, this sphere distinct from the will, which may constitute the sphere of its freedom, is likewise determined as immediately different and separable from it” (Hegel 2008, §41).

22 “A person has the right to place his will in any thing. The thing thereby becomes mine and acquires my will as its substantial end (since it has no such end within itself), its determination, and its soul – the absolute right of appropriation which human beings have over all things” (Hegel 2008, §44).
Hegel, in similar fashion as Kant and Fichte, specifically defends property in ideas (Hegel 2008, §68-69). Plagiarism, claims Hegel, is a matter of honor and personal morals (Ibid., §69), for masquerading as another is a direct infringement of their personhood. Hegel’s requirement for ‘occupancy’ in personal ownership is in accord with the claim writers make as author of a particular work. As Peter Drahos notes, European compacts, beginning with the Berne Convention in 1886, worked to develop the moral rights of authors (1996, 80): “…the author shall have the right to claim authorship to the work and to object to any distortion, mutilation or other modification, or other derogatory action in relation to, the said work, which would be prejudicial to his honor or reputation” (World Intellectual Property Organization [WIPO]). This authorial right protects intellectual creation from misuse in any application which does not suit the author’s preference. Such applies to cases in which a creator’s expression is misrepresented or abused—perhaps justifying copyright terms that extend the life of the author (or even more), as is the period in which one’s personal reputation occupies the work. But even though controlling individual expression is a core tenet of personal development, Hegel makes its jurisprudential protection by no means absolute. Hegel’s strong partiality for the nation-state, moreover, does nothing to show how a global IP

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23 Such is also consistent with individuals seeking credit for their achievement. John Adams describes the virtue of “ emulation” (which Hannah Arendt characterizes as a “passion for distinction”): “… every individual is seen to be strongly actuated by a desire to be seen, heard, talked of, approved and respected by the people about him and within his knowledge” (qtd. in Arendt 2006, 110).

24 The Berne Convention for the Protection of Literary and Artistic Works, Article 6bis

25 Such a right prevents, say, a political campaign from using a piece of music without the authorization of the composer, as was the case in the 2008 U.S. presidential election, which resulted in a financial settlement and apology from then-candidate John McCain because the artist “ was concerned that use of his music would cause people to conclude he was endorsing McCain” (Associated Press 2009).
framework that encompasses international markets and twenty-first-century divisions in productive capacity should operate. Without consideration for the potentially exclusionary effects of content control, either by the inclination of the creator or exclusive rights granted by government regulation, Hegel’s theory lacks direction on how the state is to balance the spiritual needs of individuals to control their creative output with the needs of society to access informational resources.

In a fundamental way, personal property is essential to individual liberty. It is important people have free control over their informational lives in order to both make practical use of human knowledge as well as to express themselves as individuals in society. Individuals, moreover, must keep some information private to maintain a sense of personal dignity. 26 For Shubha Ghosh, the right to exclude others is not only vital to individual autonomy, but provides the very conditions for creativity and invention (2007, 215):

Even if much artistic and scientific production is collaborative and cumulative, individualized effort is a key input to the final output of both artistic and scientific endeavors. The ability to exclude is as important for preserving individual autonomy in artistic and scientific efforts as it is for sexual activity, management of one's household, the pursuit of one's education and career, and other life choices.

Though Locke’s theory helps actualize this value by providing a useful means to attribute ownership rights to particular individuals, as any specific creation builds upon prior knowledge and may have numerous contributors to its final manifestation, it is increasingly unclear to what extent any specific person labors on intellectual expressions,

26 In describing obligations of an IP regime, Mitchell appeals to a notion of privacy based on established “ethical norms of individual autonomy and dignity” (2005, 104).
particularly iterative, abstract works comprised of many interdependent ideas (Drahos 1996, 48; Tavini 2005, 90). Labor-mixing alone, moreover, seems a rather untenable model for intellectual property regulation: Locke does not provide clear consideration for a societal interest in managing property relations, and determining whether others are harmed by enclosure requires an entire moral framework itself. Hegel’s marriage of civil society and the state recognizes that conflict exists and that government can restrict individual liberty to balance material and spiritual needs. In the case of intellectual property, information is both restricted and created by personal expression, as individuals create knowledge works to express themselves but also require continued control over their expressions to maintain a sense of personhood. Limiting individual control over intellectual content would allow greater public access to knowledge but might infringe upon individual liberty, posing a difficult dilemma for how society should treat abstract ownership.
Chapter 6

THE COMMODITY CRITIQUE

Knowledge is largely considered the most important factor of production in the post-industrial economy (Jessop 2007, 1). Information, however, is not the same as other resources which input to the creation of *things* produced for sale (*i.e.*, commodities). The stock of shared information, like landed resources, has an inherent value in itself, and thus its commoditization in the marketplace serves to obscure its true value (Fuchs 2008, 206-208). Knowledge, therefore, is only *partially* commodified, as information is created to both generate profit as well as to fulfill other personal and social values. The nature of producing knowledge products, moreover, is an intrinsically collective process, as sharing information is essential to forming new ideas (Hyde 1983, 80). Therefore, information instrumentally resists the type of enclosure necessary to commoditize it for the purposes of profit accumulation, and thus resides in a peculiar medium between the “informational commodity economy” and the “informational gift economy” (Fuchs 2008, 209-210).

Like Hegel, Marx’s analysis begins within society, not the state of nature. Marxist philosophy is predicated upon an ideal conception of man which instructs its critique of a free society. Marx argues that all people aspire to exercise their free will and to act as morally rational and autonomous agents but that the liberal state alienates people by reducing them to egoistic individuals independent of one another (1978b, 33, 44, 46). As individuals compete in the liberal economy, market pressures seek to transform
everything of value into an instrument for profit accumulation—into a commodity—distorting its original use. In economic terms, a commodity is a good or service which is produced for sale within the labor process (Jessop 2007, 3). Thus a commodity is merely a product “capable of satisfying human [want]” (Marx 1978a, 319). To make use of Marx’s example: wood, in its natural form, is altered by it being carved into a table—it is given use by its infusion with labor-power in making it a table (1978a, 320). But to the furniture vendor, the table is merely an object for exchange (Ibid.). The process of making the commodity a thing for exchange obscures its social value in the abstract operation of the marketplace (Castree 2001, 1521). The critique of “commodity fetishism,” then, is this very obfuscation of use-value which occurs in the production of the commodity, as the social cost in producing, buying, and selling commodities is not accounted for in the process of capital accumulation (Ibid.). As information functions as a collective human process with intrinsic social value, its commodification alienates its purpose for individuals and the community.

Marx considers land, labor, and capital as factors of production (non-commodities) that acquire a fetishized form under market pressure (Jessop 2007, 13). This is because land, labor-power, and money already exist as useful objects before acquiring exchange-value in the marketplace: land as a natural resource which is present before the marketplace; labor-power as a generic human capacity; money (capital) as a

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27 Marx describes commodities as a queer thing, “[abound] in metaphysical subtleties and theological niceties” (1978a, 319).
token of exchange (Ibid., 4). Such factors of production are subject to capitalist profit-orientation in that they can be bought and sold, but they are not in fact produced in order to be bought and sold (Ibid.). Like traditional industrial factors of production, information also has intrinsic value and is not created solely to be an instrument of economic exchange: collective knowledge (Marx’s ‘general intellect’) is a social and historical product created from cooperation and social interaction (Fuchs 2008, 206-208). Moreover, knowledge, as a non-rivalrous good, only acquires commodity form when “it is made artificially scarce” by restricting people’s access by requiring the payment of rent (Jessop 2007, 5). However, the process itself for the development of new ideas requires that individuals have access to information.

As knowledge is both useful in itself and as a commodified as a mode for exchange, it is neither completely commodified nor completely non-commodified. Such “incomplete commodities,” asserts Margaret Radin, reflect a particular role in the market which influences social interaction and policy (1996, 108). Housing, for example, has a “special nonmarket significance,” as people value the concept of the home not just for shelter, but as essential for maintaining personal identity and dignity (Ibid., 109, 112). This perspective informs interactions between market participants and is recognized in

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28 Money’s use depends on nonmarket factors such as belief and trust and, therefore, is not usable by isolated individuals, for it requires the collective of society to attain its value (Jessop 2007, 4).
29 Rent, in this sense, is the licensing and other fees which owners of intellectual property charge its users.
30 Jessop also develops a model of commodity stratification in which there are five stages of commodification: pre-commodification, fictitious commodification, quasi-commodification, real commodification, and fictive capital (2007, 15). Pre-commodified knowledge exists as a cumulative, collective resource (think hereditary knowledge and culture) or as a freely accessible commons; whereas, fictive capital involves the absolute securitization of intellectual property rights, including cases of preventative patent accumulation and patent hording (Ibid.).
both regulation and law (Ibid.). Thus requirements which may be economically inefficient, such as habitability regulations and rent control, recognize non-economic values in the housing market (Ibid., 108-110). The ‘domino theory’ alleges that a commodity’s market character tends to overpower other values, assuming “that we cannot both know the price of something and know that it is priceless” (Ibid., 101).

Radin rejects such a binary understanding of commodification, however, arguing that it is necessary to recognize a continuum of degrees of commodification which may be appropriate for any given context (Ibid., 104). Radin, furthermore, inspired by Hannah Arendt’s analysis,31 distinguishes between labor done in the production of commodities for wages and work done in the pursuit of the sake of other personal and social values (Ibid., 104-106).

The model of competition in the market is challenged by the collective nature of knowledge production. Social collaboration, minimized in importance by the liberal economy, is becoming a critical economic variable (Bollier 2007, 35). Ideas, however, cannot be circulated freely when treated as a commodity (Hyde 1983, 82). Complex cognitive tasks require sharing to exceed what an individual mind can accomplish (Ibid.). Discussing the need for collaboration among scientists, Lewis Hyde notes that the market “is a very inefficient way to hold a discussion” (Ibid.). Hyde, like Radin, distinguishes between the market economy and what he calls the “gift economy.” Ideas, then, are treated as gifts when sharing information in producing collaborative work (Ibid., 80). In this sense, great efficiencies are possible in a networked environment (Bollier 2007, 35).

31 The Human Condition (1998)
Bollier points to voluntary “peer production” which occurs in the sharing required to create open-source software and collaborative websites (*Ibid.*). Much of this freely created work embodies the cooperative elements of organizational systems fundamental to society, such as the unpaid work which produces social relations, scientific progress, communication, and education (Fuchs 2008, 209, 333-337). “Common labor,” Christian Fuchs explains, “can’t be attributed to the production of certain companies, commodities, or even industries”—it is indirectly subsumed to accumulate profit from common information (*Ibid.*, 209). This antagonism manifests between the “informational commodity economy” and the “informational gift economy,” as companies exploit the knowledge products that individuals freely create, such as the user generated content on the Internet, which is commodified for advertising, market research, and other purposes (*Ibid.*, 209-210).

Dominated by a logic of alienation and competition, the liberal economy lacks recognition of the intrinsically collective nature of knowledge production. As Radin explains, regulations and laws can be implemented to help actualize nonmarket values in the market economy (1996, 108). With information, the trend in regulation has been towards greater privatization intended to incentivize knowledge production by encouraging competition for profit; however, value in the creation of intellectual goods is not necessarily generated from competition but from collaboration. Thus relying on the liberal state to make adjustments to market relationships seems to limit the possibility of alternative arrangements, as the expansion of intellectual property protection indicates. Social norms involving the creative process appear to be continually developing as
technology allows individuals to collaborate on intellectual works in new and expanded ways. Just as intellectual creation requires sharing, often functioning in an informal environment of disparate associations, a more collaborative approach to designing a system to govern shared informational resources could involve engaging the community in rule formation.
Chapter 7

THE NATURAL COMMONS

The concept of “the commons” is the terminology of social science, law, as well as economics (Hess & Ostrom 2003, 114-117)—and, remarks Boyle, is used “widely, enthusiastically, and inconsistently” (2003, 29). Though there are several different understandings of the commons which inform society’s treatment of property, few scholars are keen to endorse a “purely private” world in which everything is either “owned” or “not yet owned” (Mitchell 2005, 75). Public goods, then, must have some place in society’s ownership system (Ibid.), but making use of contested resources necessitates defining boundaries and conditions for ownership (Bollier 2007, 33). Such issues were historically dealt with by small, homogenous groups of people benefitting from unified decision-makers with congenial interests and lifestyles (Ibid., 48-49). In modern society, however, where scarcity can greatly limit availability, relying on market forces or state intervention are often the only means thought available to manage such consumable resources. Environmentalists decry the effects of a liberal ownership model on shared resources: overgrazing, drought, pollution, deforestation. In the tradition of the natural commons, scholars point to cases around the world where forests, streams, grazing areas, and fisheries have been sustained as collectively managed resources by groups of people with various levels of state or market involvement (Hess & Ostrom 2003, 122-123). Hess and Ostrom define the commons as “a resource shared by a group of people that is subject to social dilemmas” (2007, 3). The commons model is an
important means to consider ways to collectively manage shared resources that are not subject to market commodification or state inefficiency. The commons are thus characterized as a “third way” for property between private and public ownership—between the market and the state (Bollier 2007, 33; Mitchell 2005, 69).32

In a vast and bountiful state of nature, resources are procured by individuals for their survival, but without scarcity, there is no advantage to lay claim to anything that one cannot make use of (Mitchell 2005, 68). Such an idyllic notion of the commons presupposes a sort of egalitarianism in which everyone’s claim to use is equal, and thus functions in the absence of political structure (i.e., before civil society), comprising the very raw material of which communities are formed (Ibid., 67-68). After this “age of the commons” is over, however—once population or industry or desire produces scarcity—a necessary social connection emerges between appropriation and morality, as not everyone can have the same right to access the resources they want or need (Ibid., 68-69, 83). And thus a crucial question arises regarding who owns the commons: everyone or no one? (Ibid., 69-70). A negative conception of the commons, in which all the world’s resources are an open frontier available for unlimited use and enclosure, confirms Hardin’s ‘tragedy of the commons’, forfeiting natural resources to the those who happen to arrive first and condemning common property systems to ultimate collapse (Ibid., 77-78, 83). Hardin would argue that individual self-interest demands people take proper care of the resources they own and that scarcity is remediated by the market through

32 Hess and Ostrom note that property rights are more complex than simply private, government, and common property, arguing that these classifications better reflect bundles of rights which define the actions permissible for particular rights-holders (2003, 124-128). These property rights bundles include access, extraction, management, exclusion, and alienation (Ibid.).
higher prices (Bollier 2007, 34; Mitchell 2005, 77). By this understanding, then, “[t]here is no right to be included in the commons, merely a right to control over what one takes from the commons” (Drahos 1996, 45). Mitchell states that this treats the commons “as an initial condition rather than a moral regime” (2005, 83) and, therefore, does not explicitly recognize the collective interest in maintaining scarce resources. Moreover, the negative commons assumes that shared resources are available only for consumption, not that the commons can be expanded by reverting appropriated resources back to the common-pool (Ibid., 83)—as happens with intellectual property when knowledge enters the public domain. A positive commons, conversely, presupposes that each person has the right to anything in the commons—where everyone owns everything (Levine 2007, 250-251; Mitchell 2005, 79-81). Access to the positive commons can, therefore, be envisioned as a use right more than a permanent holding (Drahos 1996, 43, 57-59), the conditions of which subject to the social norms and rules of the community. But if the commons belong jointly to all commoners, there is an obligation for each person to consent to every specific use of its contents (Mitchell 2005, 81). Such an obligation impinges upon the free action of individuals to make practical use of the commons, and thus necessitates some criteria to determine the conditions for legitimate access—such as labor-mixing (Ibid.).

Though Locke’s theory focuses on the value created by labor33 (Mitchell 2005, 75), Drahos finds an important dependence on the context of community in Lockean

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33 “From all which it is evident, that though the things of nature are given in common, yet man, by being master of himself, and proprietor of his own person, and the actions or labour of it, had still in himself the
labor-mixing (1996, 54). As James Tully argues, for Locke, God’s purpose is for man to enjoy the fruits of nature to further his own survival, and thus property is a requisite to fulfill God’s will (Ibid., 46). Therefore, God intends for nature to be accessible to all in common, as man has the right to enter the natural commons to use its resources for survival and subsistence (Ibid., 43, 46). Locke’s commons are effectively owned by all, and are thus inclusive, rather than owned by none and subject to unfettered appropriation without obligation (Ibid., 46-47). But without God, the absence of an acknowledged ‘governor of the commons’ turns nature into an entirely negative, open-access resource, legitimately enclosed by the first to secure its productive capacity (Judge 2002, 333).

Though Locke places conditions (‘worsening’ and ‘spoilage’) on labor-mixing for property acquired from the state of nature, he also allows government to regulate acquisition in civil society (Drahos 1996, 53-54; Judge 2002, 335). By entering civil society, Locke remarks, individuals by law have “given up their pretences to their natural common right, which originally they had to those countries” (Locke 2007, Chapter V, §45)—and thus permits for the state to act as the arbiter of the commons after the political boundaries of a territory are settled (Ibid.). Therefore, it is the purview of the community to design the social compact needed to resolve problems of consent for just

great foundation of property; and that, which made up the great part of what he applied to the support or comfort of his being, when invention and arts had improved the conveniencies of life, was perfectly his own, and did not belong in common to others” (Locke 2007, Chapter V, §44).

34 Tully 1980

35 Locke makes specific reference to the treaties and conquests made by kingdoms and states to acquire the territories of native peoples (2007, Chapter V, §45): “there are still great tracts of ground to be found, which (the inhabitants thereof not having joined with the rest of mankind, in the consent of the use of their common money) lie waste, and are more than the people who dwell on it do, or can make use of, and so still lie in common; tho’ this can scarce happen amongst that part of mankind that have consented to the use of money.”
acquisition (Drahos 1996, 52-53, 56-58). Drahos concludes that though Locke’s theory is based on a natural right to labor, it is ultimately instrumental and subordinate to the rights to life and self-preservation provided by God (Ibid., 53-54). The state, therefore, is empowered to make regulatory decisions and to modify the labor-property arrangement to fit this priority (Ibid.). Still, Radin’s concern on the ability of labor-mixing to justify liberal ownership remains (1982, 979), though it appears Locke is open to society amending the labor-based property ownership scheme.

For many years the environmental movement has contested prevailing assumptions about liberal ownership. With a collection of ecological portraits and landscapes, conservationist and teacher Aldo Leopold introduces an ecological ethic for land use in his 1949 classic A Sand County Almanac. Leopold posits, “Politics and economics are advanced symbioses in which the original free-for-all competition has been replaced, in part, by co-operative mechanisms with an ethical content” (1949, 238). The problem with liberal society’s relation to natural resources, he offers, is that the privilege for their use entails no obligation (Ibid.). He suggests that there is a need to include an ethic for land into “the community concept” (Ibid. 239) from which ownership is based. Gary Snyder, poet and environmental activist, distinguishes between public lands, such as nature preserves, and the traditional commons—“the ancient mode of both protecting and managing the wilds of the self-governing regions” (1990, 32). Shared resources, Snyder explains, are not open to public access without limits on individual exploitation, but instead are themselves an institution, historically governed by custom and within a specific social context (Ibid.). Common resources are thus owned by
communities, not individuals, and are expressly responsive to local particularity (Ibid., 33). But as resources of all types are commodified by market forces, the customs of necessity which protected environments and milieus are often ignored and dissolved, replaced by liberal regulations or, in some cases, nothing at all. Leopold defines his land ethic as a “limitation on freedom of [action]” requiring a “differentiation of social from anti-social conduct” (1949, 238-239), and, in doing so, pleads for cooperation to preempt the prevailing rule of unmitigated self-interest.

Hess & Ostrom argue that resources in the commons are economic goods— not property (Hess & Ostrom 2007, 5). Access to the commons, therefore, is not the same as liberal ownership rights (Mitchell 2005, 71). A voluntary, self-organized commons requires collective-action and self-governance on the part of the commoners, which may involve formal political and legal intuitions (Hess & Ostrom 2007, 5). In her seminal piece, Governing the Commons, Elinor Ostrom demonstrates how voluntary associations work to appropriate the benefits of common-pool resources without the consequence of their tragic destruction. Typically, to maintain common resources, a central authority must either enforce government regulation, property rights, or a combination of the two (Ostrom 1990, 14). Exemplified in Thailand, Nepal, and India, the nationalization of forests transformed once communally-managed property to entirely open-access resources (Ibid., 21-22, 27). The consequence has been that rather than vigorously

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36 Hess and Ostrom arrange economic goods based on degree of rivalry (subtractibility) and ease of exclusion, depicting useful knowledge as a public good on one end of the spectrum and mediums of information transmission, such as books or computers, as personal property on the other (2007, 9).
37 Mitchell’s definition of the term ‘commoners’: “A set of agents that can make use of the commons” (2005, 71).
maintained by the group of people who used the forests as part of their shared tradition and, indeed, a large part of their very livelihood, the resources are instead subject to state regulations with inefficiencies, potentials for corruption, and a general disregard and detachment to resource’s vitality (Ibid.). Ostrom suggests that there are solutions beyond both markets and governments which work to enhance peoples’ capacity to manage common resources both fairly and efficiently (Ibid., 2, 7). For this, then, she proposes procedures which consider theories of human organization and how, under conditions favoring collective action, voluntary associations allow people to retain the residuals of their efforts and also sustain the resource (Ibid., 24-25). A strong community association is necessary to provide a sense of common future among the users of common resources (Ibid. 21). Absent such community involvement, deficiency in trust and communication can result in free-riders and a lack in the commitment necessary for collective management (Ibid.).

Peter Levine contrasts what he calls a “libertarian commons” where everyone has open-access to an “associational commons” regulated and controlled by a group of people (2007, 250-251). The advantage of an associational commons, asserts Levine, is that its resources can be defended and lobbied for by the group, mitigating problems of a free-for-all caused by open-access (Ibid., 250-251). Whereas markets privilege the value of exchange and respond to scarcity with higher prices based on supply and demand, an associational commons commands greater community involvement (Bollier 2007, 33-34). The commons, moreover, favor social norms, rules, and legal mechanisms to traditional notions of property, contracts, and markets (Ibid., 29). Hess and Ostrom assert that even
the process of people organizing to conduct rule formation which specifies their rights and duties creates a public good for which the community benefits (2003, 117). Though Hardin’s ‘tragedy of the commons’ focuses on open-access regimes in which there is little incentive for actors to conserve or invest in improvements (Hess & Ostrom 2003, 122), self-governed collectives to maintain shared resources have also developed throughout history. Ultimately, James Boyle argues that Hardin’s work underestimates the potential for groups of people to develop a managed commons system governed by both formal and informal rules (2007b, 130). Drahos contends that how society models the relationship between the intellectual commons and community is important for imagining the possibilities for intellectual property regulation, and, moreover, because knowledge creation must be nurtured by expanding the resource pool of the public domain, a positive conception of the commons is most appropriate for intellectual property (1996, 57, 68-69).
Resource problems in the digital realm are similar to those in the physical world: free riding, congestion, conflict, pollution (Hess & Ostrom 2007, 4). Molly Van Houweling states, “The public domain is to the world of innovation and creativity what the environment is to the physical world” (2007, 23). The public domain, then, is analogous to the common-pool of resources found in the natural environment, with unique expressions representing completed, fashioned intellectual products available for individuals to make use. Van Houweling continues (Ibid.):

Concern with the public’s ability to build upon a body of intellectual works that are freely available as raw material for new generations of creativity and innovation echoes environmentalists’ concern with the public’s ability to enjoy healthy air, water, and open spaces.

But opposite the natural commons, the information commons must continually grow and expand, as it is only useful if it is made up of rich and timely information (Mitchell 2005, 98). Therefore, all intellectual creation has some intrinsic social value in that it contributes to enriching the public domain (Ibid., 90). To encourage the production of knowledge works, then, requires principles which both foster the creative process as well as maintain open-access to the public domain. Though intellectual property regulation incentivizes innovation through private property, is does not acknowledge unresponsive to the public’s interest. Thus providing a narrative of the knowledge commons is a necessary addition to an existing property rights system which fails to adequately incorporate social obligations into the IP regime.
An analogy with the natural commons, however, is somewhat problematic, for the intellectual commons are, in a sense, not natural (Mitchell 2005, 88). It is “because the commons is assumed to lie outside the scope of human projects,” notes Mitchell, that the “pre-human” pool of owned things is tied to individual property by natural law theory (Ibid.), such as how labor-mixing requires human improvement to make a product from nature capable of being owned (Locke 2007, Chapter V, §27). In the case of information, Mitchell provides the example of someone “making history” as an unowned thing that is created by man (Ibid.). Mitchell appeals to Hannah Arendt’s conception of “the public” in her 1958 work The Human Condition to describe how knowledge is incompatible with traditional notions of common property. For Arendt, the public realm is essential for people to relate with others and to recognize a shared experience amongst individuals in society (1998, 52-53, 58). It is not the natural but “the human artifact,” says Ardent, which constitutes the public realm and allows people to share in the “common world” (Ibid., 52-53). The common world, then, “transcends our lifespan into past and future alike,” exclaims Ardent, as “[i]t is what we have in common not only with those who live with us, but also with those who were here before and with those who will come after us” (Ibid., 58). Thus, because we cannot choose to “opt out” of participating in the common world, Mitchell argues, people’s actions and works cannot be excluded solely for individual (or commodity) use—all human artifacts have intrinsic social value (2005, 90). Moreover, as physical artifacts decay, it is only ideas which have the sort of permanence that Arendt believes is necessary to build and sustain the public realm (Ibid.). Ideas as
such human artifacts, therefore, act as the shared building blocks by which knowledge can function as a commons.

Unlike the natural commons, the pool of resources in the knowledge commons can be added to and expanded—and, perhaps, ought to be. Some scholars claim that there exists a moral obligation to all sources of inspiration—however distant in the past—and that to avoid an “infinite regress” of debts, individuals are obligated to share their intellectual work (Mitchell 2005, 93-94). Others, such as Grotius, assert that because people are by nature social animals, it violates the “laws of society” to refuse to share ideas, if there is no cost to do so (Ibid., 94). Mitchell argues that though the natural commons is sustained by limiting its use to prevent its contents from shrinking, an informational commons must be sustained through growing the common-pool (Ibid., 98).

Without intellectual works flowing back into the common-pool, an informational commons would become less useful over time as a starting point for new innovation: “This starting place is both a set of competencies with language and media and socially mediated knowledge and attitudes about the world” (Ibid.). The creative process seems to demand a sort of historical particularity to make innovation relevant to the time. Though emerging technologies are capable of both increasing as well as restricting access to information (Hess & Ostrom 2003, 112), the imperative, as codified in the with “promote the Progress of Science and useful Arts” clause (U.S Constitution, Article I, §8), is to encourage its production. The more quality information available for access, argues Hess and Ostrom, the greater the public good (2007, 13).
Shubha Ghosh approaches intellectual property as an instrument for building a normative vision of the information commons (2007, 224-225). Ghosh’s commons is based on three behavioral principles that make necessary a commons which facilitates open-access to information (Ibid., 211): imitation, exchange, and cultural production.

Imitation, describes Ghosh, is important for the production and dissemination of knowledge (Ibid.). Imitation is a social process, of which open-access to information is necessary to facilitate expression and inventive activity (Ibid., 225-227). “Creative works are a copy of nature filtered through the human mind,” assert Ghosh, “and intellectual property does not give the individual creator the right to copy from nature” (Ibid., 226).

Next, the market works to coordinate differing interests and desires by way of exchange (Ibid., 230-231). As conflicts arise in the commons—as differing conceptions of the good compete—the market serves as a democratizing institution to resolve issues of contested resources (Ibid.). With heterogeneous interactions, the market, moreover, tends to resist concentration of control in ideas (Ibid.). Finally, Ghosh contends that government, by supporting democratic institutions and providing public forums for participation, can facilitate the cultural production and sharing necessary to support a publically controlled commons (Ibid., 232). These principles work together, Ghosh argues, to help ensure a system for intellectual creation which both fosters innovation and provides open-access (Ibid., 234).

In some sense, the current IP regime already resembles a commons for information: a regulatory system which stands between the public domain and individual appropriation and use. The intellectual property medium allows for individuals to draw
from the raw material of the public domain to create knowledge innovations, confers property rights for a limited period, and then transmits ownership of those intellectual products from the private realm back into the public domain. Ghosh contends that IP regimes provide a safeguard for creators to share their work with the public and that without such an assurance of individual control, some would likely opt for secrecy instead (2007, 216-217). Furthermore, intellectual property protects against false attribution of credit and misappropriation of rewards (Ibid., 217). In the knowledge commons, the benefit of exclusivity should be weighed against the alternative of secrecy (Ibid.). Informal institutions, argues Boyle, however, are able to better recognize the need for balance between individual rights and the public domain (2007a, 14-15). And thus though Anglo-American IP regime may function in some ways as a commons, it is overly dependent upon formal mechanisms, such as the market, government regulation and the courts, rather than community-driven norms and rules. There is, moreover, a heavy focus in all deliberation regarding IP on a narrative of rights rather than on one of duties.

Bollier argues that there is a certain narrative in the notion of ‘the commons’ which “offers useful tools and vocabulary” (2007, 38). This language helps to solidify the community as the primary stakeholder in the control of knowledge resources and to

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38 Knowledge creators limit and hide their creations in a number of ways: limited editions, copy-protection technologies, trade guilds, trade secrets (Ghosh 2007, 217).

39 Creative Commons is a collective-action initiative which works to allow authors to utilize a flexible and pragmatic copyright standard (Ostrom & Hess 2007, 52). A number of informal regulatory bodies have been also established to protect copyright in the entertainment industry, such as professional organizations like the Screen Actors Guild and the Directors Guild of America as well as copyright intermediaries like ASCAP and BMI (Ghosh 2007, 222)
provide an alternative for aligning economic, social and ethical concerns regarding IP (Ibid., 29-30). “The commons,” he says, “is not a manifesto, an ideology, or a buzzword, but rather a flexible template for talking about the rich productivity of social communities and the market enclosures that threaten them.” Focusing on information as a commons helps to draw connections between seemingly disparate and not yet understood phenomena, recognizing social needs which cannot be satisfied by the market (Ibid., 29-30, 38). Ultimately, the language of the commons employs new rhetorical devices which can enable community values to be articulated in public policy discussions (Bollier 2007, 38; Kranich, 109). Just as the early environmental movement helped to canonize in the public’s mind the notion of nature as “the environment” (Ibid.), there is a need to cultivate understanding of an ecology of the public domain which is worthy of protection and enrichment (Boyle 2007a, 6-7). Boyle calls this approach “cultural environmentalism” (Ibid., 6):

Cultural environmentalism is an idea, an intellectual and practical movement, that is supposed to be a solution to a set of political and theoretical problems—an imbalance in the way we make intellectual property policy, a legal regime that has adapted poorly to the way that technology has broadened its ambit, and perhaps most importantly a set of mental models, economic nostrums, and property theories that each have a public-domain-shaped hole at their center.

Environmentalism builds on the idea that economic externalities create invisible costs, such as pollution, that individual actors cannot make rational decisions about and which are ignored by the law (Ibid., 6-7). The environmental movement is able to change the perception of self-interest, inform political debate (Ibid., 6, 14), as well as “change habits
of thought and patterns of policy” (Ibid., 19)—the same is possible for the digital environment.
Any concept of intellectual property is highly contentious. The privatization of knowledge can be anything from a culturally damaging depravity to a crucial catalyst for life-saving technology. At the same time, however, privatization can both deter innovation as well as provide individuals with meaningful control over their personal information and expressions. No matter the position, the stakes in modern society seem only to be increasing. People have the right both to make use of information as well as the obligation not to violate each other’s personhood. The paradoxes smother all benevolent reaction, for as the appropriation of intellectual property is now instrumental to the liberal economy, the promotion of commoditized innovation is both a source of utility as well as harm—and thus ultimately of ethical confusion. Recognizing priority for maintaining the social value in open-access to the collective knowledge resources of human history is often absent from the discussion, but as intellectual property by its very nature must be protected by statute—as it cannot be defended by the sword—the prospect for applying a community ideal for the intellectual commons seems at least worthy of inclusion in the debate.

Commonly held notions about private property reflect a particular conception of justice focused on individual rights. A commons narrative attempts to challenge this notion, to amend it, and to persuade as to the validity of its transformation—making the community as the primary stakeholder of intellectual property. But with information’s
developing role in society, rules and norms are difficult to legislate. The commons demand regulation is formed from a process of collective participation. Legislatures and regulators and courts, individuals and groups and companies all have roles in the community, and so the community is where the acceptance of norms, rules, and procedures should ultimately develop. Such community involvement would likely work to redefine ownership as a privilege and maintaining the public domain as an obligation. If nothing else, the commons represents a non-market choice for individuals to embrace, signaling their respect for the community’s interest in supporting the public domain.

Society appears to have reached a technological stop-gap with regards to full automation. The economy is on the precipice of a complex, difficult, and far-reaching shift into wonderful efficiencies of automation. While such innovation approaches, the question must be raised as to how to design an economy not dependent on the production of actual things that is still able to provide the capacity for household’s to generate wealth and maintenance some decent standard of living. The solutions to such quandaries are dependent upon how society is to deal with intellectual property in the next century. But regardless of whether the critics of the Anglo-American intellectual property regime are correct that patents and copyrights are not needed to incentivize investment and should be replaced with an entirely different scheme, society is still in need of a way to better actualize all of the individual and social values related to knowledge production, access, and ownership. Whether a brand new post-capitalist world of collective ownership and open-access emerges or society continues to operate under the current system of privatization and competition, people’s perception of how intellectual property should
function must include some appreciation for the socio-historical importance of human knowledge. Thus a narrative of the knowledge commons seems necessary so that society may face the digital world with social tools equipped to actualize people’s shared values within it.
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