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The commons as a reverse intellectual property – from exclusivity to inclusivity

SÉVERINE DUSOLLIER

From its early history, intellectual property has been envisioned as the leading means of organizing and enhancing creation and innovation. Its underlying premise is that intellectual creation results in public goods, either works or inventions, that by nature are non-exclusive and non-rival. First, a public good lacks exclusivity in the sense that users can access the good without paying its price and the producer of such a good has no means to impede or exclude this free benefit. Mainly due to its intangibility, creation or innovation does not provide its creator with the power to exclude unauthorized users.¹ Consequently, users are tempted to act as free-riders by not paying any remuneration to access and use the asset, and producers of the good, through lack of revenue, might not produce it at a socially optimal level.

On the other hand, non-rivalry means that a resource can be used by someone without this use depriving anyone else of a similar use, nor diminishing the value of the resource.² Eating an apple prevents someone else from benefitting from the same fruit, or if I share it, each of us will eat only half of it. Conversely, intellectual creation can be listened to, viewed, read, exploited into a product or used as an invention by many persons simultaneously, its value not being reduced by such a concurrent application.

This feature of public goods generates a positive externality: the author or inventor contributes to the global welfare of the society that benefits

¹ See Harold Demsetz, 'Towards a Theory of Property Rights' (1967) 57 *The American Economic Review* 347; William M. Landes and Richard A. Posner, 'An Economic Analysis of Copyright Law' 28 *Journal of Legal Studies* 326. It should be noted that the lack of exclusivity will depend on the type of public good, the technological context and capacity for exclusion.

² Richard Watt, *Copyright and Economic Theory – Friends or Foes?* (Cheltenham: Edward Elgar, 2000), pp. 4–5.

from her creations or inventions. Should the creator not be able to recoup her creative investment, while users can copy and enjoy works and inventions at a low cost, the resulting market failure could lead to a lack of incentive to create and innovate, and subsequently to a suboptimal level of creation.

To counter this market failure, which is likely to have dire consequences on social wealth maximization, intellectual property rights are granted to works or inventions so as to confer exclusivity and rivalry not achievable by mere material possession. The economic justification of intellectual property is thus based on both incentivization and curing the market failure of public goods. In contrast, one explanation of tangible property is the preference given to private reservation over commons. In his famous article 'The Tragedy of the Commons',³ Hardin argues against the commons on the ground that the simultaneous use of that resource by many individuals acting independently and according to each one's self-interest, would necessarily lead to overuse and depletion. Such overuse and depletion cannot occur with intangible resources such as creation and innovation, but leaving those in the commons, so the traditional story goes, might lead to underproduction. Exclusivity is hence preferred over common use, thereby enabling creators to reap the value of what they have created, preventing free-riding at their expense.

These traditional views about property, whether tangible or intellectual, have been much contested in recent years and the right to exclude others, which is the core of private property, is now considered to be less crucial. Value, both social and economic, has been found and reaped in the exploitation of non-exclusivity and non-rivalry and 'property theory today has largely escaped from Hardin's intellectual trap'.⁴ Rather than being despised and portrayed as a tragedy, the 'commons' has started to gain momentum and to be understood equally as producing some wealth.

As early as 1986, Carol Rose investigated diverse cases of inherently public property with such a happy outcome that she coined the term a 'comedy of the commons' (to reverse Hardin's prediction).⁵ Such regimes of properties devoted to collective and non-commercial uses enhance

³ Garrett Hardin, 'The Tragedy of the Commons' (1968) 162 *Science* 1243.

⁴ Joshua Getzler, 'Plural Ownership, Funds, and the Aggregation of Wills' (2009) 10 *Theoretical Inquiries in Law* 241.

⁵ Carol Rose, 'The Comedy of the Commons: Custom, Commerce, and Inherently Public Property' (1986) 53 *University of Chicago Law Review* 711.

sociability and even 'achieve their highest value when they are accessible to the public at large'.⁶ In the economic academy, Nobel Prize winner Elinor Ostrom has equally proven that value could be extracted from a sound and generally local organization of resources held in commons (such as pastures and irrigation systems).⁷ Rather than government regulation or privatization, she demonstrated that a common pool resource can be best managed by community rules that are self-determined and adapted to local conditions and that the over-exploitation of unowned or commonly owned resources could be averted by the collective action of local users.

Property itself has equally been the target of criticism when excessive exclusivity threatens to reduce, rather than maximize, the social welfare, the tragedy coming in that case from 'anti-commons'.⁸ The term was coined by Heller to refer to situations when 'there are too many owners holding rights of exclusion, [so] the resource is prone to underuse'.⁹

This regained interest in the commons has spilled over into intellectual property, where scholarship and experiments have tackled the notion of commons to call into question the idea of the necessity of property in creation and innovation. Commons, referring to resources lacking exclusivity, are widespread in intellectual property. They can result from the legal delineation of the exclusivity grant in copyright and patent, such as the public domain, limitations or exceptions. Alternatively, commons have emerged from private ordering initiatives,¹⁰ through licensing, such as in open-source software, Creative Commons or even open-source patenting. Here copyright or patent owners opt for lack of exclusivity to enable sharing and further use and dissemination of their works or inventions, thereby putting these in the commons.

Beyond such theoretical and empirical descriptions in scholarship, concrete examples of economic value yielded from commons are the

⁶ *Ibid.*, 722.

⁷ Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action* (Cambridge University Press, 1990).

⁸ Michael A. Heller, 'The Tragedy of the Anticommons: Property in the Transition from Marx to Markets' (1989) 111 *Harvard Law Review* 621; Michael A. Heller and Rebecca S. Eisenberg, 'Can Patents Deter Innovations? The Anticommons in Biomedical Research' (1998) 280 *Science* 698.

⁹ Heller and Eisenberg, 'The Tragedy of the Anticommons', 624. For discussion, see David Lametti's contribution to this collection ('The Concept of the Anticommons').

¹⁰ Niva Elkin-Koren, 'What Contracts Cannot Do: The Limits of Private Ordering in Facilitating a Creative Commons' (2005) 74 *Fordham Law Review* 375 at 398; Séverine Dusollier, 'Sharing Access to Intellectual Property through Private Ordering' (2007) 82 *Chicago-Kent Law Review* 1391.

digitization (and monetization by advertising) by Google Books of public domain works or the development of successful business models relying on open-source software. The European digital library, EUROPEANA, which is a web portal leading to a huge collection of dozens of European public libraries, is another example of value, more social and cultural than economic, generated by public exploitation of commons.

Such developments should at least question the figure of property and exclusivity in the way intellectual property organizes the relationship to creation and innovation. Such is the aim of this chapter, which purports to look at features of non-exclusivity in intellectual property and to what extent such new models of allocating and sharing resources should matter in creation and innovation.

Section 1 will try to clarify semantics and to bridge a gap that seems to exist between the economics literature and the legal literature in their definitions of the categories lying between commons and property. Section 2 will briefly explain what different commons are envisaged here and what licensing schemes have been developed in copyright and patent to share intellectual resources. Section 3 will assess the property or non-property features in different types of commons, from public domain to open or copyleft licensing, and will underline issues elicited by their undefined status in law. In conclusion, section 4 will propose the invention of a new legal concept, the 'inclusive right' to deal with situations in (intellectual) property where non-exclusivity needs some organization and ways of enforcement.

1 Notions of commons, non-exclusivity and inclusivity

In order to cure the market failure resulting from the public goods problem associated with intangible resources, intellectual property rights create exclusivity. An exclusive right is a legal prerogative to perform an action or enjoy a resource and to deny others the same privilege. Exclusivity is the power to exclude, but it does not intrinsically lead to exclusion, as property is rather conceived as a power to decide to engage in exclusion or not.

I would employ the idea of the commons to describe situations where exclusivity is absent. Commons is not the opposite of property, as it could arise from exclusive property rights and encompass more than the mere lack of (intellectual) property to cover a broad range of intellectual resources or creation in which no exclusivity is exercised, or is exercised in a way that actually reverses such exclusivity to openness and

inclusivity. In Hohfeldian terms,¹¹ property engenders rights and powers, whereas a commons creates privileges and immunities for the public, whether defined or undefined depending on the beneficiaries of the common use.¹²

One could also say that when a resource lacks exclusivity, the persons holding it in common enjoy inclusive entitlements. I will not at this stage elaborate as to whether these entitlements should be called rights, powers or privileges (a tricky question), but I will rather opt for the terminology of 'inclusivity' as the hallmark of commons.¹³

Inclusivity, a terminology that will lead to normative consequences discussed further at the end of this chapter, indicates the key nature of an entitlement in a good that essentially lacks any exclusivity, but has to compromise with the parallel entitlements of others. Commons are characterized by inclusivity as they are un-owned or owned in common. Anyone holding a privilege to use the resource is required to allow the same use from others. In other words, the lack of exclusivity that marks the resource held in common mirrors the inclusiveness that characterizes each separate prerogative enjoying by the commoners.

Another perception of such inclusiveness could be what Yochai Benkler has recently referred to as 'freedom-to-operate under symmetric constraints', in opposition to the asymmetric power of property.¹⁴ One could understand this symmetry as inclusivity as it means that users enjoying such freedom have to accommodate the similar freedoms enjoyed by others and are devoid of any exclusivity, which can be defined as asymmetric power.

This symmetric freedom could serve, for Benkler, to unify the many commons analysed in economic and legal scholarship. This attempt at

¹¹ Wesley N. Hohfeld, 'Fundamental Legal Conceptions as Applied in Judicial Reasoning' (1913) 23 *Yale Law Journal* 16 and (1916) 26 *Yale Law Journal* 710.

¹² For an application of Hohfeld's legal terminology to commons, see Yochai Benkler, 'Between Spanish Huertas and the Open Road: A Tale of Two Commons?' (Paper presented at the 'Convening Cultural Commons' conference at New York University, 23–24 September 2011).

¹³ Peter Drahos (see 'A Defence of Intellectual Commons' (1996) 16 *Consumer Policy Review* 101 at 102) has used the notion of inclusiveness in one paper to define commons in which all individuals are recognized as holding rights in common, equating inclusive commons with universal, compared to what he called an exclusive common in which the use of resources is confined to a particular group. I would depart from that categorization as the terminology of 'inclusive' refers, in my perspective, to the fact that the entitlement that one user enjoys in a resource has to count with entitlements enjoyed by other persons whom she cannot exclude.

¹⁴ Benkler, 'Between Spanish Huertas'.

unification is not an easy task. Indeed, the two academic fields do not use the same notions of property and commons, or rather the continuum from property to commons is conceived differently from an economic or legal perspective. The notion of inclusivity developed here could pursue the same objective, as it enables us to carry out a similar analysis in the legal and economic fields as to the places and degrees of exclusivity or non-exclusivity from property to commons.

1.1 From property to commons in economy

In economy, property and commons are generally situated along a demarcating line characterized by exclusivity. Property can be defined in the economic literature as the entitlement to determine how to use a resource and who owns that resource. It is not synonymous with ownership and notions such as open-access property are used by economic literature to describe a situation where nobody owns a resource. In fact, only private property equals exclusivity and rivalry in economic understanding.

By referring to commons, on the other hand, economic research tends to designate resources held in common and shared. Property can subsist in commons and both property and commons are often mixed. Elinor Ostrom, for instance, has investigated the so-called commons property regime applying to sets of resources that are, compared to private property, non-excludable but rivalrous, and whose use, preservation and consumption are regulated by a particular social arrangement. Though apparently an oxymoron, the conjugation of commons and property serves to refer to those instances where there might be property rights in a resource, but these are held or managed in common, with the objective of sharing the use of the resource. Famous examples in economic research are fisheries,¹⁵ irrigation systems,¹⁶ pastures, waters and so on.¹⁷ Under that framework, property should not be understood in a legal sense, but will encompass any regime describing the bundle of rights that persons, one or many, can enjoy in a resource.

All forms of property are thus envisaged in a continuum, ranging from open-access regimes, common-property regimes (the one favoured

¹⁵ James M. Acheson, *The Lobster Gangs of Maine* (Hanover, NH: University Press of New England, 1988).

¹⁶ Ostrom, *Governing the Commons*.

¹⁷ See also for new types of commons, Charlotte Hess, 'Mapping the New Commons' (2008), available at <http://ssrn.com/abstract=1356835> or <http://dx.doi.org/10.2139/ssrn.1356835> (last accessed 11 April 2013).

by Ostrom's research) to private property. The difference between open-access regimes and common property is that no one has the legal right to exclude anyone from using a resource in the former, where members of a clearly defined group have the right to exclude non-members from using that resource in the latter.¹⁸

Exclusivity is thus gradual, from completely open commons to commons-property regimes and finally to property.

1.2 From property to non-property in law

All literature on commons in law, and particularly in intellectual property, is influenced by economics. This can be explained by two main factors. The first one comes from the emergence of the commons scholarship in economic thinking. Economists¹⁹ have been at the forefront of tackling the notion of commons and analysing regimes, allocating resources in a collective and shared manner under the 'commons' label. The other scientific disciplines, when eventually addressing the issue of commons, have naturally followed and borrowed semantics and architecture from this first body of knowledge, even though that notion might already have some prehistory in their field (which was the case of commons in law).

The second factor is more geographic, as research on commons in law and in intellectual property started to develop in United States doctrine before spreading to other parts of the world. The extensive literature on the commons inherited from the USA cannot be strictly connected to legal or economic fields, as the boundary between both is more porous and more easily crossed by American legal scholars. This is all the more true in research about commons if one remembers that the Nobel Prize-winning work of Ostrom has veered away from traditional micro-economics to focus on institutions and their operation. No surprise then that it had some appeal in the legal academy interested in the role of institutions²⁰ and the way in which they organize allocation of resources and norms about such use.

¹⁸ Charlotte Hess and Elinor Ostrom, 'Ideas, Artifacts and Facilities: Information as a Common Pool Resource' (2003) 66 *Law & Contemporary Problems* 111 at 121. See also the difference proposed by Merges between wide-open commons and commons pools: Robert P. Merges, 'Property Rights Theory and the Commons: The Case of Scientific Research' (1996) 13 *Social Philosophy and Policy* 145.

¹⁹ With the notable exception of legal scholar Carol Rose in 'The Comedy of the Commons'.

²⁰ Carol Rose, 'Ostrom and the Lawyers: the Impact of Governing the Commons on the American Legal Academy' (2011) 5 *International Journal of the Commons* 28.

From a civil law perspective, the transposition of concepts developed in law and economics around the twin notions of property and commons is more hazardous due to the gap between the legal positivism of civil law and the more open system of US jurisprudence and scholarship (which is more welcoming to law and economics methodology, for instance). For that reason, translation of concepts of commons or even property is not as straightforward as it seems to be. This is particularly true of the concept of 'property' which conveys different meanings and has more or less scope in common law and civil law traditions. Property in civil law or *droit de propriété* refers to a determined right vested in a thing (*droit réel*) and is understood as being the most complete and absolute right one can enjoy in an asset. Comparatively, property in common law is a broader concept and can encompass several situations where a person has some exclusive rights, though maybe not absolute, to use a resource.

To continue on comparative law grounds, the notion of commons exists in different forms in common law or civil law regimes. Common law recognizes different types of ownership that have been qualified as commons in the past, designating communal ownership motivated by public interest or common rights to use some land.²¹

Likewise, civil law recognizes a notion of commons surviving from Roman law:²² the *res communes*. Defined by the French civil code as 'resources that belong to no one and whose use is common to all',²³ the *choses communes* are characterized by two features: the lack of appropriation and collective use. The scholarship that has recently rediscovered the notion²⁴ insists on the fact that the lack of property is not accidental but essential. The resource is not subject to appropriation, and hence cannot be qualified as a 'good'. Lack of property can indeed result from the nature of the thing, as in the case of air, sea, radio spectrum, but it is strengthened by a normative decision to exclude some things from the category of private property. One example is the public domain in intellectual property where the definition of strict conditions and a limited term for protection creates a normative impossibility of holding exclusive rights therein.

²¹ See Lynda L. Butler, 'The Commons Concept: An Historical Concept With Modern Relevance' (1982) 23 *William & Mary Law Review* 835.

²² After having been forgotten in medieval times, the notion of *res communes* suddenly reappeared when the Civil Code was drafted in 1804.

²³ Article 714 of the French civil code: 'il est des choses qui n'appartiennent à personne et dont l'usage est commun à tous' (my translation).

²⁴ Marie-Alice Chardeaux, *Les Choses Communes* (Paris: LGDJ, 2006).

Roman law has also transmitted to civil code the notion of *res nullius*, that is things that do not belong to anyone but, contrarily to *res communes*, are open to exclusive rights. *Res nullius* is thus a property-to-be and anyone who uses it first, by taking hold thereof will thereby gain an exclusive right of property. For that reason, a *res nullius* cannot be considered as a commons.

In comparison to the economic classification of property and commons, where both are interlaced and form a continuum of decreasing exclusivity, in law, property and commons (*choses communes*) should be considered as opposites. The *res communes* is impermeable to exclusivity and should be organized accordingly. Property is thus the domain of exclusivity, whereas commons is the domain of non-exclusivity. The separation of these concepts is less evident in common law, where commons can also include situations of property. Rules about co-ownership, intentional community and patent pools could be defined as commons-property regimes to the extent that they organize the use of things held in common but on the basis of property rights. Such things owned in common also exist in civil law, but they will be absorbed by the 'property' category, lacking the subtleties developed by economic theory on the commons.

1.3 From intellectual property to commons

Interestingly, the opposition between commons and property posited by intellectual property law occupies a middle ground between economic thinking and more general legal discourse. Research in the discipline of economics has, in particular, espoused the development of open access in intellectual property, also referred to as open innovation.²⁵

The notion of the commons is nonetheless confusing in IP, for it is used without a unified terminology or regime. In scholarship, recourse to the notion serves to designate no-rights situations, such as the public domain, as well as rights-based situations, such as copyleft licensing or even patent pools (that create regimes akin to the economic notion of common-property regimes). Therefore, the concept of the commons is used to describe situations opposed to intellectual property, as in the legal opposition between property and *res communes*, and situations where property rights subsist, as in the commons-property regimes studied in

²⁵ See the 2012 EPIP Congress, *IP in Motion, Opening Up IP*, Leuven, 27–28 September 2012.

economics. The subpart of the commons therefore crosses both intellectual property and the public domain. In fact, the sole unifying feature could be the lack of exclusivity that will gradually increase from the public domain (no exclusivity), to open-access schemes (no exclusivity granted by exclusive rights), and in the final stage the full exclusivity of intellectual property rights exercised in a traditional and exclusionary manner.

2 The commons in intellectual property: from public domain to open licensing

Obvious candidates for commons and inclusivity can be found in intellectual property: the public domain, exceptions to exclusive rights and open-access or copyleft licensing. The public domain in intellectual property is indeed the primary contender for the category of commons. Defined as the intellectual resources that are not protected by copyright or patent, or no longer so protected (works or inventions fallen into the public domain), the public domain essentially lacks any exclusivity as no one can claim a right in the work or invention.²⁶

The public domain is generally defined in the negative, as what copyright and patent law do not protect. It is composed of elements that are by themselves unprotected, whatever the circumstances of their use. The collective rights of access and use that define it are premised on the absence of an exclusive right thereto. On the face of it, it is the reverse analysis of what is protected by IP; it is what is left over once the existence of an IP right is established.

In copyright, the public domain comprises ideas, unprotected by operation of the idea-expression dichotomy, unoriginal works, excluded works (such as official texts in many countries or works lacking fixation in others) and works whose term of protection has ended. Works in which authors have decided to dedicate to the public domain could be added to this list, although the legitimacy of such relinquishment of copyright is controversial.²⁷

²⁶ A more neutral term of 'resource' should be used here as some parts of the public domain will include resources that cannot claim copyright or patent protection as they are neither 'works' (mere ideas or facts) nor 'inventions' (discoveries, scientific rules or methods, abstract concepts).

²⁷ Pamela Samuelson, 'Challenges in the Mapping of the Public Domain' in Lucie Guibault and P. Bernt Hugenholtz (eds.), *The Future of the Public Domain – Identifying the Commons in Information Law* (The Hague: Kluwer Law International, 2006), p. 9; Séverine Dusollier, *Scoping Study on the Public Domain in Copyright and Related Rights* (Geneva: WIPO, 2011). This is also discussed in this collection by Robert Burrell and

In patents, abstract ideas, discoveries, inventions that do not satisfy the protection requirements by lack of novelty, of inventiveness or of industrial application, excluded subject-matter, expired inventions, (voluntarily or not) unregistered inventions, constitute the public domain.

Those elements, works or inventions, can be described as commons as they are deprived of intellectual property, hence of exclusivity. That does not mean, however, that other forms of reservation or exclusivity cannot be gained by contract, secrecy or technological restraints. Also some inventions may be excluded from intellectual property but are not deemed, as a consequence, to serve an inclusive and shared use: this is the case notably of inventions ineligible to patent on grounds of *ordre public*. Whilst theoretically in the public domain, methods of human cloning, for instance, will not create a collective right to use this invention, for the process of exclusion aims here at barring its free use or exploitation altogether.

One can also look at inclusivity not as the equivalent of non-property, but as equally embracing situations where property in a creation or invention coexists with spaces of non-exclusivity (voluntarily or not). Limitations and exceptions are indeed characterized by a lack of exclusivity: my privilege to make a private copy of a copyrighted work is not exclusive and does not prevent anyone else from benefitting from and exercising the same entitlement.²⁸ Accordingly, exceptions and limitations in copyright and patent can be qualified as commons as they grant privileges of use to users, either indiscriminately (e.g. parody or private copying of a work, private use of invention) or only to some defined categories (e.g. libraries for libraries' exceptions in copyright, researchers for research exception in patent). Elsewhere²⁹, I have argued that limitations to intellectual property rights could even be embraced by the concept of the public domain, where the latter would be split into two parts. The first one could be called the *structural public domain*, encompassing resources not protected by copyright or patent. On the other hand, from a functional perspective, exceptions to copyright or patent operate as a

Emily Hudson in their chapter, 'Property Concepts in European Copyright Law: the Case of Abandonment'.

²⁸ This lack of exclusivity is precisely what makes it difficult to qualify a copyright exception as a genuine right, at least in civil law terms, where a subjective right contains some dose of exclusivity. In common law, the question of qualification of an exception as a right would be differently phrased, as it would depend on the existence of a remedy of some kind.

²⁹ Dusollier, *Scoping Study on the Public Domain*, pp. 8–9.

public domain for they entitle anyone (or anyone in the privileged category) to use the creation or innovation. Openness here is not then linked to the resource itself but is circumstantial. This is what one could call the *functional public domain*.

The last figure in the inclusivity field of intellectual property is rather recent. It is the open innovation movement, ranging from open-source software (the origin of the concept) to creative commons and open patent. These offspring of the rampant contestation of intellectual property propose new ways of exercising intellectual property, both in ideological and legal terms.³⁰

The open-source software movement initiated the development of a model of distribution insisting on the freedom to run and use a program and to copy, modify, improve and redistribute it. It also insists on the core obligation arising from such licences – the obligation to provide the source code of the software.³¹ Invented by Richard Stallman as the GPL licence, which is still the archetypal open-source licence, the principle of free software has since developed into more than one hundred licences worldwide. The concept of freedom to use and share a protected work has eventually been taken over by Lawrence Lessig and his Creative Commons project which aims to develop a set of licences³² allowing authors of copyrighted works to grant similar freedoms to use, copy, modify and distribute their works.³³

Contagion of the open-source mechanism has even spread beyond copyright and entered the patent field.³⁴ Open licensing might appear as antinomic to patents as exclusive rights are what enables the recouping of the cost of an invention and its patenting; this is a very different

³⁰ Séverine Dusollier, 'Sharing Access to Intellectual Property through Private Ordering' (2007) 82 *Chicago-Kent Law Review* 1391.

³¹ See the open source definition and its 'ten commandments'.

³² Besides developing licences applicable outside of software, Creative Commons departs from the open-source model used in software by giving the author choices between different licences. Each licence grants diverse rights to the user. When deciding to license her work under Creative Commons, an author can choose whether she will allow the work to be modified by the user, whether she wants to limit uses of her work to non-commercial purposes and whether she wants to oblige the user to grant the same freedom of use when the latter modifies the work and publicly communicates the derivative work. Regardless of which Creative Commons licence the author chooses, a work should be attributed to its author when it is disseminated.

³³ See Lawrence Lessig, *Free Culture: How Big Media Uses Technology and the Law to Lock Down Culture and Control Creativity* (New York: Penguin, 2004), pp. 183–200.

³⁴ Sara Boettiger and Dan L. Burk, 'Open Source Patenting' (2004) 1 *Journal of International of Biotechnology Law* 221.

situation from copyright where the cost of acquiring the copyright is minimal (but the cost of creation can be high). Against all odds, however, open source has also been tested for patented inventions, mainly in life sciences. The most well-known working example is the Biological Open Source (BIOS) License, developed by CAMBIA, an Australian non-profit research institute from the Centre for Applications of Molecular Biology in International Agriculture. Two patents owned by this research centre are made available on conditions that resemble open source: the licence provides for a worldwide, non-exclusive, royalty-free right to make and use the technology, and includes a mechanism guaranteeing that any improvement of its technology remains free to use for all participants in the initiative. Other initiatives exist in patents.³⁵

From open-source software to open patenting, all can be described as commons, as they renounce any exclusive claim in the work or invention, opting instead to grant inclusive freedoms to use and share the resource in a non-exclusive way. Those commons differ from the public domain and exceptions in many regards.

Contrary to the previous two categories,³⁶ such inclusivity is triggered by exclusive rights. Indeed, open-source licences generally assert a copyright or patent right in the object they govern. This was deemed to be the only strategy to ensure that no one could jeopardize openness by claiming some exclusivity, either by an intellectual property right or by a contract, on the creation or on an improved one. As Carol Rose aptly said, 'the Creative Commons idea, however, is very much a modernist kind of property'.³⁷

First, the inclusivity is created by contract, through a licence,³⁸ and thus by the exercise of an exclusive right and by the author or patent owner

³⁵ See Janet Hope, 'Open Source Genetics: A Conceptual Framework' in Geertrui Van Overwalle (ed.), *Gene Patents and Collaborative Licensing Models. Patent Pools, Clearinghouses, Open Source Models and Liability Regimes* (Cambridge University Press, 2009), p. 171; Geertrui Van Overwalle, 'Of Thickets, Blocks and Gaps: Designing Tools to Resolve Obstacles in the Gene Patents Landscapes' in Geertrui Van Overwalle (ed.), *Gene Patents and Collaborative Licensing Models* (Cambridge University Press, 2009), p. 381; Arti K. Rai, 'Open and Collaborative Research: A New Model for Biomedicine' in Robert W. Hahn (ed.), *Intellectual Property Rights in Frontier Industries: Software and Biotechnology* (Washington DC: AEI Press, 2005), pp. 131, 137.

³⁶ In the public domain there are no exclusive rights at all, whether they are non-existent or they have lapsed, while in exceptions the exclusive rights are unenforceable or stop at that territory.

³⁷ Rose, 'Ostrom and the Lawyers', 24.

³⁸ The qualification of an open-source or Creative Commons licence as a contract is disputed, particularly under US law.

herself. This is not paradoxical if one adheres to the view that intellectual property is about exclusivity and not about exclusion – the terms not being synonymous. Exercising exclusive rights in copyright or a patent does not necessarily lead to the exclusion of others but could also include them in the use of the work or invention. In other words, in the case of open source, exclusive rights create inclusive entitlements (that are contractual rights) to the benefit of any user of the work or invention.³⁹

Such recourse to contract to create freedoms has been criticized by some⁴⁰ as it relies on a private-ordering norm (the contract), which has been usually decried as disrupting the balance of IP regimes. Another effect is that such reliance on contract results in privileges only effective against the licensor or the copyright or patent owner. They are not rights against the world as property would be.

An advantage of the contractual tool is that it permits the owner to assert intellectual property rights in a work or invention and not to relinquish it in the public domain where its free use could not effectively be protected, as we will see below. Most open-access schemes intend to make any reconstitution of exclusivity impossible, hence sustaining a commons regime, and to leverage the exclusive rights of copyright or patents to guarantee and maintain the public accessibility of works and inventions and of derivative creations. In other words, commons-based initiatives 'create a self-binding commons rather than an unrestricted public domain'.⁴¹

The legal mechanism enabling such contagion or virality is called copyleft. The term was first used to describe all systems aiming at leaving creations open, through its opposition to 'copyright', in a play on words: opposition between the right and the left (considered as more progressive) aligns with the opposition between the exclusive *right* and the *left* referring to the waiver of copyright. The terminology also referred to the viral effect of some licences.⁴²

³⁹ Or only to some users as the copyleft licences can discriminate between users, as it is often the case in open patenting and would be the result of opting for a Creative Commons non-commercial licence.

⁴⁰ See Niva Elkin-Koren, 'What Contracts Cannot Do: The Limits of Private Ordering in Facilitating a Creative Commons' (2005) 74 *Fordham Law Review* 375 at 398; Séverine Dusollier, 'The Master's Tools v. The Master's House: Creative Commons v. Copyright' (2006) 29 *Columbia Journal of Law & Arts* 271.

⁴¹ Amy Kapczynski, Samantha Chaifetz, Zachary Katz and Yochai Benkler, 'Addressing Global Health Inequities: An Open Licensing Approach for University Innovations' (2005) 20 *Berkeley Technology Law Journal* 1031 at 1072.

⁴² Not all open-access licences are copyleft. This is generally the case for open-source software, but there will be a copyleft effect only for Creative Commons licences opting for the Share Alike feature.

Under the copyleft clause, the freedom to improve or modify the work or invention is conditional on the obligation to distribute the modified work or invention under similar conditions of inclusiveness. This legal trick thus aims at contaminating any modified or improved work or invention first licensed under such a scheme and endeavours to attach the sharing norm to the intellectual resource itself – not only to the contractual parties.⁴³ The copyleft feature can lead to a particular provision or regulation applying to any user of the work or invention – almost equating the contract to a right against the world.

3 Legal organization of non-exclusivity

Though economic scholarship has addressed the topic of commons for many years, it has mostly led to a description of the management of resources held in commons and of the way in which they might, or might not, elicit social benefit. Such research sometimes integrates a normative dimension that aims to establish the best organization of and use of assets lacking any exclusivity or whose owners have decided to share in a non-exclusive manner. In law, and more particularly in intellectual property, the focus is put on property as the best way to incentivize and exploit creation and innovation. Lack of exclusivity has always been regarded as a fault that needed correction. Even the recent research on commons in intellectual property is generally confined to a description of the irruption of commons in creation and innovation or to a description (and praise) of its mechanisms. In fact, this reflection aligns itself with the reluctance of IP to enter into the field of non-exclusivity, as demonstrated by the following examples. The non-exclusivity or sharing principle we have mentioned is marked by a lack of any legal organization. This raises questions of sustainability and resilience.

3.1 *The negative status of the public domain*

The public domain is generally defined as encompassing intellectual elements that are not protected by copyright or patent, or whose protection has lapsed due to the expiration of the duration for protection.⁴⁴ This limitation to unprotected elements portrays the public domain as a

⁴³ Dusollier, 'Sharing Access to Intellectual Property', 1414–16.

⁴⁴ For the divergences between different mappings of the public domain, see Samuelson, 'Challenges in the Mapping of the Public Domain', 9.

place detached from intellectual property rights. The touchstone of the definition being the lack of copyright protection, the public domain does not create any rights or defined legal entitlements for the public. One could say that the public domain is in a 'legal limbo'.⁴⁵

The negativity of this definition does not help to give status to the public domain, but only reinforces the perception of it as an empty territory where no protection applies, either through an intellectual property right, or by a rule of positive protection against private reservation.⁴⁶ For instance, a work that has fallen into the public domain can still be reserved through another IP right (e.g. trademark, *sui generis* right in a database in the EU) or by a contract or a technological measure. Should an author decide to relinquish her copyright, this would only precipitate her work into a public domain where anybody is free to use it or to modify it, hence benefiting from a copyright in this derivative work. In the context of patents, the decision not to register a patent in an invention would result in non-patentability only in the case of a defensive publication of the invention, but it would not reach possible improvements of the invention. This lack of a definitive status of collectiveness is precisely the reason why proponents of copyleft schemes prefer a contractually constructed commons over the public domain. This reverse-definition of intellectual property can also explain the conundrum of traditional knowledge: lacking the requirements for protection (novelty, individual authorship), traditional knowledge and folklore answer to the Western notion of the public domain and are hence open to appropriation by others through copyright or patent.⁴⁷

A few years ago, a French court limited the exercise of the copyright of two authors who had restored a public and historical square, the Place

⁴⁵ John Cahir, 'The Public Domain: Right or Liberty?' in Charlotte Waelde and Hector MacQueen (eds.), *Intellectual Property – The Many Faces of the Public Domain* (Cheltenham: Edward Elgar, 2007), p. 39.

⁴⁶ Severine Dusollier and Valerie Laure Benabou, 'Draw Me a Public Domain' in Paul Torremans (ed.) *Copyright Law: A Handbook of Contemporary Research* (Cheltenham: Edward Elgar, 2007), p. 161.

⁴⁷ Registering a patent in traditional knowledge would require that this knowledge is not public and does not destroy the novelty of the 'invention', or that other technical features are added to the knowledge to constitute a patentable invention. Folklore will be similarly eligible to copyright protection upon the addition of an original element, which can be very minimal. See Anupam Chander and Madhavi Sunder, 'The Romance of the Public Domain' (2004) 92 *California Law Review* 1331; Johanna Gibson, 'Audiences in Tradition: Traditional Knowledge and the Public Domain' in Charlotte Waelde and Hector MacQueen (eds.), *Intellectual Property – The Many Faces of the Public Domain* (Cheltenham: Edward Elgar, 2007), p. 174.

des Terreaux in Lyon. Even though the pavement they created was considered as a work of authorship, the judge refused to enforce their copyright against a company selling postcards that reproduced the square, including their protected work, on the grounds of the public domain nature of historical buildings composing the square.⁴⁸ The postcards did not represent only or mainly the contemporary work, but the latter was so integrated in the historical square that it was impossible to copy the square without including incidentally a reproduction of the protected pavement. The key argument of the decision was that the public domain status of the buildings necessarily constrained and limited the exercise of copyright held by the authors of a derivative work to the extent required by the free reproduction of the public domain. Otherwise, copyright would indirectly be restored in the public domain work for the benefit of the authors of its restoration or modification. The decision was upheld on appeal, but on different grounds. The invocation of the public domain did not suffice in itself to confer a positive protection against such reservation by a new copyright. The Court of Appeal did state that ‘the protection granted to the authors of the new design of the square should not prejudice the common enjoyment’,⁴⁹ but one would search in vain in French copyright law for the legal grounds sustaining this affirmation.

All these examples demonstrate that the public domain is not inherently devoid of a sustainable rule of non-exclusivity, but is open to further commodification and a return to private reservation, through intellectual property or other means. As it is conceived in copyright and patent law, the public domain does not create in any way a separate site immune from any privatization, as the terminology of the public domain appears to signify. Few elements of the so-called public domain are completely safe from falling again into the realm of intellectual property.⁵⁰ Contrary to what the binary public/private logic suggests, the public domain often serves private property and this interdependent relationship is rooted in

⁴⁸ TGI Lyon, 4 April 2001, *Revue Internationale du Droit d'auteur*, October 2001.

⁴⁹ Lyon, 20 March 2003, *Communications – Commerce Electronique*, September 2003. The Court of Cassation has confirmed the ruling on a very different justification, not making any mention of the public domain status of the underlying work. See Cass., 15 March 2005, available at www.courdecassation.fr/jurisprudence_2/premiere_chambre_civile_568/arret_no_632.html (last accessed 11 April 2013).

⁵⁰ See more developments of that point in Séverine Dusollier, ‘The Public Domain in Intellectual Property: Beyond the Metaphor of a Domain’ in P. L. Jayanthi Reddy (ed.), *Intellectual Property and Public Domain* (Hyderabad: Icfai University Press, 2009), p. 31; Dusollier and Benabou, ‘Draw Me a Public Domain’, p. 161.

the history and economics of intellectual property.⁵¹ The growing enclosure of the public domain does not (or rather, does not only) come from an improper expansion of intellectual property but is linked to the very functioning of a system under which the public domain is only a fallow land ill-equipped to resist encroachment by an intellectual property right, a contract or any form of reservation.

3.2 *Exceptions and limitations*

The status of exceptions and limitations in copyright and patents (most notably in the former) is much disputed.⁵² Qualified as privileges or freedoms, they sometimes pretend to be genuine rights to use the work or invention. The effect of being considered as rights would be to grant a remedy to their beneficiaries to preserve their effective enjoyment. Exceptions such as private copying, educational use, library privileges or any other exception can indeed be limited or impeded altogether by contract or by a technological measure. This issue was fiercely discussed a few years ago when the protection of technological measures was high on the copyright agenda. Courts generally do not acknowledge that copyright exceptions are rights in the legal sense, but only defences. Besides, even when qualified as rights, they could still be overridden by contracts in many countries. Inclusivity given by exceptions to IP rights is thus fragile as it can easily be pre-empted by a contract or other form of protection.

3.3 *The legal trick and the hybrid nature of the copyleft mechanism*

The copyleft trick devised by the open access movement purports to counter the empty promise of the public domain. Whether in open-source software or some Creative Commons licences, the obligation to distribute modifications of the work under the same licensing regime is intended to propagate a sharing ideology along a chain of successive contracts imposing inclusiveness at each stage. The copyleft effect enables the

⁵¹ Carol Rose, ‘Romans, Roads, and Romantic Creators: Traditions of Public Property in the Information Age’ (2003) 66 *Law & Contemporary Problems* 89 at 96.

⁵² Lucie Guibault, *Copyright Limitations and Contracts: An Analysis of the Contractual Overridability of Limitations on Copyright* (The Hague: Kluwer Law International, 2002); Martin Kretschmer, Estelle Derclaye, Marcella Favale and Richard Watt, *The Relationship Between Copyright and Contract Law* (UK Strategic Advisory Board for Intellectual Property, 2010), available at www.ipo.gov.uk/ipresearch-relation-201007.pdf (last accessed 11 April 2013).

ideology of sharing to spill beyond of the licensing parties and contaminate subsequent creations. A similar outcome is achieved in open-source patenting through grant-back mechanisms akin to copyleft.

As Margaret Radin has explained,⁵³ in such viral contracts the terms of the contract accompany the work or software that is disseminated. The contract runs with the digital asset, and the licence is embedded in the object it purports to regulate. The contract even goes so far as to run with modified or improved versions of the work or software it primarily seeks to control. Therefore, copyleft transforms a mere private ordering effect – normally applicable only to the parties to the private ordering tool (i.e. the contract) – into a feature applicable to the intellectual resource itself and to any user thereof. Protection shifts from contract to something that oddly resembles a property right.

Compared to public domain or IP limitations, this form of inclusivity is the most organized and sustained. However, the extent and success of such a procedural contamination, whether by copyleft or grant-back mechanisms, requires that the chain of contracts distributing copies of the work, invention and improvements, or derivative works should not be broken at any stage. Continuity enables the open-access feature to smoothly propagate beyond the first contract, but will depend both on the scope of the virality, based on the definition of the derivative products to be contaminated, and on the legal validity of the copyleft effect.⁵⁴ Only works or inventions that are considered to be derivative or improved inventions under the conditions of the contract (or by the law where the licence only refers to the notion as defined by law) will be subject in turn to the open access norm.

Additionally, open-source licensing can propagate along a chain of successive contracts only if each contract is enforceable against its parties.⁵⁵ True, the enforceability of the licence mostly relies upon copyright or patent protection. In the absence of acceptance of the licence by the user, the copying or distribution of the software or work or use of the invention will amount to an infringement. Users should thus be encouraged to accept the licence to fully enjoy the freedoms conferred therein. However,

⁵³ Margaret Jane Radin, 'Humans, Computers, and Binding Commitment' (2000) 75 *Indiana Law Journal* 1125 at 1132.

⁵⁴ This point is more developed in Dusollier, 'Sharing Access to Intellectual Property', 1416–20.

⁵⁵ See Andrés Guadamuz González, 'Viral Contracts or Unenforceable Documents? Contractual Validity of Copyleft Licences' (2004) 26 *European Intellectual Property Review* 331.

the enforcement of the licence cannot solely rely on the *erga omnes* opposability of the intellectual property rights. Some obligations or rights arising from the open-access licence do not rely at all on a copyright or patent right. Rules of consent or privity will thus apply to determine whether the licence has been accepted and is enforceable.

The complexity of this contractual construction weakens the perpetuation and the sustainability of copyleft licensing (though not to a critical extent). In the final analysis, users of works enjoy inclusive rights in works or inventions only on a contractual basis.

4 Conclusion: towards a legal regime of inclusivity

The previous section described the many commons one can find in intellectual property, collecting them around a shared feature of lack of exclusivity. A commons confers inclusivity upon the individuals entitled to use a resource. Another hallmark of a commons in intellectual property is that such inclusivity has no normative consequence, or so it seems. It cannot, in most cases, lead to a remedy and is not protected against the restoration of exclusivity.

This conclusion will first summarize the findings of this chapter as to the differing characteristics of those situations of non-exclusivity in intellectual property. Then it will propose a new line of research into that inclusivity in an attempt to give it some legal flesh and blood.

4.1 Features of non-exclusivity from the public domain to property

In sum, the gradation from public domain to property could be described as follows (see also Table 11.1).

Furthest away from exclusivity is the public domain, where there is no property or exclusive right vested in the resource (or exclusive rights have lapsed). Seen from the perspective of the user, one could say that any person is entitled to use the creation, in the form of an unconditional and inclusive privilege. The public domain benefits an undefined public. On the other hand, this freedom of use is unenforceable in the sense that no individual belonging to that public has legal means or remedy to protect her privilege from encroachment (either by legal extension of copyright or patent or by private claims based on other rights or powers).

In the case of copyright or patent exceptions/limitations, no exclusive rights can be enforced against the privileged use. Property rights in the work or invention are thus unenforceable. Users, either all of them or a

Table 11.1 Features of non-exclusivity in the different cases of commons

	Subsisting exclusivity (to whom)	Entitlement of the public/user	Conditional/unconditional	Enforceability by the user	Nature of the norm-making
<i>Public domain</i>	No exclusivity (no IP holder)	Inclusivity Privilege/ freedom	Unconditional	Unenforceable	Public ordering
<i>Exception/limitation</i>	No exclusive rights in that use (IP holder has no exclusive rights in that use)	Inclusivity Privilege/ freedom/ immunity	Conditional	Enforceable only through defence	Public ordering
<i>Copyleft licensing</i>	Exclusive rights (owned by IP holder)	Inclusivity Contractual right	Conditional	Enforceable against licensor (IP holders)	Private ordering

defined category thereof, enjoy an inclusive privilege to use the creation. Compared to the public domain, this privilege is enforceable through defence, as it can be invoked to counter a claim of copyright or patent infringement. It is thus a form of immunity that counters the exercise of others' rights.

Finally, copyleft licensing still relies on exclusive rights that subsist in the work or invention, although it creates not a privilege but genuine (contractual) rights that are enforceable as such, against the licensor. As a rule, the right is conditional as it depends on the condition that such freedoms are perpetuated (the copyleft feature) and, in open-source software, on the obligation to release the source code.

4.2 A plea for a new approach to property and non-property: the inclusive right

As Yochai Benkler warns, 'perhaps there is no grand unified theory of commons'.⁵⁶ But all commons, whether seen through the lens of economics or law, whether owned by someone or by no one, contain some feature of inclusivity. Even when commons still rely on exclusive rights to ensure their sustainability, as in open-access licensing schemes, exclusivity necessarily leads to inclusive privileges in the sense that the licensees enjoying the prerogatives to use the work or invention find themselves in a situation devoid of any exclusivity and power to exclude.

Such inclusivity should count for something. Creation and innovation are promoted both by exclusive rights and by commons. Intellectual property regimes should thus address both ways of organizing and allocating use in works or inventions. Intellectual property has for centuries organized the exclusivity in intangibles, not paying much attention to the spaces of non-exclusivity left by the delineation of subject-matter, duration and scope of rights. As Julie Cohen pleaded for copyright, it might be necessary 'to complicate [intellectual property], replacing its foundational private/public dichotomy with a more complex and fertile mix of rights and privileges'.⁵⁷

One way of achieving this could be to look at inclusivity not only as a state to be described, but also as an organization that engenders some

⁵⁶ Benkler, 'Between Spanish Huertas'.

⁵⁷ Julie E. Cohen, 'Copyright, Commodification, and Culture: Locating the Public Domain' in Lucie Guibault and P. Bernt Hugenholtz (eds.), *The Future of the Public Domain – Identifying the Commons in Information Law* (The Hague: Kluwer Law International, 2006), p. 165.

normative consequences. Users of a work or invention, whether in the public domain, in the frame of an exception to the rights or under a copyleft licence, should have their specific entitlement acknowledged and the core feature thereof, its inclusive nature, sustained. Preserving those spaces of non-exclusivity that, as we have seen, produce social, cultural and economic value, could lead to a new legal figure that I would call 'inclusive right'. The leap from 'inclusivity' to 'right' is not an easy one and is not innocuous. Its purpose would be to add a layer of remedy and enforcement that the public domain and, to a lesser extent, exceptions have not, and that copyleft licensees have only against their licensor. The correlative of a right would also be a duty imposed on others not to interfere with the inclusivity, which will be a key outcome in intellectual property where nothing so far immunizes exceptions or public domain against reservations by other rights, contracts or technological measures.

In essence, the legal model of inclusivity to be created should, in my view, embrace some basic rules:

- An inclusive right shall never be exercised to exclude another person enjoying the same inclusive right;
- An inclusive right shall be exercised in a way that preserves the resource and its collective use;
- An inclusive right can be enforced to defeat any claim of exclusivity that could hamper the common use;⁵⁸
- Any court decision recognizing the inclusive right against some claim of exclusivity shall automatically benefit all individuals enjoying a similar right in the work or invention;
- Any legal regime of inclusive rights would be modulated according to the particular situation concerned. The scope and effect of inclusivity would indeed vary from the public domain, where an undefined public enjoys inclusivity without condition, to commons-property regimes where exclusivity subsists against the persons that are outside of the 'club' of commoners.

The model of inclusive right proposed here is only a first sketch, whose lines and colours require more effort and work. But it is an endeavour

⁵⁸ For instance, getting a trade mark in a public domain work is normally not prohibited as the scope of the trade mark and its function would normally not hamper the free use of the public domain work for creative purposes. When it does (registering a public domain cartoon character for products such as films), the status of the public domain labelled as an inclusive right for the public could invalidate the trade mark. Likewise, a copyright exception could not be overridden by contract.

worth pursuing to unify a legal theory of commons and to inscribe in law new models of property and non-property that have proved their value in contributing to creation and innovation.

Equally, it may have some valuable effect outside intellectual property. In a world where scarcity is becoming the rule and sharing resources is a sustainability solution and a praxis in many fields, including the environment, transportation and housing, inclusive rights could potentially better organize our relationships to things held in commons. Exclusivity might soon be dethroned. It ruled in a legal kingdom marked by abundance and foolish consumption. For the sake of future generations, the world to come will require forms of ownership in tangible, natural, cultural or innovative resources that are still unknown or, at least, are not yet organized within the legal landscape.