



Rethinking digital copyright law for a culturally diverse, accessible, creative Europe

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Abbreviation list

- IP: Intellectual Property
- IPRs: Intellectual Property Rights



Executive Summary

The project *reCreating Europe* examines stakeholders' perspectives on European copyright regulatory framework to promote a creative, diverse, and accessible Europe. Work Package (WP) 4 – *Creative industries* focuses the interplay between copyright regulation and creative industries incentive structures and business models.

In particular, *Task 4.2 – New business models in the European creative industries* includes three subtasks aiming at: (i) studying business models of small and micro creative firms (Subtask 4.2.1), (ii) providing detailed case studies of negative IP spaces in European creative industries (Subtask 4.2.2), and (iii) investigating the effect of creative hubs on gentrification (Subtask 4.2.3). This interim report presents the progresses of Subtask 4.2.2.

Studies on the so-called 'negative Intellectual Property (IP) spaces' have steadily grown in recent years. The existing literature has mainly focussed on gathering multifaceted empirical evidence on the field, and the few theoretical approaches to the field provide a plurality of definitions of negative IP. In order to navigate systematically this rich but heterogeneous literature, this report provides: 1) a genealogy of the concept of 'negative IP space' taking into consideration contextual debates in a number of other scholarly fields; 2) an assessment of the definitions of negative IP provided so far; 3) a systematic literature review; 4) on the basis of this discussion, the report puts forward a possible new taxonomy of negative IP spaces based on a structural analysis of the creative and innovative sectors investigated in the literature. A few final remarks conclude the discussion.

As of M18 of the project, the researchers involved in the subtask have completed the whole preparatory work before the case studies.

This interim report presents a taxonomy which will provide a yardstick for the identification and research design of the case studies which will be developed in months 18-36 of Subtask 4.6.2., leading to D.4.7.



1 Theoretical premise

1.1. A genealogy of the concept of ‘Negative IP Space’

The standard economic rationale for Intellectual Property (IP) is rooted in the utilitarian view according to which IPs such as copyright and patents promote innovation and creativity by providing creators and inventors with exclusive rights over their intellectual work. Through these exclusive rights, creators can secure a profit from their work, thereby setting the appropriate monetary incentives for creation and innovation (Rosenblatt, 2010, p.318). Vice versa, without IP their creations would be liable of immediate imitation by the competitors, preventing the authors from recovering their investments.

Accordingly, the theoretical assumption underlying Intellectual Property Rights (IPRs) is that authors or creative individuals or companies will systematically engage in creative activities if they can anticipate that they will be able to profit from exclusive rights over their creations. However, providing incentives to innovation and creativity through exclusive rights (i.e. by a monopolistic power) can be detrimental to competition, by which access to new products and new creative works is secured. The literature on “optimal IP design” has been focussing on how to balance the trade-off between dynamic (i.e. innovation) and static efficiency (i.e. access) (Granstrand, 1999; Scotchmer, 2006; Pollock, 2009). For instance, while in the case of pharmaceutical industry it is desirable to have a sustained stream of R&D activities leading to new drugs development, the patenting of these new drugs and the consequent monopolistic power over the new product can lead to slow diffusion because of higher prices and reduced quantity. Therefore, a delicate trade-off emerges between providing the appropriate incentives to creation and enabling access to new ideas and techniques. It is interesting to notice that attitudes towards this trade-off have changed over time. When copyright was first introduced in U.S. federal law, its exclusive rights were considered as a limited departure from market competition, explicitly understood as an instrumental exception to “promote the progress of science and useful arts”.¹ Conversely, today exclusivity in intellectual property is often seen as “reflecting basic fairness towards creators” rather than as a means to encourage creativity (Raustiala and Sprigman, 2009, p.1220).

Nevertheless, whether IPRs effectively promote innovation and creativity is still an open question. As regards patents, the methodological difficulties in estimating the response of R&D activities to changes in the patent system led to mixed evidence, for an overview, see (Levin et al., 1987; Bessen, 2008; Budish, Roin, and Williams, 2016). In the case of copyright, a recent paper (Giorcelli and Moser, 2020) exploits the introduction of copyright law in Lombardy and Venetia in 1801, following Napoleon’s victory, to assess whether the introduction of copyright law changed composers incentives in creating new operas. Their results indicate that copyrights increased both the number and the quality of operas, measured by their immediate success and durability. However, the authors do not find evidence of benefits for extensions in copyright lengths beyond the life of the composer. Using data on 418 movies released between 1990 and 2000, (Hui and Png, 2002) reach similar results, as they find that the 1998 extension of the term of copyright in US law did not significantly impact the output of the US movie industry. Conversely, (Telang and Waldfogel, 2018) find that the diffusion of piracy practices correlated with a substantial decline in revenues for the Bollywood movie industry from 1985 to 2000. Besides this line of ongoing research efforts tackling the issue of the precise incentive effect of IPR in different empirical contexts, a growing stream of literature has been collecting cases of creativity and innovation outside the standard IPR framework. These cases provide evidence that challenges the standard theory of IP rights, and in some cases contradicts it.

In his work on the English iron business during the industrial revolution, the economic historian Robert C. Allen introduced the concept of ‘collective invention’, whereby innovation results from the accumulation of incremental technological improvements that, instead of being excluded from circulation, are systematically publicly shared. The concept of collective inventions was understood as opposed to ‘hero-inventors’ such as

¹ United States Constitution, Article I, Section 8, Clause 8.



James Watt, Thomas Edison or Cyrus McCormick, who still dominate many of the traditional narratives on the inventions of the first and second industrial revolution. Allen argued that collective invention was “the dominant inventive institution” in 19th-century English iron industry (Allen, 1983, p.14). Cases of collective invention have been found in other key technologies of the English industrial revolution, such as the improvement of steam engines (Nuvolari, 2004; Frenken and Nuvolari, 2004), as well as in important episodes of US economic history (Meyer, 2003).

These studies have prompted a reconsideration of the connection between the emergence and consolidation of patent systems and modern industrialization. In this respect, the most recent assessments are less sanguine than previous renditions that regarded the patent system as the fundamental institutional prerequisite for the acceleration of the inventive activities of the industrial revolution (North, 1981, pp.164–166; Mokyr, 2009). Forms of innovation and knowledge appropriation outside formal IP have been documented in English pottery industries during the 18th and early 19th centuries (Lane, 2019). Knowledge sharing did not hinder productivity gains, nor inventors’ rents and incentives, in a number of historical cases (Bessen and Nuvolari, 2019). There are elements to suggest that collective invention characterises also significant trends in contemporary corporate innovation (Powell and Giannella, 2010). Other studies highlighted that innovative firms resort to patents in ways that do not correspond to what incentive theory would predict, for example as defensive or as signalling strategies (Hall and Ziedonis, 2001; Moser, 2016; Moser, 2018). These historical and empirical studies undermine the argument that exclusive rights over IP play a key role in innovation and economic development in the ways predicted by incentive theory.

Starting from the 1980s, the advent of the computer revolution has provided further evidence which undermines the standard incentive rationale of IPRs. The origins of the computer revolution have been identified in an environment of open sharing of innovations, which eventually evolved in proprietary firms (Freiberger and Swaine, 1984; Potts, 2019). This tendency towards a growing centralisation and privatization of the digital, coupled with its disintermediating role, have raised stark criticisms, especially regarding the future of cultural industries (Levine, 2011). However, important developments in the computer industry continued to evolve outside the model of the proprietary firm, with the experience and resilience of open-source software (Lerner and Tirole, 2005). From a niche phenomenon, the open-source model has progressively become an integral part of the software industry (Schrape, 2019). Historical studies offer an empirical reconstruction of the development of open-source software, discussing to what extent this phenomenon can be understood as a case of collective invention (Nuvolari, 2005; Osterloh and Rota, 2007). As copyright applies to software code, the open-source movement has developed specific licences and a set of emergent social norms to enable access to open-source code and to prevent its appropriation (Schweik and English, 2012). These licences (such as the GNU General Public Licence, or the Creative Commons Licence) were developed bottom-up, and exploit the same logic of standard IPRs, but turn their functioning upside down (‘copyleft’). Instead of securing limited access to the goods they apply to, these licences exploit property rights to safeguard public access and prevent appropriation (Moglen, 1999).

It is possible to think about open source as a successful example of the economics of the commons (Ostrom, 1990; Ostrom, 2000; Ostrom, 2010; Marciano, Frischmann, and Ramello, 2019). As in open-source projects participants share their knowledge and pool their skills, Ostrom’s studies of the economics of the commons have been applied to the specific characteristics of shared intellectual goods, producing the literature on the so-called ‘knowledge commons’ (Madison, Frischmann, and Strandburg, 2010; Frischmann, Madison, and Strandburg, 2014; Safner, 2016; Strandburg, Frischmann, and Madison, 2017). Theories of innovation have combined the insights from collective invention and the commons nature of shared intellectual goods to argue that the very early stages of most innovations lie in an ‘innovation commons’ (Allen and Potts, 2016; Potts, 2018). Potts argues that the Ostrom model of cooperation in the commons makes it possible to complete the Hayekian and the Schumpeterian theories of innovation, by considering how innovation emerges from distributed and complementary knowledge before the creation of markets or firms (Potts, 2019). Other scholars have produced outright criticisms of the very foundations of intellectual property, arguing that the exclusionary model of IP undermines the creation of a knowledge commons (Lessig, 2001;



Boldrin and Levine, 2005; Boldrin and Levine, 2008). The theories of knowledge and innovation commons constitute alternative interpretive frameworks for thinking about innovation outside the model of standard IPRs, as open-source innovators do not follow monetary incentives, but rather intrinsic motivation or other kinds of rewards.

Law scholars have investigated the role and boundaries of knowledge commons often referring to the concept of 'public domain' (Samuelson, 2003; Waelde and MacQueen, 2007). In the case of copyright, (Erickson, Kretschmer, and Mendis, 2019) developed a detailed discussion of the domain and ambiguities of UK copyright law, together with an empirical analysis of how works not covered by copyright (and therefore in the public domain) are used and understood in the creative sector. Their results suggest that not including data on the use of works in the public domain leads to underestimating the size of creative industries in national accounts, and that practitioners do not always have the necessary knowledge to navigate the complex system of exemptions and limitations of copyright law. The Copyright Evidence project aims at addressing this gap by providing a systematic repository of the empirical evidence on copyright.²

From the point of view of organisational studies, the model of open-source software suggests the viability of a system of production alternative to the proprietary firm, which has been labelled in a number of ways, from the general 'open model' to more specific definitions such as 'peer-' or 'commons-based' production (Benkler, 2002; Benkler, 2007). The 'open model' has in fact extended beyond the software sector. In academic publishing, open-access seems to be a growing trend (Frosio, 2014). Open-source hardware seeks to extend the open model to the manufacturing of open devices (Gibb and Abadie, 2014; Carpentier, 2021). Scholars have argued that free sharing of discoveries, coupled with a system of peer-reviewing among scientists, is a distinctive characteristic of modern science (Merton, 1973; Dasgupta and David, 1994; David, 2008; Mokyr, 2017). This model of 'open science' (understood as opposed to a market-exclusionary model of information production) has been investigated both from a theoretical and an empirical point of view (David, 2004; Willinsky, 2005; Murray, 2010; Murray et al., 2016; Kapczynski, 2017).

Similar to the scholarship on the open model, but from a different angle, an additional stream of literature has documented the significant role of users in fostering innovation, and has argued that the steadily decreasing costs of information, computation and design may lead to their role to grow in the future (von Hippel, 2005, p.2005; Baldwin, Hienert, and von Hippel, 2006; von Hippel, 2007; Gault and Von Hippel, 2009; Baldwin and von Hippel, 2011; von Hippel, de Jong, and Flowers, 2012). Innovating users often do not claim IP rights over their innovations, which again contradicts standard incentive theory and makes them similar to the open model (von Hippel, 2010; Harhoff and Lakhani, 2016; von Hippel, 2016). The key role of user innovators for the development of specific markets has been documented, both in consumer products and in scientific instruments. Surveys based on representative samples suggest that the household sector may be a relevant source of investment in product innovation (von Hippel, 1976; Franke and Shah, 2003; Lüthje, Herstatt, and von Hippel, 2005; Shah and Tripsas, 2007; von Hippel, de Jong, and Flowers, 2012).

This mounting evidence on the importance of exceptions to standard IP protection in economic activities also influenced academic scholarship over IP. In 2006, Raustiala and Sprigman introduced the concept of 'Negative Intellectual Property Space' (Raustiala and Sprigman, 2006). Borrowing the concept of 'negative space' from the visual arts (i.e. the property of the space around a form to add meaning to the form itself, e.g. the Rubin's vase), Raustiala and Sprigman argued that studying cases where IP does *not* apply can provide a valuable strategy to investigate the grounded functioning of IP law. Following the researches by Ellickson, studies on negative IP provide ample evidence of how, rather than relying on the frameworks provided by formal law, communities also develop bottom-up norms to secure coordination and settle disputes (Ellickson, 1991). Katzenbach has recently argued that this, rather than a feature limited to niche sectors, is a characteristic of all creative industries, and discusses its significance for IP governance (Katzenbach, 2018). The concept of negative IP space was developed in a stream of literature that has provided a rich list of case

² https://www.copyrightevidence.org/wiki/index.php/Copyright_Evidence



studies of innovative and creative sectors to which standard IP theory does not apply, as is discussed in detail in sections 1.2., 1.3, and 2 (Fauchart and von Hippel, 2008; Oliar and Sprigman, 2008; Raustiala and Sprigman, 2009; Lipton, 2009; Fry, 2010; Loshin, 2010; Schwabach, 2011; Raustiala and Sprigman, 2012; Singh and Kretschmer, 2012; Benkler, 2013; Spoo, 2013; Bechtold, 2013; Darling, 2014; Murray et al., 2016; Gambardella, Raasch, and von Hippel, 2016; Iljadica, 2017; Darling and Perzanowski, 2017; Kapczynski, 2017; Fagundes, 2017; Fagundes and Perzanowski, 2019; Raustiala and Sprigman, 2019; van Roessel and Katzenbach, 2020; Pollok et al., 2021).

1.2. Definitions

In their original 2006 definition, Raustiala and Sprigman identified Negative IP Space as:

A substantial area of creativity into which copyright and patent do not penetrate and for which trademark provides only very limited propertisation (Raustiala and Sprigman, 2006, p.1764).

This is a negative definition, as it defines negative IP spaces as territories which are *not* charted under current IP law. In other words, with this definition Raustiala and Sprigman stressed that negative IP spaces can be thought of as exceptions to the standard forms of IP.

More than a decade later, and reflecting upon significantly expanded evidence on negative IP spaces, Sprigman expanded the concept

To identify creative activities and industries to which IP rules could apply, but which for some reason entirely or mostly escape this type of regulation (Sprigman, 2017, p.588).

This definition offers a more nuanced perspective, as it also includes territories where the domain of IP applies only partially. In other words, it acknowledges that there are also sectors and activities where formal IPRs would theoretically apply, but are not enforced for a variety of reasons.

In her theoretical paper on the subject, Rosenblatt suggested an alternative definition. She defined negative IP as

Areas in which creation and innovation thrive without significant protection from intellectual property law (Rosenblatt, 2010, p.317).

This definition turns the perspective around, bringing to the fore the role of creativity over that of IP law. In the same direction goes another concept used in the literature, that of 'Intellectual Production without Intellectual Property', or 'IP without IP' (Dreyfuss, 2010).

Clearly, the foregoing definitions might have a different focus, but they have major overlaps. Yet, the differences between these three definitions reveal also the difficulty in identifying an object that, by definition, falls between the cracks of established concepts. These differences are also revealing of the multifaceted nature of the realities which can be described as 'negative IP spaces', as well as of the open nature of the scholarly field. Rather than theoretical, the main contribution of the literature on negative IP spaces has in fact been empirical, as it has developed a series of case studies which provide rich evidence on the limited domain of IP law. Because of the heterogeneity of the definitions provided so far, and of the mainly empirical nature of the studies on negative IP, in the following sections we provide a systematic literature review. This review allows to analyse the multifaceted nature of the cases of negative IP identified so far, which in turn makes it possible to put forward a novel taxonomy of negative IP spaces.

1.3. Progenitors of the negative IP literature

The origin of the literature on negative IP can be traced back to three papers, each presenting a paradigmatic case study. These are discussed in detail to provide an overview of the characteristics of the literature on the subject.



1.3.1. Fashion

In their seminal 2006 paper published in the *Virginia Law Review*, Raustiala and Sprigman focussed on the contemporary US fashion industry (Raustiala and Sprigman, 2006).³ This case study was further developed in a subsequent paper and in a book by the authors (Raustiala and Sprigman, 2009; Raustiala and Sprigman, 2012). The original definition of negative IP (provided in 1)) was therefore introduced to think about the limited propertisation of creativity in the US fashion industry. This case study is particularly significant because an exemption in US copyright law makes copyright not applicable to apparel designs.⁴

From the economic perspective, an industry in which it is impossible to claim (temporary) exclusive rights over the results of someone's creativity should display limited levels of creativity and innovation because of the lack of incentives. However, the fashion industry is clearly not only a thriving economic sector, but also one characterised by particularly high levels of creativity. Moreover, the 'knockoff' of apparel designs is a common feature of the industry, not just because designers take inspiration from one another, but also because there are entire brands whose product line-up consists of copies of designs from other brands. The practice is widely recognised in the industry, to the point that fashion magazines devote entire sections comparing side to side the original and the knockoff.

Despite the absence of IP protection on apparel designs, and despite the widespread practice of copying, the fashion industry has thrived in revenues and in creativity for decades. Other forms of IP, like trademark, are strictly policed in the industry, but its core element of innovation – apparel design – is not protectable, and therefore free to be copied. Raustiala and Sprigman dubbed this glaring contradiction of standard IP theory as the 'piracy paradox'. Interestingly, their solution of the paradox is to think that copying, rather than an unwanted nuisance, actually represents an integral part of the fashion industry business model.

Rejecting possible alternative explanations based on first-mover-advantage effects or social norms, they argue that copying can be an accelerator of creativity in industries whose business is founded on trends. They claim that unrestrained copying is an essential element for the emergence of styles and fads characterising each fashion season, and therefore that copying is an accelerator of the cycle that makes a particular style go in and out of fashion. This trend is also confirmed by the behaviour of the European fashion industry. European IP law could theoretically protect apparel designs; however, design copying occurs also in the European sector of the fashion industry, with low levels of litigation on this matter (Raustiala and Sprigman, 2006, pp.1735–1745). It is worth mentioning, however, that the lack of IP protection on fashion designs does not concern all firms in the same way. The lack of IP protection can create a barrier to entry for micro enterprises in the phase of brand development, as has been documented in the European case (McRobbie et al., 2016, p.39).

In terms of methodology, the works on the fashion industry by Raustiala and Sprigman use qualitative methods. They use qualitative evidence (e.g. formal law, court cases, published interviews, historical reconstructions, magazines, sociological theory) and some quantitative sources (e.g. design registration databases, prices). The main contribution of these works was to show that it is possible to find industries which clearly contradict standard IP theory, where unrestrained copying has an important role in the industry's business model.

1.3.2. Haute cuisine chefs

A further seminal paper in the literature over low-IP industries is the one by Fauchart and von Hippel on French haute cuisine chefs, published in *Organization Science* (Fauchart and von Hippel, 2008). Haute cuisine is another example of a negative IP space. While it is possible to claim copyright over the specific text in which

³ The paper also offers a few historical reconstructions going back to the 1930s, but the main focus of the paper is on the contemporary fashion industry.

⁴ This is the so-called 'useful article doctrine'. This exemption of copyright law is aimed at preventing that exclusive intellectual property rights can be claimed over articles of practical utility.



a recipe is written, it is not possible to copyright the recipe itself. This distinction emerges because US copyright law does not cover ideas, procedures, and processes independently of their tangible medium of expression, as it applies to a specific ‘form of material expression’ of an idea (Raustiala and Sprigman, 2012, pp.63–69; Fauchart and von Hippel, 2008, p.188). Other forms of IP protection also poorly apply to recipes.

Drawing from the literature on the relations between formal laws and informal norms (Ostrom, 1990; Ellickson, 1991), Fauchart and von Hippel investigated how accomplished chefs address the limited propertisation of their core innovations (i.e. new recipes) provided by IP law. The authors devised a mixed research strategy. Through grounded research (i.e. interviews with ten Michelin-star and Michelin-fork rated chefs in the Paris area) they identified implicit social norms regarding recipe ownership, sharing, and attribution. They tested the consistency of these norms complementing their qualitative analysis with quantitative data collected through a survey to a sample of 104 chefs either holding a Michelin star, or so-called “rising stars,” or chefs holding from two to five forks according to the Michelin guide.

The results of their research show that French chefs developed a consistent set of implicit social norms. The three fundamental norms are: 1) it is forbidden to copy another chef’s recipe innovation exactly; 2) if a chef decides to reveal their recipe to another chef, that person must not share the recipe with somebody else; 3) if another chef’s recipe is used, credit must be given to the original creator. The evidence collected by Fauchart and von Hippel documented that French chefs developed and enforced a system of implicit norms which substituted for the lack of formal IP protection, showing the existence of norms-based IP systems, and discussed its advantages and drawbacks.

1.3.3. Stand-up comedians

Stand-up comedy provides mainstream entertainment to a wide public, especially in the US. Similarly to the case of recipes, it is possible to copyright a specific expression of a joke; however, it is not possible to copyright the underlying funny idea. This means that jokes are free to be copied, creating a negative IP space. Despite this, the stand-up comedy scene is thriving with creativity and innovation. Oliar and Sprigman studied this industry with a second paper on negative IP space in the *Virginia Law Review* (Oliar and Sprigman, 2008).

This paper is based on two years of grounded research, during which 19 structured interviews were made with active stand-up comedians working at various levels of the industry. Half of the respondents were selected randomly from a list of comedians hosted on the comedy television channel Comedy Central. The others were selected either randomly from a comedians’ group maintained on MySpace or from personal contacts.

Similarly to Fauchart and von Hippel, Oliar and Sprigman found that stand-up comedians developed an informal system of norms-based IP protection. Moreover, they found that this informal system better suited the practitioners’ needs than a hypothetical application to stand-up comedy of copyright law. For example, they found that respondents agreed that, if comedian A suggests a new joke to comedian B, that joke is entirely under the disposal of comedian B, and A has no claim over it. A similar feature would not be provided by formal copyright law. Moreover, Oliar and Sprigman showed that different kinds of creativity were associated with different attitudes towards copying. Relying on historical evidence, they show that in the period 1930-60 American stand-up comedians would tell a string of unrelated jokes. Therefore, a good comic was someone who knew a lot of jokes, and not necessarily someone who had an original form of humour. In this context, joke-stealing was a common practice which was recognised and tolerated. As jokes formed a sort of a commons, no stark norms on the exclusivity of jokes existed. With the rise of individualised, story-telling-based stand-up comedy, there was the development of a system of informal norms to police joke stealing tailored to the sector’s needs. As in contemporary stand-up comedy performers develop an individual humour based on a personal collection of jokes, and operate in an environment which rewards originality, joke stealing has become a much more serious offense. In this new context, stand-up comedians developed a system of bottom-up social norms which enable them to strictly police joke stealing, and to keep free riders in check.



2. Literature review

To assess the state of the art of the literature on negative IP, in this report we present a systematic literature review of different creative industries. We classify each case from a multi-layered perspective using five dimensions. These dimensions are:

1. industry under consideration;
2. enforceable IP (i.e. whether the study concerns copyright, patent, or trademark);
3. appropriability strategy (i.e. the way in which the sector handles the lack of IP protection);
4. research methodologies;
5. the theoretical contribution of the study.

The outcome of this assessment is a series of tables (Tables 1 to 4) providing a systematic review of the literature on negative IP. As anticipated in Section 1.1, these studies have been developed in a number of different disciplines, comprising economic history, sociology, innovation economics, management studies, and IP law. Each row corresponds to a different creative industry. This implies that the same row can summarise the results of more than one paper or book, in cases where the same industry has been investigated in more than one study. For the purpose of future developments of subtask 4.6.2., leading to D.4.7, detailed information has been gathered with regards to the methodology of the studies. Table 1 summarises the three ‘progenitors’ of the literature on negative IP outlined in Sections 1.3.1-1.3.3.



Table 1 Negative IP literature progenitors

Negative IP literature progenitors					
Reference	Creative industry	Enforceable IP	Appropriability strategy	Methodology	Theoretical contribution
<ul style="list-style-type: none"> – Sprigman & Raustiala (2006), <i>The Piracy Paradox: Innovation and Intellectual Property in Fashion Design</i>, <i>Virginia Law Review</i> – Sprigman & Raustiala (2009) <i>The piracy paradox revisited</i>, <i>Stanford Law Review</i> – Sprigman & Raustiala (2012) <i>The Knockoff Economy: How Imitation Sparks Innovation</i> [book] 	Fashion	<ul style="list-style-type: none"> – Copyright: nope in the US ('useful articles' exemption), yep in EU – Trademark: yep, but does not cover apparel designs 	Copying as accelerator of the fashion cycle (trends and fads): 'piracy paradox'	<ul style="list-style-type: none"> – Qualitative research (e.g. formal law, court cases, published interviews, historical outline, magazines, sociological theory) – Quantitative study of the sector (e.g. design registration databases, prices) 	<p>Copying can accelerate creativity ('piracy paradox'), especially in sectors characterised by trends. In the 2006 paper there is a paragraph on the comparison between EU and US law. EU law "generally protects fashion designs from copying", but the industry behaves in the same way.</p> <p>Natural experiment</p> <p>In <i>The piracy paradox</i> reconsidered the authors reject the proposal of distinguishing between copying and imitation, as well as the proposal of extending IP rights in fashion</p>
<ul style="list-style-type: none"> – Fauchart & von Hippel (2008) <i>Norms-Based Intellectual Property Systems: The Case of French Chefs</i>, <i>Organization Science</i>, 19.2. – Sprigman & Raustiala (2012) <i>The Knockoff Economy: How Imitation Sparks Innovation</i> [book] 	Haute cuisine chefs	Copyright: nope (it does not cover the 'underlying idea' of the recipe, 'functional guide' and not 'creative expression'. Built food as 'useful item')	<ul style="list-style-type: none"> – Fauchart-von Hippel: Social norms – Sprigman-Raustiala: Importance of reputation and of experience vs things / performance vs product 	<p>Fauchart & von Hippel (2008):</p> <ul style="list-style-type: none"> – grounded research to identify social norms (interviews with 10 chefs in Paris area, face to face and via email) – quantitative research (survey to chefs holding stars, "rising stars," and chefs holding from two to five forks. 485 surveys sent, 104 returned) 	Social norms as an effective way to substitute for formal IP
<ul style="list-style-type: none"> – Oliar & Sprigman (2008) <i>There's No Free Laugh (Anymore)</i>, <i>Virginia Law Review</i> ; – Sprigman & Raustiala (2012) <i>The Knockoff Economy: How Imitation Sparks Innovation</i> 	Stand-up comedians	Copyright could apply to a specific expression of a joke, but it does not cover the 'underlying idea' of the joke	Social norms	<ul style="list-style-type: none"> – Two-year grounded research. 19 lengthy, structured interviews of working comics at various levels of the industry (more and less famous). Selection: half selected at random from a list of comedians on the website of the comedy television channel Comedy Central; the others selected either randomly from a comedians group maintained on MySpace or from personal contacts. – Historical account 	<p>Historical account showing the mutual influence of the kind of creativity produced and of rules on copying.</p> <p>Social norms can create IP protection which fits the sector's needs better than formal law (sector-specific or copying-specific IP?)</p>

Using the same format, Table 2 summarises case studies which are directly related to the literature on negative IP space, i.e. studies which explicitly refer to the concept of negative (or low) IP space. As can be seen, the literature covers a diverse series of sectors and activities, comprising magicians, the adult entertainment industry, financial services, typefaces, the computer database industry, cocktails, music, tattoos, street art, underground-sports pseudonyms, media fandoms, clown make-ups, medical procedures, TV-show formats, the games industry, and the Nigerian movie industry. All these sectors are characterised by a lack of effective IP protection over their core innovative or creative activities. The strategies employed by innovators to go around this lack of protection over their creations vary significantly from case to case. As can be seen from Table 2, these case studies mainly cover the US economy and IP systems:



Table 2 Case Studies explicitly adopting the concept of Negative IP

Case Studies explicitly adopting the concept of Negative IP					
Reference	Creative industry	Enforceable IP	Appropriability strategy	Methodology	Theoretical contribution
<p>– Loshin (2010) <i>Secrets Revealed: How Magicians Protect Intellectual Property without Law</i> in Corcos (ed.) <i>Law and Magic: a Collection of Essays</i></p> <p>– Sprigman & Raustiala (2012) <i>The Knockoff Economy: How Imitation Sparks Innovation</i> [book]</p>	Magicians	<p>– Copyright does not apply to a live performance, nor to the underlying idea of a trick.</p> <p>– Patent: if a magician applied for patent, they would have to publish the trick</p> <p>– Trade secret only protects against appropriation via 'improper means' and requires that secret holders that make "reasonable efforts to maintain secrecy."</p>	Social norms	Historical reconstruction	Social norms can create IP protection which fits the sector's needs better than formal law (sector-specific or copying-specific IP?). Magicians share secrets within their community, but they punish who shares them with the public
<p>– Darlin (2017) <i>Internet Pornography without Intellectual Property: A Study of the Online Adult Entertainment Industry</i>, in Darlin & Perzanowski (eds.) <i>Creativity without law</i></p> <p>– Sprigman & Raustiala (2019) <i>The second digital disruption: Streaming and the dawn of data-driven creativity</i>, <i>New York University Law Review</i></p>	Adult entertainment (porn) industry	Copyright fully applies, but technology makes it difficult to enforce, as copying is very easy	Shift to new business model (interactivity and experiences)	<p>– Darling (2017) Qualitative interviews with industry experts and 21 producers of adult entertainment in the United States in 2012. Quotes from producer interviews</p> <p>– Sprigman & Raustiala (2019): qualitative/structural analysis of the sector. Interviews with MindGeeK's leadership (ex: CEO) and access to company's own material (ex: scripts). Interviews with Anonymous Attendees at the XBIZ Convention, in Los Angeles, Cal. (Jan. 2017, Jan. 2018).</p>	<p>– Darling (2017) Easy copying can lead to change in business models. From long films with stories to short clips. Shift to live performances</p> <p>– Sprigman-Raustiala (2019): adult content industry made the new world of free content part of its business model. Porn industry as a case study for the effects of the "second digital disruption" (i.e. streaming and big data) on creative industries: "data-driven creativity". Comparison with wider trends in creative industries distributing content via streaming (Netflix, Amazon, Spotify, Apple Music, Electronic Arts). In a world of lower risks (of both failure and success) to creativity, they argue that a narrower and shorter scope of copyright may provide enough incentives for creativity to flourish</p>
<p>– Sprigman & Raustiala (2012) <i>The Knockoff Economy: How Imitation Sparks Innovation</i> [book]</p> <p>– Sprigman & Raustiala (2006), <i>The Piracy Paradox: Innovation and Intellectual Property in Fashion Design</i>, <i>Virginia Law Review</i></p> <p>– Hunt (2010) <i>Business Method Patents and U.S. Financial Services</i>, <i>Contemporary Economic Policy</i></p>	Financial services industry	Patent unavailable for much of the industry's history (in 1998 new business methods became patentable, but no significant effect on the financial industry). And trade secrecy is not possible when products have to be publicly marketed	Sharing is useful to make markets for financial innovations big enough to make them efficient/profitable. Market power of big investment banks enables them to capture a good share of profits linked to an innovation, without the need to patent it	– Qualitative study of the sector	Firms that innovate tend to maintain a dominant share of the market for their innovation despite the fact that they do not have some form of IP on it. In finance, innovation is led by market factors: that is the real incentive, not the presence (or absence) of IP
<p>– Fry (2010) <i>Why Typefaces Proliferate without Copyright Protection</i>, <i>Journal on Telecommunications and High Technology Law</i></p> <p>– Lipton (2009) <i>To © or Not To ©? Copyright and Innovation in the Digital Typeface Industry</i>, <i>UC Davis Law Review</i></p> <p>– Sprigman & Raustiala (2012) <i>The Knockoff Economy: How Imitation Sparks Innovation</i> [book]</p>	Typefaces	In the US, copyright has never applied to typefaces because of a functional interpretation of the role of letters. With digitisation, however, typeface creators may try to use copyright protection which applies to software code	Font develop in trends and fads, and change in relation with the context in which they are used/consumed. It is unclear whether providing IP protection over them would lead to increased innovation	Historical account and discussion of juridical doctrine	As creative industries move online, incentives may become different, and therefore IP law may have to adapt to those changes. However, there are concerns that extending copyright protection to typefaces may stifle innovation in the sector. Moreover, there is no clear evidence that easier copying through digitisation is reducing the level of sector creativity. Typefaces as just one example of sectors where IP protection may need to be altered with the advent of digitisation
<p>Sprigman & Raustiala (2012) <i>The Knockoff Economy: How Imitation Sparks Innovation</i> [book]</p>	Computer Database	Copyright: in Europe yep in the US nope	Freedom to copy lowers access costs to the industry, making it more competitive First mover advantage	– Qualitative study	Despite the fact that IP is enforced in the European case, the industry is growing in the US. Natural experiment on the effects of two different IP law frameworks



Table 2 Case Studies explicitly adopting the concept of Negative IP (cont.)

Case Studies explicitly adopting the concept of Negative IP					
Reference	Creative industry	Enforceable IP	Appropriability strategy	Methodology	Theoretical contribution
<p>– Sprigman & Raustiala (2012) <i>The Knockoff Economy: How Imitation Sparks Innovation</i> [book]</p> <p>– Schruers (2017) An IP Lawyer Walks Into a Bar: Observations on Creativity in Cocktails, in Darlin & Perzanowski (eds.) <i>Creativity without law</i></p>	Cocktail industry	Copyright and patent	Importance of experience vs things, of performance vs product. Giving recipes away as a means to attract customers	– Qualitative study (articles, published interviews, court cases, etc.)	Cocktails can be considered as a sector in which the presence of copying is part of the business model. One does not buy a drink, one rents a bar stool
<p>Sprigman & Raustiala (2012) <i>The Knockoff Economy: How Imitation Sparks Innovation</i></p>	Music industry	Copyright, but digitisation made copying very easy	Shift from selling records to selling performances. Video streaming	– Qualitative study	Copying can change the business model, but does not necessarily kill a creative industry
<p>– Perzanowski (2013), <i>Tattoos & IP Norms, Minnesota Law Review</i></p> <p>– Perzanowski (2017) <i>Owning the Body: Creative Norms in the Tattoo Industry</i>, in Darlin & Perzanowski <i>Creativity without law</i></p>	Tattoo industry	Copyright is fully enforceable, but tattooers do not use it	Social norms adapted to the specific characteristics of the sector	– Qualitative study: 14 in-person qualitative interviews in early 2012 with tattooers throughout the United States, identified through snowball sampling relying on existing industry contacts	Social norms as an effective way to substitute for formal IP and adapt it to the industry needs. Difference between imitation and copy/appropriation
<p>– Iljadica (2016) <i>Copyright Beyond Law: Regulating Creativity in the Graffiti Subculture</i> [book]</p> <p>– Iljadica (2017) <i>Painting on Walls: Street Art without Copyright?</i>, in Darlin & Perzanowski (eds.) <i>Creativity without law</i></p>	Street art	Copyright. But past litigation cases did not recognise copyright on street art, and it is often not a good idea for graffiti artists to reveal their identities	Social norms adapted to the specific characteristics of the sector	– Qualitative study (interviews). "This chapter reflects a part of the empirical and other research (undertaken during doctoral studies at King's College London, 2008–2012)"	IP law as non relevant for incentivising street creativity. A reformed copyright law should protect the rights of creators currently outside the domain of IP law
<p>– Fagundes (2012) <i>Talk Derby to Me: Intellectual Property Norms Governing Roller Derby Pseudonyms</i>, <i>Texas Law Review</i></p> <p>– Fagundes (2017) <i>Subcultural Change and Dynamic Norms: Revisiting Roller Derby's Master Roster</i>, in Darlin & Perzanowski (eds.) <i>Creativity without law</i></p>	Roller derby pseudonyms	Trademark is enforceable (derby pseudonym as a sort of brand)	Social norms (International Rollergirls' Master Roster and other rosters as a bottom-up substitute for trademark). These substitutes changed as the community changed	– Two rounds of qualitative study (interviews, emails, and blog posts). One up to 2011, one up to 2016. No further details provided	Dynamic perspective (the 2017 paper gives a 4-years-on account of the 2012 one). Social norms change as their community changes. In the case of roller derby, the appropriation mechanism moved from exclusionary rights to coordination. Social norms as a malleable means of regulation
<p>– Tushnet (2007) <i>Payment in Credit: Copyright Law and Subcultural Creativity, Law and Contemporary Problems</i>. Reprinted in Darlin & Perzanowski (eds.) <i>Creativity without law</i></p> <p>– Schwabach (2011) <i>Fan Fiction and Copyright: Outsider Works and Intellectual Property Protection</i> [book]</p>	Fan fiction / Media fandoms (communities of fans who create new fiction involving copyrighted stories and characters)	Copyright applies, so original works are reworked under fair use exemption, or are tolerated	Attribution and other social norms. Large component of selfless activity	Researcher-expert: insider and backstage knowledge. Main sources: Organisation for Transformative Works, Archive of Our Own (repository of media fandom which the author co-founded and contributed to)	The architectural structure interplays with the kind of creativity expressed by the community. User innovation and grassroots culture. A reformed copyright law should allow some play between social spontaneity and commercialization
<p>Van Roessel & Katzenbach (2020) <i>Navigating the grey area: Game production between inspiration and imitation</i>, <i>Convergence: The International Journal of Research into New Media Technologies</i></p>	Games industry (including digital games)	Copyright applies to features of games, but other elements (such as game 'mechanics') are not copyrightable	Social norms among game developers	Semistructured interviews with 20 German game professionals	The paper develops the distinction between inspiration and imitation. The authors find that outright copying is generally considered unacceptable in the industry, but game developers do not always have a clear-cut understanding of where the boundary between accepted inspiration and imitation is situated. Professionals generally agree in thinking that games mechanics should remain as a sort of public domain.



Table 2 Case Studies explicitly adopting the concept of Negative IP (cont.)

Case Studies explicitly adopting the concept of Negative IP					
Reference	Creative industry	Enforceable IP	Appropriability strategy	Methodology	Theoretical contribution
<p>– Kretschmer-Singh (2012) <i>Strategic Behaviour in the International Exploitation of TV Formats</i> [book chapter of Zwaan-de Bruin (eds.), <i>Adapting Idols: Authenticity, Identity and Performance in a Global Television Format</i>]</p> <p>– Bechtold (2013) <i>The Fashion of TV Show Formats, Michigan State Law Review</i></p>	TV show formats	Copyright does not straightforwardly apply to the elements of a TV show. Yet, the market for TV formats is thriving	Social norms and other strategies (e.g. enquiries on competitors' strategies, deterrent legal claims, strategic protection and sharing of know-how (show 'bibles', 'flying producers'), selling of taped versions to stimulate demand for a local franchise	<p>– Kretschmer-Singh (2012): Case study; reconstruction of the legal context. 32 semistructured interviews with format sellers and buyers at international media trade fairs, and 13 semistructured interviews with senior managers of a major television production company (Fremantlemedia)</p> <p>– Bechtold (2013): analysis of why the US and European legal frameworks do not provide copyright protection to tv formats, and economic analysis of industry behaviour</p>	<p>– Kretschmer-Singh (2012): The market of TV formats manages to thrive despite the lack of protection from IP law thanks to a system combining social norms, strategic codification and sharing of know-how, and strategic use of legal threats and contract law</p> <p>– Bechtold (2013): as both TV formats have very unpredictable demand and very unpredictable success, supply-side herding behaviour (it is rational for rival firms to buy a tape version of a show that was a success elsewhere, and firms tend to be at the same time innovators and imitators). As TV formats are experience goods, demand-side herding (consumers tend to watch the same programmes, which tends to create winner-takes-all dynamics, discouraging imitations)</p>
Fagundes & Perzanowski (2019) <i>Clown eggs, Notre Dame Law Review</i>	Clown makeups and identities	Copyright	Social norms. [from the abstract]: "since 1946, many clowns recorded their makeup by having it painted on eggs that are kept in a central registry in Wookey Hole, England. This tradition, which continues today, has been referred to alternately as a form of informal copyright registration and a means of protecting clowns' property in their personae".	Historical reconstruction based on a variety of sources, semistructured interviews	Case study on a creative community which developed bottom-up norms that protect IP. It shows an example where a community developed a bottom-up formal system to protect IP.
Strandburg (2017) <i>Derogatory to Professional Character? The Evolution of Physician Anti-Patenting Norms</i> , in Darlin & Perzanowski (eds.) <i>Creativity without law</i>	Physicians (medical procedures)	Patent. In the US, physicians can patent drugs and devices, but patenting medical procedures is considered unethical	Social norms. 'User innovation' creates a reputation-based community in which secrecy is considered detrimental. Openness provides sharing, feedback from peers, and reputation.	– Qualitative study (mainly historical account, plus user-innovation theory)	Different structures of the sector give rise to different norms about copying (comparison 19th-20th centuries and the rise of pharma industries). Social norms can apply to community members: when external entities are involved (pharma industries), the reputation mechanism halts
Arewa (2017) <i>Nollywood: Pirates and Nigerian Cinema</i> , in Darlin & Perzanowski (eds.) <i>Creativity without law</i>	Nigerian movie industry / Nollywood	Booming film industry without strong copyright protection. Leapfrogging of the sector into the digital era	Low fixed costs, high output volumes	Qualitative study of the sector	Nollywood as a case study for an emerging creative industry which benefits from a low level of IP law enforcement. As the sector develops, calls for stronger IP enforcement increase

Even if it does not directly engage with it, the literature on the 'open model' of creativity and innovation is relevant to the study of negative IP spaces, because it provides insights into sectors where it was deliberately chosen not to rely on standard IP rights, as discussed in Section 1.1. Table 3 provides an outline of this literature by applying to it the same grid used in Tables 1 and 2. The 'open model' comprises a wide array of industries, going from the movements of open-source, free innovation, and user innovation, to industries such as the network developing the flu vaccine, open science, and the game industry, as discussed in detail in Table 3:



Table 3 The 'Open' model

The 'Open' model					
Reference	Creative industry	Enforceable IP	Appropriability strategy	Methodology	Theoretical contribution
<p>– Benkler (2002) Coase's Penguin, or, Linux and "The Nature of the Firm", <i>The Yale Law Journal</i></p> <p>– Benkler (2013) Commons and Growth: The Essential Role of Open Commons in Market Economies, <i>The University of Chicago Law Review</i></p> <p>– Benkler (2007) <i>The Wealth of Networks: How Social Production Transforms Markets and Freedom</i> [book]</p>	Open source (more precisely: peer-production of information, or commons-based production)	Copyright. But creators developed a special licencing regime	GNU General Public License and Creative Commons licence as formal rules discouraging the appropriation of the commons/cooperative projects at the expenses of other cooperators. Moreover, social norms discourage freeriding	Qualitative study: some case studies and a structural analysis of the open source / peer-production movement (as of 2002) in a cost-benefit and institutional framework	<p>The open software movement is an instance of a more general way of organising production (peer production). Characteristics of projects fit for peer production:</p> <ul style="list-style-type: none"> - modular - fine-grained modules: each not too big - heterogeneous granularity: modules of different sizes/levels of complexity - low cost of integration. <p>In sectors with these characteristics and in which access and distribution costs are low, peer production can be an efficient way of allocating human capital to tasks</p>
<p>– Von Hippel (2016) <i>Free innovation</i> [book]</p>	Span of industries and of innovation types (product, process, method)	Different kinds of IP would apply. But free innovators are not motivated by monetary incentives. The work calls for IP exemptions for free innovators (sort of low-IP environment)	Free innovators are self-rewarded. Either by using their own innovations, or by the intrinsic motivation of contributing to the development of something useful	Surveys on 6 countries (UK, US, Japan, Finland, Canada, S. Korea) to estimate the scale and scope of free innovation. Estimate: tens of millions of people spending billions in these activities. Draws upon a number of previous empirical studies	Free innovation as a functionally novel product, service, or process that (1) was developed by consumers at private cost during their unpaid discretionary time (no compensation) and (2) is not protected by its developers, and so is potentially acquirable by anyone without paymen. Free innovators tend to be pioneers and they interact with producer innovators in complex ways. With lower communication and design costs, it is argued that free innovation will increase
<p>– Baldwin, Von Hippel (2011) Modeling a Paradigm Shift: From Producer Innovation to User and Open Collaborative Innovation, <i>Organization Science</i></p> <p>– Gambardella et al (2016), <i>The User Innovation Paradigm: Impacts on Markets and Welfare, Management Science</i></p>	Span of industries and of innovation types (product, process, method)	Different kinds of IP would apply. But user innovators are not motivated by IP incentives, as they don't develop innovations for market purposes	User innovators: "entities that develop novel products and services for use rather than sale". Open innovation: "all information related to the innovation is a public good: nonrivalrous and nonexcludable".	<p>– Baldwin & von Hippel: comparative institutional analysis, National-level surveys with representative samples of consumers</p> <p>– Gambardella et al.: Microeconomic modelling; National-level surveys with representative samples of consumers</p>	<p>– Baldwin & von Hippel argue that technological change (lower design, computation, and communication costs) will lead to an increasing role of user and open collaborative innovation, which may give rise to a new paradigm of innovation</p> <p>– Gambardella et al: they create a model to study the effects on firms' profits, consumers' and social welfare of an increasing share of user innovators. Their findings suggest that rigid IP rights may delay the transition of firms from producer-only innovation to innovation which harnesses the contributions of user innovators</p>
<p>Sprigman & Raustiala (2012) <i>The Knockoff Economy: How Imitation Sparks Innovation</i> [book]</p>	Examples of Openness and Tweaking. Open source software (example: MathWorks), football strategies, etc.	Copyright/patent	Reputation among hackers, first mover advantage for coaches	– Qualitative study	'Pioneers' and 'tweakers'. Other examples of tweaking that do not disrupt creativity: cover songs. Patent gives tweakers some room, but copyright very little. Sprigman and Raustiala call for new ways for copyright to treat tweakers



Table 3 The 'Open' model (cont.)

The 'Open' model					
Reference	Creative industry	Enforceable IP	Appropriability strategy	Methodology	Theoretical contribution
Carpentier (2021) Open Source Hardware, Exploring how Industry Regulation Affects Knowledge Commons Governance: An Exploratory Case Study, <i>International Journal of the Commons</i> , 15(1), pp. 154–169	Open Source Hardware (medical devices). EchOpen (open community, supported by a not-for-profit association) promotes echo-stethoscopy as an innovative medical practice. By making open source medical hardware, they aim at making it affordable and accessible	Copyright does not apply (as it covers the specific expression of an idea). Patent would apply, but Open Source Hardware users choose not to resort to it	Open model: users are not interested in appropriating the results of their work. But they have to go through a privatized phase in order to have their device certified	Exploratory case study approach. Three days in the lab in Paris. Conducted in-person semi-structured interviews and attended meetings as silent observers. 14 semi-structured interviews with the core members of the community: the CEO of echOpen, founding partners, seconded staff from the funding partner, medical doctors, and academics. Other secondary documentation was freely available (open model), for triangulation.	Research question: How can Knowledge Commons adapt to industry regulations and place a product on the market? They argue that partial privatization of the common is appropriate to protect the common's work. They had to go through the privatization of the community and the creation of a private company, which could apply for CE certification and distribute the medical device. To secure the Open source destination of the community and the resuming of the common, EchOpen created a new fully open source project after obtaining CE certification, which provides access to code, knowledge and techniques.
Pollok et al (2021) Knowledge diversity and team creativity: How hobbyists beat professional designers in creating novel board games, <i>Research Policy</i>	Board games	IP is not directly referred to in the paper. Aspects of board games are sometimes protectable with IP.	Hobbyists share ideas and designs in an open source fashion. Professionals are more guided by proprietary-like reasons	BoardGameGeek: enthusiast-built and comprehensive database on the sector. Information processing theory and representational gaps perspective (pros and cons of team diversity)	User-innovators and professional designers create following different incentives and motivations (users are self-motivated, professionals have external incentives). Users are more likely to share knowledge during teamwork as a consequence. User teams tend to be better at exploiting the advantages of knowledge diversity, and user teams are more likely to create truly innovative works
Van Roessel & Katzenbach (2020) Navigating the grey area: Game production between inspiration and imitation, <i>Convergence: The International Journal of Research into New Media Technologies</i>	Games industry (including digital games)	Copyright applies to features of games, but other elements (such as game 'mechanics') are not copyrightable	Social norms among game developers	Semistructured interviews with 20 German game professionals	The paper develops the distinction between inspiration and imitation. The authors find that outright copying is generally considered unacceptable in the industry, but game developers do not always have a clear-cut understanding of where the boundary between accepted inspiration and imitation is situated. Professionals generally agree in thinking that game mechanics should remain as a sort of public domain.
Kapczynski (2017) Order without Intellectual Property Law: Open Science in Influenza, <i>Cornell Law Review</i>	Open science (WHO's Global Influenza Surveillance and Response Network / Influenza Network)	Patent	The Network does not rely on patents to support its activities, as it is publicly funded (primarily by governments). After an initial informal phase, today the Network's functioning is institutionalised in contracts and agreements. Inside the Network, labs are reciprocally obliged to share data and information with one another. Network scientists are also obliged to provide one another with credit and to affirmatively seek collaboration. Patents are not allowed on Network-related work.	Analysis of the economics of information production in vaccines, structural and incentive analysis of the Flu Network, 36 interviews with Network participants, triangulation with archival research, patent and citation analysis, and analysis of sample and sequence sharing	Study of a network that has for decades (stable equilibrium) produced capital-intensive information goods, at significant expense, and in a loose-knit group—all without resorting to IP. Organisations and law can help to sustain trust, cooperation and sharing in a loose-knit group, interpreting, tweaking, and institutionalising prior informal norms, especially in times of crisis (ex: the WHO, Wikimedia Foundation, Free Software Foundation). From a demand-side to a supply-side model of intellectual production: from standard IP law focused on preventing users from freeriding to an open science model focused on safeguarding cooperation and openness incentives among producers



Table 3 The 'Open' model (cont.)

The 'Open' model					
Reference	Creative industry	Enforceable IP	Appropriability strategy	Methodology	Theoretical contribution
Murray et al (2009) Of Mice and Academics: Examining the Effect of Openness on Innovation, <i>American Economic Journal: Economic Policy</i>	Open science (access to genetically engineered mice, 1980-2010)	Patent. In 1980, the Supreme Court established the patentability of genetically engineered organisms	The tradeoff is between granting IP rights to developers of research tools vs granting access to such research tools for follow-on research. Standard IP theory suggests that free access to research tools would lead to increasing follow-on research, but decreasing tool creation. In 1998-99, the National Institute of Health negotiated a deal with DuPont, which gave basically free access to academics to mice engineered with specific techniques. Mice created with alternative methods kept their access costs. Natural experiment to observe the open vs the proprietary model	Difference-in-difference estimations on a sample of 2,000 academic papers. To estimate the effect on the level of follow-on research, they compare citations of 'mouse-articles' before and after the agreement. To estimate the composition of follow-on research, they check how many new authors cite the mouse-article, whether citations include new keywords, whether new citations are in more applied or more basic research, and estimate the impact of NIH agreements on new mouse-articles.	They find a 'striking' increase both in the level of follow-on research and in its composition. Moreover, they do not find a decrease in the creation of new mouse-articles impacted by the agreement. They suggest that a higher degree of openness associated with scientific research tools enhance both the level and nature of research relying on such tools

As anticipated in Section 1.1, the first evidence of the fact that not all economic agents follow the incentives set by formal IP law came from scholarly works not directly linked to the study of IP. Among these, particularly instructive are historical studies, because they provide evidence of alternative IP regimes or of alternative uses of IP rights, as summarised in the examples given in Table 4. These are particularly interesting examples, as they show that a number of key developments for the emergence of industrialised economies were achieved in the absence of IP protection, as in the case of the development of steam engines and of the Cornish iron industry during the industrial revolution.



Table 4 Historical studies of inventive activities without IP

Historical studies of inventive activities without IP					
Reference	Creative industry	Enforceable IP	Appropriability strategy	Methodology	Theoretical contribution
Allen (1983), <i>Collective invention, Journal of Economic Behavior & Organization</i>	Cleveland (England) blast furnace (iron) industry	Patent did not apply (a patent on hot blast expired in mid 19th c., and "fairly easy to invent around a stove patent").	Free revealing of information as a rational choice: – Too high costs of secrecy – Possibility of both collective/sector and individual gains Three characteristic of collective inventions: – Innovations (in the Cleveland iron industry) were the result of small increments which were publicly shared. – Information made available via informal disclosure and publication in the engineering literature. – The design of subsequent technology resorted to this common pool of knowledge	– Historical reconstruction – Microeconomic modelling	In a context of competition and non-appropriability, collective invention as an institution which makes a high level of invention possible. Given a high rate of investment, collective invention can provide a high rate of invention (because the costs of experimenting are low) and productivity growth. Allen argues: "collective invention - not the independent inventor - was the dominant inventive institution in the nineteenth century iron and steel industry."
Nuvolari (2004) <i>Collective invention during the British industrial revolution: The case of the Cornish pumping engine. Cambridge J. Econom</i>	Steam engine in the Cornish mining district (water pumps to drain mines) in the early 19th c.	Patent on Boulton&Watt engines expired in 1800. High-pressure engines by Trevithick and Woolf (1812) were not patented	Collective invention, due to: – Lack of general design principles: trial and error process facilitated by information sharing – Entrepreneurs in the Cornish mining district usually had shares of several mines: they were interested in raising the average aggregate performance of the industry, which also made the value of Cornish ore rise – Engineers were recruited on a one-off basis, and public information on their projects worked as a talent signalling strategy	– Historical reconstruction – Number of primary sources – Incentive analysis	Collective invention settings as "a crucial source of innovation during the early phases of industrialization" (rather than individual inventors driven by patent-system incentives). The unfortunate experience with the Boulton&Watt patent gave Cornish engineering community an ethos prone to sharing
Spoof (2013) <i>Without copyrights: piracy, publishing, and the public domain</i> [book]	Modernist European writers and 19th century U.S. commercial publishing	Copyright. But the 1909 U.S. Copyright Act determined that, to enjoy full copyright, foreign works written in English had to be reset, printed, and bound on American soil within a fixed number of days after they had been published abroad ('manufacturing requirements'). And morally suspicious texts (like modernist works: Joyce, Pound, etc.) often did not find a publisher within the tight time span. So no copyright granted, and lots of unauthorised copies in circulation in the US. And given that the US were not part of the Berne Convention for the Protection of Literary and Artistic Works, American texts could be reprinted in Britain	American protectionist copyright law encouraged the aggressive appropriation of foreign works. Publishers developed a counter-practice of informal remuneration for foreign authors ('the courtesy of trade'). This was a loose set of informal norms and tacit trade agreements by which a publisher who announced the intention to publish the first American edition of a work acquired an informal title on that work, and sometimes offered some compensation to authors. Joyce opted for a strategy of ostracism against one transgressor (Samuel Roth), Pound came up with proposals for copyright law reform. Other authors (Wilde, Conan Doyle, Yeats) acquired fame through the circulation of pirate editions	Perspective: "sociolegal and interdisciplinary, historical in mood, and narrative in style". Extensive archival research (private and legal archives)	Poor explanatory power of incentive theory of copyright to understand literary authors' motivations to create. Literary creativity explained through a complex entwining of intrinsic motivation, pride, quest for fame, patronage, and monetary incentives. Freedom to copy helped the development of American publishing houses, the development of the American literary scene of the 19th c. (net importer of fictional works), as well as the emergence of an American public consuming literary works



3. Discussion

As can be seen from the literature review provided in Section 2, a common feature of the case studies on negative IP spaces developed so far is that they mainly deal with the US economy and IP systems. D.4.6. of the reCreating Europe Project will address this gap in the literature by investigating case studies within the European context. In terms of differences, the outline provided in the previous section shows that the case studies developed so far diverge on several levels. They investigate a wide span of different industries and activities. They cover both ‘niche’ sectors with relatively unstable equilibria, and fully-fledged or mature industrial activities with established organisational models. The actors described in the literature seem to respond both to intrinsic motivations and monetary incentives. Some of the described sectors incorporate copying as an integral part of their business models, while others rely on implicit rules to create informal institutional regimes that reproduce important features of standard IP.

In order to navigate this rich but heterogeneous literature, a systematic taxonomy is needed. As the negative IP literature has mainly focussed on providing evidence on innovation in the absence of IP incentives, most of the research in the field is empirical. An exception is represented by (Rosenblatt, 2010), who offers a possible tripartite taxonomy of negative IP spaces. Rosenblatt argues that negative intellectual property spaces can be classified into three categories (Rosenblatt, 2010, pp.323–324):

- 1) “Doctrinal no man’s land”, in which creativity is not covered by current IP law (e.g. fashion designs, cuisine recipes);
- 2) “Areas of IP forbearance”, in which creators choose not to enforce codified IPRs, but resort to either formal or informal alternatives (such as open-source licences or social norms);
- 3) “Use-based carve outs”, in which certain types of intellectual-property-use are exempted from exclusivity (e.g. copyright fair use exemptions).

This can be considered as a regulatory classification, as it is centred on *who* negative IP spaces are created *by*. Lawmakers create doctrinal no man’s lands, IP creators generate areas of IP forbearance, and both creators and lawmakers generate use-based carve outs (Rosenblatt, 2010, pp.323–324). Of this tripartite classification, only the first two categories have been explored extensively in the negative IP literature, as case studies of use-based carve outs are rather limited.⁵

3.1. An alternative taxonomy of negative IP spaces

In order to provide a further possible taxonomy of negative IP spaces, we have selected eight dimensions with which to categorise the evidence developed so far. These dimensions have been identified on the basis of the systematic literature review provided in Section 2. They have been selected because they represent the features on which the case studies provided so far diverge most significantly. The rationale behind this choice is twofold. First, we aim to map how the existing case studies differ most significantly, therefore exploring the maximum level of variability across the literature. Second, we aim to investigate if it is possible to spot common patterns among the maximum level of divergence across the literature provided in the first step. The result of this double-step exercise of divergence and convergence will yield an alternative taxonomy of the cases of negative IP, based on a systematic assessment of the literature. To capture the varying degrees to which each dimension applies to each sector and possible nuanced interpretations, we evaluate each dimension on a scale from zero (i.e. not relevant dimension) to three (i.e. very relevant dimension). The eight dimensions are:

⁵ An interesting exception can be found in (Tushnet, 2007). On other examples of IP carve-outs, see (Nimmer, 2001). A comprehensive overview of studies on the exceptions and limitations of copyright can be found at:

https://www.copyrightevidence.org/wiki/index.php/Special:BrowseData/Studies?Evidence_Based_Policies=B.Exceptions_%28distinguish_innovation_and_public_policy_purposes%3B_open-ended%2Fclosed_list%3B_commercial%2Fnon-commercial_distinction%29



- Does any IP apply?

With this dimension, we aim to capture the extent to which IP protection applies in an effective way in the sector under consideration. As we have seen, copyright does not apply to apparel design or to cuisine recipes, but it fully applies to adult entertainment videos or to software code. However, all these sectors can be considered as examples of negative IP spaces (Raustiala and Sprigman, 2006; Fauchart and von Hippel, 2008; Darling, 2014; Raustiala and Sprigman, 2019). In this case, a score of 3 means that IP law fully applies, while 0 means that it is not possible to claim IP rights over the innovations of the sector under consideration (which coincides with Rosenblatt's 'doctrinal no-man's lands').

- Relevance of intrinsic motivation

This dimension measures the incentives followed by the actors of the sector under consideration. In this case, 0 means that actors only follow monetary incentives, while 3 means that people are only intrinsically motivated to innovate. This parameter is based on the observation that negative IP spaces originate both where individuals are exclusively driven by intrinsic rewards, such as in fan fiction or in street art, and in sectors dominated by monetary incentives, such as the 18th-century English iron industry or the financial services industry (Allen, 1983; Tushnet, 2007; Hunt, 2010; Raustiala and Sprigman, 2012, pp.155–161; Iljadica, 2016).

- Role of digital disruption

This dimension measures to what extent the sector has been impacted by the application of digital technologies, with a score of 0 meaning that the sector's business model has not been affected by digitisation, while a score of 3 means that digitisation has led to a restructuring of the sector. The rationale behind this parameter is the observation that some sectors have become negative IP spaces as a consequence of the digital disruption (e.g. adult entertainment industry, open source software), while other examples of negative IP spaces are industries whose business model has not been significantly affected by this transformation (e.g. haute cuisine, tattoo industry) (Fauchart and von Hippel, 2008; Schweik and English, 2012; Perzanowski, 2013; Darling, 2014; Perzanowski, 2017; Raustiala and Sprigman, 2019).

- Innovators' community tightness

This dimension measures how closely-knit the community of innovators is. Cases range from tight communities which are structured in a variety of ways (from the personal acquaintances between haute cuisine chefs, to the structured community of open-source developers) to large communities dominated by impersonal exchanges (e.g. fashion, or adult entertainment industries) (Fauchart and von Hippel, 2008; Schweik and English, 2012; Darling, 2014; Raustiala and Sprigman, 2019). In this case, 3 means that the community of innovators is tight with a strong sense of belonging, while 0 corresponds to a loose community.

- Is copying included in business model?

With this dimension we describe to what extent unrestrained copying is incorporated into the business model of the sector under consideration. It ranges from 0 for cases where copying is strongly resisted (e.g. stand-up comedians) to 3 for sectors in which copying is an integral part of the business model (e.g. fashion, adult entertainment) (Raustiala and Sprigman, 2006; Raustiala and Sprigman, 2009; Oliar and Sprigman, 2008; Raustiala and Sprigman, 2012; Darling, 2014; Raustiala and Sprigman, 2019).

- Industry structure (horizontal vs hierarchical)

With this dimension we express a rough measure of the level of organisational complexity, and therefore of the level of hierarchy in which actors are organised. It ranges from 0 for cases of horizontal communities (e.g. free innovators) to 3 for cases of vertical and complex organisations (e.g. adult entertainment and fashion industries) (Raustiala and Sprigman, 2006; Baldwin and von Hippel, 2011;



Darling, 2014; von Hippel, 2016; Raustiala and Sprigman, 2019). This parameter can also be considered as a measure of the level of inequality between the actors active in the sector.

- Level of innovation costs

This dimension measures the capital intensity of innovation in each sector. This in fact varies considerably across the literature, going from innovations with rather low fixed capital (e.g. the invention of a new joke), which are given a score of 0, to innovations of high capital intensity (e.g. the development of new vaccines), which are given a score of 3 (Oliar and Sprigman, 2008; Kapczynski, 2017).

- How easy copying is

This dimension measures the cost of copying, or of imitation. On the higher end of the spectrum (score 3), it is easy to replicate the creativity produced in the sector (for example reproducing digital contents with a simple copy-and-paste procedure). On the lower end of the spectrum, we find activities that are more difficult to perfectly reproduce, such as a haute-cuisine dish, or a cocktail enjoyed in a high-end bar (Raustiala and Sprigman, 2012, pp.91–95; Schruers, 2017; Raustiala and Sprigman, 2019).

- Use of social norms

This dimension measures to what extent the community of innovators developed a system of informal norms to police copying among its members. This parameter goes from 0 for sectors in which no social norms are clearly identifiable (e.g. adult entertainment and fashion) to 3 for sectors where social norms play a relevant role (e.g. haute cuisine, stand-up comedy) (Raustiala and Sprigman, 2006; Fauchart and von Hippel, 2008; Oliar and Sprigman, 2008; Raustiala and Sprigman, 2019).

An assessment of some of the most significant case studies against these parameters yields the following table, which corresponds to the first step of the taxonomy-building exercise, i.e. the step of maximum divergence:

Table 5 Comparative assessment of Case Studies of Negative IP

Comparative assessment of Case Studies of Negative IP											
	Haute-cuisine chefs	Stand-up comedians	Tattoo	Street art	Collective invention	Open science (Flu network, Oncomouse)	Sports strategies (American gridiron football)	Free innovators	Open source (software and hardware)	Adult entertainment	Fashion
Social norms	3	3	3	3	3	2	3	3	3	0	0
Ease of copying	1	2	2	2	3	2	2	2	3	3	3
Intrinsic motivation	2	2	2	3	1	2	1	3	2	1	1
Industry structure	2	2	1	1	1	2	2	0	1	3	3
Digital disruption	0	1	1	1	1	2	1	2	3	3	0
Innovators' community tightness	2	1	2	2	2	2	3	3	3	0	0
Level of innovation costs	2	1	1	1	2	3	2	2	2	1	2
IP Applies	0	0	2	2	3	3	2	3	3	3	0
Unrestrained copying	1	0	1	1	2	1	2	2	1	3	3

Table 5 shows the complexity of the literature on negative IP spaces, as it shows that the concept of 'negativity' can apply to a variety of levels, thereby creating a complex and multi-layered negativity scale. It is interesting to notice that the cases outlined above fall within two of the three categories presented in Rosenblatt's taxonomy. Stand-up comedians, haute cuisine chefs, and fashion can be considered as doctrinal



no man's lands,⁶ while the others can be considered as areas of IP forbearance. This observation makes it possible to appreciate the difference between Rosenblatt's taxonomy and the one presented here. Contrary to Rosenblatt's regulatory taxonomy, Table 5 offers a structural analysis of negative IP spaces, as it is based on structural characteristics of these industries. Let us look in detail at the scores given in Table 5.

To compare different industries and sectors, we comment Table 5 by row. As discussed above, the literature includes sectors where social norms almost replicate the functioning of standard IP (as among chefs and stand-up comedians: score 3), sectors where norms produce regimes of openness (as in the open source sector, or among free innovators: score 3), and sectors in which norms do not have a role in governing copying (as in fashion and adult entertainment: score 0). With regards to how easy it is to copy, it is possible to appreciate that the existing literature includes sectors in which it is rather difficult to copy because of the norms in place to prevent it, sectors in which norms favouring regimes of sharing make copying easier, and sectors in which copying is either made very simple by digitisation, or in which copying is not controlled in any way. In terms of motivation, the literature includes a continuum of degrees in intrinsic motivations, going from street artists (who engage in their creative activity at the risk of potential sanctions) to creators who mainly follow monetary incentives, such as 19th-century cast iron engineers or most performers of the adult entertainment industry. Similar considerations apply to the varying levels of inequality showed by the sectors under consideration, as they range from completely horizontal communities (such as free innovators: score 0) to multinational hierarchical corporations (as in the case of the fashion industry: score 3).

A continuum can be found also in the case of the parameter measuring digital disruption, as the negative IP literature moves from sectors whose business model has not been significantly impacted by digitisation (such as high-end cuisine: score 0), to sectors whose business model was radically changed as a consequence of the diffusion of the internet or which did not even exist before its development (such as the adult entertainment industry and the open source model: score 3). The tightness of the community of innovators varies widely, going from communities organised through some institutional arrangement (be it the participation in the same sports league, or the engagement in online collaborative projects: score 3), to communities whose members have varying forms of personal acquaintances among each other (such as tattooers, street artists, and high-end chefs: score 2), to communities with generally rather loose ties (fashion and adult entertainment: score 0). The forms of innovation under consideration range from examples of relatively low capital intensity (such as the invention of a new joke, or the design of a new simple tattoo: score 1), to sectors in which innovation is remarkably expensive (as in the case of the development of new vaccines: score 3). As already discussed, the existing literature includes both sectors which are not covered by IP protection (Rosenblatt's "doctrinal no man's lands": score 0) to sectors where IP law would theoretically apply, but where creators choose not to resort to it for a variety of reasons (score 3). Finally, the extent to which copying is policed or let unrestrained changes considerably in the negative IP literature, going from stark prevention (stand-up comedians: score 0) to ungoverned copying (adult entertainment and fashion).

While the first step of this taxonomic exercise aims to mapping the dimensions on which cases of negative IP diverge, it also makes it possible to identify the commonalities in the structural characteristics of the negative IP spaces, leading to the second step of the taxonomy-building procedure. It is in fact possible to spot common patterns across the columns of Table 5, which can be ordered in three groups, displayed with different colours in Table 6.

⁶ Rosenblatt mentions stand-up comedy among the examples of IP forbearance, while recognising that "the boundaries between these categories are more porous than this stark enumeration might suggest". We consider stand-up comedy as an example of doctrinal no man's land because, while the specific expression of a joke is protected by copyright, its underlying funny idea is not, as suggested by (Oliar and Sprigman, 2008). Therefore, copyright does not apply to the most important intellectual property of comedy: not the specific expression of a joke, but its underlying funny idea.



Table 6 Comparative assessment of Case Studies of Negative IP: a tentative taxonomy

Comparative assessment of Case Studies of Negative IP: a tentative taxonomy												
	Haute-cuisine chefs	Stand-up comedians	Tattoo	Street art	Collective invention	Open science (Flu network, Oncomouse)	Sports strategies (American gridiron football)	Free innovators	Open source (software and hardware)	Adult entertainment	Fashion	
Social norms	3	3	3	3	3	2	3	3	3	0	0	
Ease of copying	1	2	2	2	3	2	2	2	3	3	3	
Intrinsic motivation	2	2	2	3	1	2	1	3	2	1	1	
Industry structure	2	2	1	1	1	2	2	0	1	3	3	
Digital disruption	0	1	1	1	1	2	1	2	3	3	0	
Innovators' community tightness	2	1	2	2	2	2	3	3	3	0	0	
Level of innovation costs	2	1	1	1	2	3	2	2	2	1	2	
IP Applies	0	0	2	2	3	3	2	3	3	3	0	
Unrestrained copying	1	0	1	1	2	1	2	2	1	3	3	
Taxonomy	Social-norms based systems				Commons-based systems					Knockoff systems		

- The first group, highlighted in yellow, includes cases that share the following characteristics: they have strong social norms which are aimed at preventing and policing copying, giving rise to informal IP-like systems. They comprise relatively tight communities where individuals tend to be acquainted with each other and are able to develop and enforce a system of social norms. These communities present moderate levels of inequality and comparatively high levels of intrinsic motivation. Their innovation process has not been significantly altered by the digital disruption, and the level of capital intensity is relatively low. These cases can be labelled as **'social-norms based systems'**.
- The second group, highlighted in light blue, includes sectors characterised by tight communities, which are usually institutionalised in some form (e.g. through scientific journals, membership in the same league/championship, membership in a community of open innovators, web forums and wikis, etc.). Individuals in these communities have high levels of intrinsic motivation (which can also coexist with monetary incentives) and share some form of social norms. IP would generally apply to their innovations, but they decide either not to resort to formal IP or to deliberately share the results of their experimentation (through open licencing, or through free sharing). Because of the combination of norms and of the willingness to share, copying is quite easy in these sectors, and in fact it occurs widely, though within some sort of regulated regime. We call this set of cases **'commons-based systems'**.
- Finally, the third group, highlighted in light green, includes industries where unrestrained copying is an integral part of the business model. Consequently, copying in these industries is very easy, and it is let to occur almost freely. Therefore, these sectors are not characterised by strong social norms, and the community of innovators is loose. Moreover, industries in these sectors seem to be rather unequal and to present relatively low levels of intrinsic motivation. Following (Raustiala and Sprigman, 2012), we call these cases **'knockoff systems'**. Interestingly, the digital disruption does not seem to be a key element for the emergence of knockoff systems, as fashion had already included unrestrained copying in its business model before the advent of the internet (Raustiala and Sprigman, 2006; Raustiala and Sprigman, 2009).



Each class of this negative IP spaces taxonomy has porous boundaries, and differences can be more blurred than this taxonomy would at first glance suggest. Of course, the boundaries between these groups can be more blurred than this taxonomy would at first glance suggest. Nevertheless, as it is based on an assessment of a set of structural characteristics of negative IP spaces, this taxonomy is a useful tool to systematise the case studies of negative IP developed so far, to highlight research gaps, and to choose different cases for comparative studies. For example, it is interesting to explore what are the relations between these groups and what are their internal dynamics. Furthermore, comparing cases along their structural characteristics might bring about some considerations to identify different patterns.

It is interesting to notice, for example, that the informal nature of social-norms based systems does not prevent these sectors from developing long-lasting equilibria. It is documented that haute-cuisine chefs and stand-up comedians managed to achieve coordination across decades thanks to their informal systems (Fauchart and von Hippel, 2008; Oliar and Sprigman, 2008). Interestingly, changing kinds of creativity were associated with changes in the social norms of their community, suggesting that these systems can prove flexible and adapt to varying circumstances (Fagundes, 2012; Fagundes, 2017). Following Von Hippel's suggestions about the potential of the internet to pool distributed knowledge and to connect innovators in horizontal networks (thereby possibly contributing to the decline of the hierarchical firm) (von Hippel, 2005), it is possible to ask what role is played by the digital transformation in these systems. While norms-based systems seem to resist the digital transformation, the functioning of commons-based systems is facilitated by the diffusion of digital and communication technologies. Knockoff systems present a mixed picture, but it is important to note that the adult entertainment industry has become a knockoff system as a result of the digital transformation. As this industry has repeatedly been at the forefront of structural transformations, it is not unreasonable to think that other industries may develop other business models akin to knockoff systems. Finally, this taxonomy can also be interesting in the light of the literature on knowledge commons. While Potts argues that innovation commons have a key role in the early stages of innovation, he suggests that the proprietary model (in the form of propertisation in competitive markets or in firms) is the main actor of the mature stages of economic innovation (Potts, 2019). Commons-based systems seem to contradict this narrative, as this group gathers economic sectors that couple high levels of innovation with multiple forms of knowledge commons.



4. Conclusive remarks and future steps

In this report we have provided a comprehensive assessment of the literature on negative IP spaces. This was achieved with a possible genealogy of the concept, a literature review of the field, and an analysis of the theories of negative IP spaces. On the basis of this assessment of the literature, this report provides a structural analysis of the cases of negative IP analysed so far. This, in turn, allows to sketch a new taxonomy of negative IP spaces, which makes it possible to systematise the existing literature from a new perspective. This systematisation will be a key tool for the future steps of D.4.6. of the reCreating Europe Project, as the taxonomy put forward in this report will provide a roadmap for the identification and research design of the case studies which will be developed in months 18-36 of D.4.6.



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