



19

Creativity and the Law

Tanya Aplin

Introduction

Intellectual property law is a sphere of legal regulation concerned with the protection of manifestations of intangible or mental labour or, in other words, creativity. In fact, it is more accurate to say that we have intellectual property *laws* because regulation is divided into categories—the core areas being copyright, patent, trade mark, and design laws—depending on what is the object of protection—a work, invention, sign, or design. What is required to obtain protection differs between these intellectual property laws, along with how much protection is granted.

This chapter focuses on two types of intellectual property laws—copyright and patent—and the ways in which intangible or intellectual labour is regulated by them. Copyright law is an obvious choice because of its perceived role as a tool for stimulating or rewarding creativity in the cultural or aesthetic sphere. Patent law is associated with technological innovation and, it too, is frequently viewed as crucial to incentivizing and rewarding creativity, this time in the scientific or industrial sphere.

For either copyright or patent protection to arise, thresholds of intangible labour or creativity must be met. *Originality* is the relevant benchmark in copyright law, while for patent law it is *novelty* and *inventiveness*. These are legal terms of art which are defined according to legal tests and which, in turn,

T. Aplin (✉)

Dickson Poon School of Law, King's College London, London, UK
e-mail: tanya.aplin@kcl.ac.uk

have different legal consequences. As such, these terms do not always map easily onto popular or community-generated understandings of creativity.¹ The focus of this chapter is on articulating the legal tests of originality (for copyright) and novelty and inventiveness (for patent law) and how these operate within the legal framework to define what and who has rights in their creativity. This discussion is also situated within a wider literature that acknowledges the dissonance between the law and creative practice.

Copyright Law and Creativity

Originality as a Requirement for Protection

It is a well-established principle that copyright protection extends to *original* literary and artistic works,² where the notion of “literary and artistic works” is broadly understood to include a range of aesthetic creations, including (but not limited to) books, plays, songs, films, music, choreography, drawings, paintings, photographs, and sculpture (*Berne Convention 1886*, Art. 2).³ Originality is thus the touchstone for copyright protection and a legal term of art. Even so, legislatures and courts have struggled to agree on a uniform understanding of originality, and we have seen different tests emerging from multiple jurisdictions. The work must *originate* from the author and, as well, show the “author’s own intellectual creation” in the European Union (EU) (*Infopaq International v Danske Dagblades Forening*, 2009), the “imprint of the author’s personality” in France, “personal intellectual creation” in Germany (*Copyright Act of 9 September 1965*, Art. 2(2) [Germany]), a “minimal level of creativity” in the United States (*Feist Publications v Rural Telephone*, 1991), “labour, skill and judgment” in the United Kingdom (*Sawkins v Hyperion Records*, 2005), or “skill and judgment” in Canada (*CCH Canadian Ltd v Law Society of Upper Canada*, 2004).

The EU, French, and German legal tests of originality have a greater explicit focus on the term “creativity”. For literary works, this is judged through “the choice, sequence, and combination” of words and the way in which “the subject is presented and the linguistic expression” (*Infopaq*, 2009, paras 44–45). For all types of works, the presence of “free and creative choices” that are not technically constrained is key to “stamping” the work with the requisite “personal touch”. Thus, in the case of a portrait photograph, originality was demonstrated through creative choices relating to background, the subject’s pose and lighting, the framing, angle of view, and developing techniques (*Painer v Standard VerlagsGmbH*, 2011, paras 91–92). In relation to more technical

works, such as databases, it will be a struggle to satisfy the originality criterion where the database creation is “dictated by technical considerations, rules or constraints which leave no room for creative freedom” (*Football Dataco v Yahoo! UK Ltd*, 2012, para 39).

In the United States, copyright law has shifted away from an approach where the presence of industrious effort or investment sufficed to show originality to one where a “minimal level of creativity” must be shown (*Feist*, 1991). The switch in approach occurred because of a concern that simply rewarding effort might lead to a monopoly in facts or ideas (*Feist*, 1991, para 1292). Likewise, in Canada, the Supreme Court decided to drop the emphasis on “labour” in the originality test and instead focus on “skill and judgment” (*CCH Canadian*, 2004). This was because a standard oriented around labour or effort was seen as too relaxed which, in turn, would prejudice the public interest in “maximizing the production and dissemination of intellectual works” (*CCH Canadian*, 2004, para 24). The court defined skill as “the use of one’s knowledge, developed aptitude or practised ability in producing the work” and judgement as “the use of one’s capacity for discernment or ability to form an opinion or evaluation by comparing different possible options in producing the work” (*CCH Canadian*, 2004, para 16). Exercise of skill and judgement was said to “necessarily involve intellectual effort” and could not be so trivial as to constitute “a purely mechanical exercise” (*CCH Canadian*, 2004, para 16). In the United Kingdom, the traditional formulation of originality has required “labour, skill and judgment”, although there have been instances where protection has resulted from mainly effort or investment (*Football League v Littlewoods Pools*, 1959). The UK approach, however, should now operate consistently with the EU test of “author’s own intellectual creation” (*SAS Institute Inc v World Programming Ltd*, 2013, para 37) and will continue to do so for some time, even after the United Kingdom’s departure from the EU.

What accounts for these different legal formulations of originality? A legal test that assesses originality according to an express reference to creativity and creative choices reflects a conception of the work as an extension or embodiment of the author’s personality. In other words, the very threshold for protection is premised on a notion of an individual author pouring his or her creativity into the resulting work. Various commentators have challenged this romantic view of authorship as outdated and inaccurate (Woodmansee & Jaszi, 1994). By contrast, an originality test judged according to the effort or resource that is invested in producing the work focuses on ensuring that the activity is incentivized in the first place. In other words, legal intervention, in the form of copyright protection, is considered necessary for stimulating the

“market” for creativity. Numerous scholars have contested the assumption that copyright operates as the primary motivation for creative activity. Cohen (2007, p. 1154), for example, argues against an “inflated notion of copyright’s role in stimulating creativity” and instead calls for a decentred account of artistic and intellectual creativity, grounded in social and cultural theory, which acknowledges multiple contributing factors (p. 1177). Meanwhile, Silbey (2015), who conducted qualitative research with artists and innovators to interrogate their “creation impulses”, describes how intellectual property law is absent from most creators’ accounts and instead notions of serendipity, intrinsic forces, play, and the need to solve problems feature as motivations to create. There are also several case studies about creative communities, such as comedians (Oliar & Sprigman, 2009), chefs (Fauchart & von Hippel, 2008), graffiti artists (Iljadica, 2016), and “small-town” artists (Murray, 2014), which demonstrate the multiple, complex factors that animate creativity and query the centrality of copyright law to this process. Further, psychological research points to the importance of intrinsic motivations for creativity (as opposed to extrinsic motivations, such as obtaining copyright protection) (Mandel, 2011).

Do the divergent legal formulations of originality lead to different legal outcomes? The answer is generally not, largely because all of these standards are relatively low ones to meet (Rahmatian, 2013, pp. 344–355). However, there are instances where an emphasis on creativity instead of investment (of money or time) will likely affect whether copyright protection arises. For example, databases or compilations that are the result of substantial investment and which are comprehensive in nature will struggle to satisfy a “minimal level of creativity” or “author’s own intellectual creation” originality test but will probably satisfy a “sweat of the brow” or “labour, skill and judgment” test (Ginsburg, 1992, p. 338). Similarly, technically accurate photographic reproductions of artistic works (such as those undertaken by museums and galleries) or serendipitous amateur photographs taken of newsworthy activities by “citizen journalists” (Pantti & Andén-Papadopoulos, 2011, p. 13) may fail to demonstrate “creative choices” but be likely to demonstrate the presence of skill or labour.

Interestingly, the failure to meet an originality threshold that is defined by the presence of “creativity” or “creative choices” does not necessarily mean that, in practice, no protection arises. More specifically, what can occur is that a community behaves *as if* works are copyright protected even though they may not satisfy the relevant originality test according to a strict legal interpretation. Here, it is useful to consider the position of amateur or non-professional

images taken by “citizen journalists”, which are increasingly used by media organizations in their news reporting. Amateur images are seen as technically poor as compared with those taken by professional photojournalists (Mortensen & Keshelashvili, 2013, p. 153; Pantti & Bakker, 2009, p. 482); however, they are viewed as more authentic and intimate because of their unconstructedness, unconventional framing, mobility, and embodied collectivity (Pantti, 2013, pp. 201–218). The qualities that make such images more authentic and intimate are also the features that make establishing originality, in a copyright sense, problematic. A spontaneous photograph, taken with little regard to framing, lighting, or the subjects featured, and which does not undergo any post-creation editing or other processing, would seem to lack the types of creative choices that are required by EU, UK, and US copyright law to establish originality. Yet, media organizations frequently behave as if such images do attract copyright, as is evidenced by their practice of seeking wide-ranging, non-exclusive licences from those who submit images,⁴ when in fact this is probably unnecessary. This situation arises, in part, because copyright is *not* granted via a system of registration⁵ but vests automatically when the requirements for protection—in particular, originality—are satisfied. The absence of a registration system means that creators and users regularly make assumptions about whether the copyright requirements are met, and these assumptions tend to hold because of either lack of knowledge about the precise nature of the legal requirements, risk-averse behaviour, or the developed practices of certain communities.⁶ It is usually when disputes regarding the use of a work arise that the issue of originality is forensically tested and ruled upon by a court.⁷

Originality and Authorship: Determining Rights

Aside from determining whether a work attracts copyright protection, originality is important in helping to determine who the *author* of a work is. Authorship, in turn, determines *who* can first exercise rights in relation to the work and the length of protection. The rights granted by copyright include the ability to control acts of economic exploitation, such as reproduction, adaptation, distribution, performance, and communication to the public. As well, there are so-called moral rights which include the right to be attributed as author and to preserve the integrity of the work. As for the length of protection, this is generally calculated as a fixed term (either 50 years or 70 years depending on the jurisdiction) measured from the end of the calendar year in which the author dies.⁸

The legal rules on *who* may constitute an author tend to be clear, yet dissonance can emerge between authorship in the copyright sense and authorship as recognized by creative communities. Robinson (2014) discusses an example of this in the context of Dafen, China, where replica paintings of European Old Masters and modernist paintings have been produced for several decades. Some of these replicas are not copies of pre-existing works but rather are done in the style of previous famous artists, such as Van Gogh. The paintings are sold under the name of the Dafen artist. These paintings are likely “original” and their creators “authors” in the copyright sense because the “artist’s hand is visible in the work” (Robinson, 2014, p. 164), that is, creative choices have been made and/or skill and labour have been used in producing their content. Yet, from the point of view of Western art historians, these style replicas are not considered original (in an artistic sense), nor are their creators considered as artists, because the works are seen as lacking an original intellectual impulse or idea. As Robinson (2014, p. 168) describes: “the markers of copyright that have been used to describe originality in the IP context—sweat of the brow, labor, point of origination, inspiration, skill, and judgment—are challenged, ignored, and occasionally overturned in numerous examples from the art world”.

Copyright law also seeks to grapple with situations where there are multiple contributors or creators. Most copyright laws recognize collaborative creativity, in the form of joint authorship (as in the United Kingdom), joint works (as in the United States), or collaborative works (as in France) and, in turn, the existence of joint or co-authors. The precise legal requirements that must be satisfied differ, as do the legal consequences that flow from this. A basic requirement for anyone claiming to be a joint or co-author is that their input meets the originality threshold. This is a way of limiting spurious claims to co-authorship. Thus, a director that suggested changes to dialogue in a play and made performance suggestions was rejected as a joint author, due to lack of originality in their contributions (*Brighton v Jones*, 2005, para 56). Likewise, incidental suggestions, ideas about presentation of the play, and minor bits of dialogue did not qualify as meeting the originality threshold required for joint or co-authorship (*Childress v Taylor*, 1991). While contributions must be original, they do not have to be equal in nature. Thus, contribution of the introductory bars of a musical work, repeated at various points, has sufficed for joint authorship in the entire musical work (*Beckingham v Hodgens*, 2003).

Another requirement is either one of collaboration, that is, jointly labouring according to a common design (as in the United Kingdom) (*Cala Homes (South) v Alfred McAlphine Homes East*, 1995, p. 835) or an intention to be a joint author (as in the United States) (*Childress v Taylor*, 1991). An intention

requirement is stricter than collaboration because it requires pointing to objective evidence of whether the putative joint authors regarded themselves as such. The stricter approach is said to be justified by avoiding spurious claims of joint authorship, and objective evidence of intention can include how a work was “billed”. Finally, the contribution of a putative co-author may be required to be integrated within the work (i.e. not distinct or separate), as in the United Kingdom, or it may be interdependent and separable (as in France and the United States) (*CDPA 1988*, s. 10 [UK], *Copyright Act 1976*, s. 101 [US], *IP Code 1992*, Art. L113-2 [France]).

As mentioned, there may be different legal consequences to joint or co-authorship. In France, joint authors must exercise their rights by agreement and, where they fail to agree, can have this resolved by the courts. It is also possible for a joint author separately to exploit his/her own personal contribution, provided this does not prejudice the exploitation of the common work (*IP Code 1992*, Art. L113-3 [France]). In the United Kingdom each co-author will be a co-owner of any economic rights in the work and exploitation of the work can only occur if *all* joint owners agree (*Robin Ray v Classic FM*, 1988). In the United States, the authors of a joint work are co-owners of copyright in the work (*Copyright Act 1976*, s.201(2) [USA]). Each co-owner has the right to use or license the work, provided they account to their other co-owners for any profits earned thereby (*Thomsen v Larsen*, 1998). However, they must seek consent from other co-owners if they are seeking to grant an exclusive licence (*Davis v Blige*, 2005).

The copyright rules dealing with collaborative creativity, with their focus on original contributions from each author, and the existence of an intention to act as joint authors (in the United States) have been criticized by legal commentators as still being rooted in individualistic, romantic notions of authorship which ignore important, other contributions to the creative process. Sawyer (2011) argues, for example, that this approach marginalizes the role of editors, agents, and other intermediaries that are crucial to the externalization and execution of creativity. In his view, this is because of copyright law’s focus on the ideation stage.

A different observation about the copyright rules on joint authorship emerges from Robinson (2014), who impliedly suggests their impotence in the face of community-defined notions of authorship. Here, she discusses the “Western” art studio and how many famous artists (such as Jeff Koons and Damien Hirst) have very little interaction with the finished artistic work, which is in fact produced by the many assistants that are employed by them. An application of the legal rules should lead to those assistants being recognized as co-authors in a copyright sense. Nevertheless, the work is still attributed to the

famous artist and sold under his name, while the contributions of those in the studio are rendered invisible. This, argues Robinson (2014, p. 174), is in keeping with a narrative of “the individual artist genius”, whose contribution to the idea, as opposed to the material, is privileged.

Employees

In situations where an *employee* creates a work and provides the requisite originality, the question arises whether the employer has any rights over the work. Here, there are, broadly speaking, three different legal models for reconciling the interests of employer and employee.

The first model, represented by France, respects the importance of authorship over and above any economic interests of the employer. According to this model, authors retain their economic and moral rights regardless of their status as an employee and the circumstances in which the work is created (*IP Code 1992*, Art. L111-1 [France]). There is an express exception, however, to this strict rule in relation to software, where the economic rights in software and its documentation created by an employee in the execution of their duties are deemed the property of the employer (*IP Code 1992*, Art. L113-9 [France]). The existence of this exception may be explained by the perception that software is functional in nature and so less likely to be creative and prioritizing the economic interests of software-producing companies.

Under the French model, it is open to employer and employee to negotiate for a transfer of economic rights in a work to the employer. That said, there have been instances of courts implying into the employment agreement a pre-assignment of the author’s rights in any work created during employment to the employer. This approach has been heavily criticized and is inconsistent with the spirit of the general rule that rights remain with the author, unless expressly transferred. Finally, there is the possibility that employees may contribute to the creation of a “collective work”, that is, a work which is created at the initiative of a natural or legal person, disclosed under this person’s name and in which the individual contributions of authors are merged without it being possible to attribute to each author a separate right in the work as created (*IP Code 1992*, Art. L113-2 [France]). In such circumstances, the collective work is the property of the natural or legal person under whose name it has been disclosed, which in this case could be the employer (*IP Code 1992*, Art. L113-5 [France]).

The second model, represented by the United Kingdom, recognizes the employee as the author of a work created during employment but vests the

economic rights in that work in the employer (*CDPA 1988*, s.11 [UK]). The moral rights—of attribution and the right of integrity—remain with the employee as author, although their exercise is restricted, particularly vis-à-vis their employer (*CDPA 1988*, s.79(3) [UK]). This model maintains some respect for the employee as author but recognizes the economic interests of the employer in having invested in the creation of work and the employer's need to exploit the fruits of this investment unencumbered. It is possible for a contrary agreement to be reached between employer and employee about who owns the economic rights, but the reality is that most employees will be in a poor bargaining position.

The third model, typified by the United States, is the most employer friendly since it deems works prepared by an employee within the scope of his or her employment as “works made for hire” and, in turn, the employer is deemed the *author*—not simply the owner—of such works (*Copyright Act 1976*, s.201(b) [US]). While the rationale for the works made for hire rule is similar to that in the United Kingdom (prioritizing the economic interests of the employer), the solution entirely denies the creative input of employees since they will not be in a position to exercise either economic *or* moral rights. Similar to the UK model, it is possible for a contrary agreement to be reached between employer and employee, but the uneven bargaining positions means that, in reality, such renegotiation of the default position is unlikely.

Under both the second (United Kingdom) and third (United States) models, it is important to note that the default rules about authorship and ownership arise where the work is created by an *employee in the course of his or her employment*. This means that employment status needs to be shown, along with the work having been created as part of one's employment. In an environment where labour is becoming increasingly casualized—with the existence of casual- and fixed-term “employment”—these requirements may be harder to establish. As well, such shifts in the labour market undermine the rationale for the default rule in the first place since the employer is no longer providing an appropriate reward to employees through their working terms and conditions or investing the same level of resource that is needed to ensure creation of such works.

It makes sense also briefly to mention the position where an author or creator is *not* an employee but instead is commissioned or hired specifically to create a work (e.g. a photographer for a particular event or a musician who arranges a composition). Here, there are, broadly speaking, two models. In the first model (such as in France and the United Kingdom), rights in commissioned works remain with the person who creates them (i.e. the author), and the commissioning party must negotiate either a transfer of copyright or

a licence to use the work.⁹ In the second model, which is seen in the United States, certain types of commissioned works are treated as “works made for hire” and the commissioning party is treated as the author and, as such, the owner of the work (*Copyright Act 1976*, s.101, s.201(b) [US]). Even in this second model, the parties must agree that the contribution is a work made for hire, so there is scope for negotiation between the commissioning party and the author (i.e. creator of the work). Again, it is worth emphasizing that increased casualization of the labour market places under strain the legal distinction between employee-created works and works commissioned from an independent contractor.

Originality and the Scope of Protection

As mentioned earlier, a copyright owner has the right to control acts of economic exploitation of the work, including its reproduction. Originality has a role to play here also, in determining whether partial copying of a work constitutes an infringement. An example will help illustrate this notion. Person A writes a newspaper article, which is protected by copyright as an original literary work. Person B comes along and, for the purposes of providing a news monitoring service, reproduces 11 word excerpts from the article. Is this copying prohibited? In this situation, courts (especially in the EU) will ask whether the part of the work that is copied reflects originality and, if so, reproduction of that part will amount to an infringement of copyright in the entire work (*Infopaq*, 2009, *NLA v Meltwater*, 2011, paras 23–29). The upshot is that copying small amounts of a work may be prohibited. This use of originality to determine infringement is problematic because it collapses the policy questions relating to infringement into a single, rather simplified test and expands the scope of protection given to owners (Bently & Sherman, 2014, pp. 205–206). In terms of the impact of this approach, it is probably too early to say. However, one might reasonably speculate that such a legal test will generate risk-minimization strategies from users, including avoiding the use of the work or seeking copyright permission from owners. This is either because of the uncertainty caused by the test (how to determine whether a small excerpt is in fact original?) or because it is assumed that copying such small excerpts will be infringing. Indeed, we have seen this happen with digital music sampling where there is a well-established market for licensing samples despite plausible arguments that the sampling activity is not necessarily infringing (McLeod & Dicola, 2011).

Another way in which originality may be relevant to copyright infringement is where the person copying a work herself changes it in some way, that is, adds her own originality to create a new work. An example of this is where A composes a song and B creates a parody of the song, significantly altering the lyrics and copying some of the musical elements (*Campbell*, 1994). In some jurisdictions, such as the United States, B's actions may be justified as "fair use" of A's work and thus does not infringe (*Copyright Act 1976*, s.107 [US]). A significant factor in determining fair use is whether B has engaged in what is called *transformative* use. This has been described as adding "something new, with a further purpose or different character, altering the first [work] with new expression, meaning, or message" (*Campbell*, 1994, para 1171). According to the US Supreme Court, "the more transformative the new work, the less will be the significance of other factors, like commercialism, that may weigh against a finding of fair use" (*Campbell*, 1994, para 1171). In other words, there seems to be a thread connecting the legal notions of originality and transformative use, which in turn can trigger a "fair use" defence to claims of infringement. Fan fiction is an area of creativity where, for the most part, publishers and copyright owners do not instigate infringement actions. This is because there is a general belief that this activity amounts to "harmless homage" (Greenberg, 2014, p. 95). However, as Tushnet (1997) describes, (non-commercial) fan fiction writers can legitimately rely on the "fair use" defence because of their transformative activities—reconfiguring characters, developing plots, or authoring entirely new narratives.

Patent Law and Creativity

Requirements of Novelty and Inventive Step

We turn now to consider how patent law deals with intellectual labour in the realm of innovation. Patent law grants monopoly rights in *inventions* which are *new (or novel)* and *inventive*.¹⁰ The orthodox justifications for bestowing these property rights are that they act as incentives for inventiveness, the investment underpinning such activity, and the dissemination of technical knowledge (Machlup & Penrose, 1950). However, as empirical research has shown, there are "varied and subtle reasons for using the patent system" which do not always align with these traditional "incentive" rationales (Graham, Merges, Samuelson, & Sichelman, 2009, p. 1255). Patents are registered rights, meaning they must be applied for (usually) via a State institution,¹¹ such as the UK Intellectual Property Office or the US Patent and Trade Mark Office, and are examined by

specialists with relevant technological expertise to ensure they meet the requirements for protection. Inventions may encompass all manner of innovations, including those in the mechanical, chemical, engineering, biotechnology, pharmaceutical, and information technology fields. It is fair to say, however, that many of the core principles of patent law emerged during the nineteenth century and the Industrial Revolution; therefore, some commentators have queried the ability of patent law to accommodate twentieth- and twenty-first-century technological developments (Seymore, 2011). Importantly, discoveries, scientific theories, ideas, raw data, and aesthetic creations are not the province of patent law.¹² Rather, patent law relates to innovations with concrete technical utility or application. A person applying for a patent must show that several key requirements are met. Of these, novelty and inventiveness are central and both go towards establishing whether the invention deserves protection.

Novelty is judged against the “prior art”, that is, the body of knowledge that presently exists and which is made available to the public (*European Patent Convention 2000*, Art. 52). The key date for measuring the newness of the invention against the prior art is the priority date, which usually is the date the patent application is filed.¹³ The legal test asks whether the invention *already* forms part of the prior art. It is an exacting standard in so far as the prior art usually encompasses what has been made available worldwide before the priority date. The rationale for this requirement is ensuring that technical knowledge is in fact being added to what currently exists and that monopolies are not granted over existing knowledge that would inhibit activities currently being undertaken. For example, if pharmaceutical X for treating depression is already on the market, it would be counterproductive and unduly rewarding to allow B to obtain a patent for the same pharmaceutical. However, where it is discovered that pharmaceutical X is useful in treating a different illness, then this new type of application could qualify as novel.

In assessing the novelty of an invention, the focus is on the invention itself (classified broadly as a product or a process) and whether it has been previously disclosed before the priority date. There is no attention paid to the type or quality of intellectual labour that has gone into creating the invention. Rather, the test is an objective one of assessing whether the invention is, in quantitative terms, contributing new, useful knowledge to society. It is at the next stage—inventive step—that the quality of the inventive contribution is examined and assessed.

The requirement of inventive step or non-obviousness asks whether the invention is obvious to a person skilled in the art having regard to the prior art (*European Patent Convention 2000*, Art. 56). Thus, the existing body of knowledge against which novelty is judged is also relevant here. However, the

focus is on whether what is added to the prior art is simply an obvious extension of existing knowledge or something more innovative. The rationale behind this requirement is to ensure that genuine, meritorious innovation is incentivized or rewarded. As mentioned, inventiveness is judged from the perspective of “a person skilled in the art”. This is a hypothetical legal construct, which is meant to offer an objective perspective on whether an invention deserves protection. As such, the skilled person is not an expert or a real worker in the field, but instead is a fictitious person deemed to have basic knowledge of the relevant technical field (called the “common general knowledge”) and to be aware of the prior art. Questions of inventiveness are invariably fact dependent and, as such, this is one of the most contested legal issues in patent applications and patent litigation, and difficult to predict. Even so, this does not seem to have negatively impacted on the number of patents filed each year.¹⁴

One of the ways in which patent law has sought to accommodate technological developments and loosen itself from its nineteenth-century roots is in how it constructs the “person skilled in the art” for the purposes of evaluating inventiveness. In recognition of the complexity of many scientific advances and the necessity for collaborative research to produce them, patent law now recognizes that the “skilled person” in fact may be a team of researchers, working across different fields, rather than a single, individual working in one field. However, the test of inventive step is a uniform one that does not differentiate between different types of inventive activity. As Mandel (2011) explains, psychological research indicates that, broadly speaking, one can point to problem-finding creativity (identifying a new problem) and problem-solving creativity (solving an identified problem). Each type draws on different cognitive processes—“more abstract thought processes” for problem-finding and “more analytical cognitive function” for problem-solving (Mandel, 2011, p. 2005). Yet, the non-obviousness requirement in patent law treats these different types of creativity identically, when it may be preferable to tailor incentives depending on what, as a society, we wish to encourage. In this vein, Mandel (2011) also sees a connection between the requirement of inventiveness, which acknowledges and rewards a particularly significant qualitative advance, and the intrinsic motivations of an individual.

Who Is an Inventor?

The inventor is key because this person generally is granted the patent and, as such, will be the patent *owner*. In turn, the patent owner has the right commercially to exploit the invention (such as through making, using, selling, or

importing the patented product or a product resulting from a patented process) and to prevent others from doing so, unless their permission is granted. Thus, it is important to be able to identify the inventor or, where relevant, joint inventors. As mentioned earlier, collaborative—as opposed to individual—research is the cornerstone of many technological advances. Patent law recognizes this through the concept of joint inventorship. However, the legal principles of joint inventorship arguably still hark back to a notion of inventiveness that is individualistic. Patent law starts by identifying the inventive concept underpinning the invention, that is, “the heart” of the invention. One then looks to see *who* was responsible for the inventive concept. Simply providing advice or other routine assistance will not usually suffice to make someone a joint inventor—there must be a contribution to the inventive concept. A short example will illustrate this approach. A patent existed for a method of controlling pests involving the use of magnetic particles that stuck to the legs of insects. Previously, a method for controlling pests which involved the use of electrostatic talcum powder stuck to the legs of insects had been disclosed in the prior art. The downside of this approach, however, was that the talcum powder lost its stickiness over time and became ineffective. Thus, the inventive concept in the patented invention was substituting electrostatic talcum powder with magnetic particles, which were more effective. The person responsible for making this key suggestion was identified as the inventor and the person who carried out routine trials to implement the suggestion was not recognized as a joint inventor (*University of Southampton's Applications*, 2006).

Employee Inventors

As mentioned earlier, the inventor/s will usually be the owner/s of the patent and, as such, have the right exclusively to exploit the invention. But where the inventor is an employee, the position regarding ownership becomes complicated and the issue is whether the employer should instead be regarded as the owner. This issue is resolved differently depending on the jurisdiction. It is possible, however, to identify three broad approaches.

The first approach (adopted in Japan and Germany) is one that favours the inventor because ownership vests with the employee regardless of whether the invention was created as part of his or her duties. However, in situations where the invention was created as part of the employee's duties, pre-assignments of ownership of such inventions can occur via agreement. In other words, there can be a term in the employment agreement that stipulates ownership of

inventions created as part of the employee's duties (so-called service inventions) will be transferred to the employer. Importantly, however, where this occurs, an employee will be entitled to receive reasonable remuneration (*Patent Law 1959*, s. 35(3) [Japan] and German Employees' Invention Law 1957). Reasonable remuneration may be determined via agreement between employer or employee (as in Japan) or else via statutory guidelines (as in Germany) (Stallberg, 2017). As such, remuneration for patented inventions (beyond an employee's salary) is regularly received by employees in these jurisdictions.

The second approach (adopted in the United Kingdom) is where ownership of the patent vests in the employer where the invention has been created as part of the employee's duties (*Patents Act 1977*, s.39 [UK]). Any inventions created by an employee that do not fall within these rules belong to the employee, and this cannot be overridden by agreement (*Patents Act 1977*, s.42(2) [UK]). In other words, an employer cannot seek to use the employment agreement to obtain an automatic transfer of ownership of inventions created *outside* the scope of an employee's duties. An employee may subsequently, however, choose to transfer rights in the patented invention to their employer. In addition, for those inventions that have been created as part of the employee's duties, ownership of which has vested in the employer, there is a statutory right to compensation where the invention or patent has been of outstanding benefit to the employer, and it is just to award compensation to the employee. Also, for inventions created outside the employee's duties and owned by the employee, but subsequently transferred to the employer, the employee may be entitled to compensation where the payment received by the employee was inadequate, given the benefit derived by the employer and it is just to award compensation to the employee (*Patents Act 1977*, s.40 [UK]). If compensation is awarded, it is calculated to reflect a fair share of the benefit derived by the employer (*Patents Act 1977*, s.41 [UK]). However, it is important to note there have been very few successful claims by employees for compensation based on these UK provisions.¹⁵

The third approach is that which exists in the United States (Hovell, 1983; Merges, 1999). This is where ownership of employee-created inventions is left entirely to negotiation between the employer and employee. As such, employers routinely require their employees, via the employment contract, to pre-assign ownership to future inventions. In this situation, there is no right to remuneration, but rather the employer may grant bonuses or provide other rewards. In the unlikely event that the employment contract did not pre-assign ownership of future inventions, the default rule is that where an employee has been hired to invent, the employer owns the patented invention. But where an

employee creates an invention related to her duties or uses her employer's resources, the default rule is that ownership is split. In all other cases, the employee owns the invention.

Thus, we see a continuum of approaches to patented inventions that are created by employees. At one end of the spectrum is Japan and Germany, which focuses on rewarding employees for their inventive activity, beyond what they might receive as part of their normal employee benefits. This approach respects the inventive efforts that have been made by the inventor, despite their status as employee. At the other end of the spectrum is the United States, which allows employers, invariably in better bargaining positions, to obtain an advance transfer of ownership of patented inventions created by their employees. Any rewards to employees for these patented inventions will be discretionary on the part of the employer. This approach really focuses on the employer as the person who has provided the underpinning investment for the inventive activity and their economic interests in exploiting the invention. In the middle is the UK approach whereby the employer owns inventions created by employees in the course of their duties but, in extraordinary situations where the patented invention has been of outstanding benefit to the employer, awards fair compensation to employees. This approach is seeking to reach a compromise between the economic interests of the employer and fairness to the employee, given their inventive contribution. What is not clear is which of these approaches is more effective in incentivizing creative or inventive activity on the part of employees. In this respect, more empirical data on how employed inventors create and the impact (if any) of the patent law framework would be welcome.

Conclusion

In conclusion, we have seen that copyright and patent law characterizes mental or intangible labour in different ways. Patent law looks for novel and inventive contributions in relation to technical innovations, whereas copyright law looks for originality in relation to aesthetic works, which may be demonstrated through creative choices, the exercise of skill and judgement, or the investment of labour, depending on the country in which protection is sought. Importantly, an objective stance is taken to the assessment of novelty and inventive step in patent law, by utilizing the perspective of a hypothetical person skilled in the art. Whereas, copyright law generally seeks to assess originality subjectively, according to the intangible labour the author has contributed. Patent law also requires novelty and inventive step to be shown before any exclusive rights are granted. Whereas, copyright law, as an unregistered

right, assumes that the originality requirement is satisfied unless it is challenged in a dispute between the owner and a third party. A key issue for both systems of regulating intangible labour relates to the position of employee authors and employee inventors. We see variations in whether the act of authorship or inventiveness justifies rewards to the employee or whether, in fact, the employer, as the economic sponsor of these activities, is entitled to claim copyright or patent ownership. With the employment relationship becoming increasingly blurred in our shifting economic landscape, this is an area that will undoubtedly need to be revisited in future, particularly in relation to copyright law.

While the clarity and coherence of these intellectual property frameworks is important, the connection between law and practice is not as linear or directly causal as intellectual property lawyers might like to think. Understanding the copyright and patent frameworks is crucial to appreciating the legal entitlements that arise in the context of creative or inventive activity. But what must not be overlooked by intellectual property scholarship is the variety of methodologies that can provide insightful descriptive tools for understanding intellectual property practices, which in turn might have normative influence on how we construct the law.

Notes

1. For example, see Robinson (2014) who discusses the shifting meanings of “originality” in Western and Chinese art communities and how they diverge from legal understandings of “originality”.
2. See, for example, *Berne Convention for the Protection of Literary and Artistic Works 1886* (as revised, 1971) Art. 2; *Copyright Designs and Patents Act 1988*, s.1 (UK); *Copyright Act 1976*, s.102(a) (US); *Copyright Act 1968*, s.32 (Aus.); *Intellectual Property Code 1992*, Art. L112-4 (France).
3. Occasionally there have been disputes about what falls within the boundaries of “literary and artistic works”, such as perfumes (*Bsiri-Barbir v Haarmann & Reimer* [2006] ECDR 28 (French Cour de Cassation) but contrast the result in the Netherlands in *Kecofa v Lancome* [2006] ECDR 26 (Dutch Supreme Court)), football games (*Football Association Premier League Ltd v QC Leisure and Karen Murphy v Media Protection Services* (Joined Cases C-403/08 and C-429/08) [2011] ECR I-09083, [96]–[99] (European Court of Justice)), and costumes (*Lucasfilm v Ainsworth* [2011] UKSC 39; [2012] 1 AC 208 (UK Supreme Court)).
4. For example, see <https://witness.theguardian.com/terms> and section 6 on “User content”.

5. While, historically, in the eighteenth and nineteenth centuries, a person did have to register their copyright, in the twentieth century this formality was abandoned and, as a matter of international copyright law, is prohibited: see *Berne Convention*, Art. 5(2).
6. On this latter point, it is interesting to see how the legal profession behaves in relation to the legal documents that it produces (see Piper, 2014).
7. For example, see *Sawkins v Hyperion Records* [2005] RPC 32 (English Court of Appeal) where the claimant created musical scores heavily based on the musical works of an earlier baroque composer, in which copyright had expired. It was only when the claimant brought infringement proceedings against users of the score (i.e. the defendant) that the issue of whether the claimant had created *original* musical works was raised.
8. Berne Convention, Art. 7, requires life of the author plus 50 years as a minimum standard, but the United States and EU require life of the author plus 70 years.
9. Although where this is a failure to negotiate an express transfer or licence, courts can occasionally step in to imply such arrangements: see *Griggs Group Ltd v Evans* [2005] FSR 31 (English Court of Appeal).
10. See Agreement on *Trade Related Aspects of Intellectual Property Rights 1994*, Art 27: “patents shall be available for any inventions, whether products or processes, in all fields of technology, provided that they are new, involve an inventive step and are capable of industrial application”.
11. It is possible to apply via regional institutions, such as the European Patent Office.
12. For example, see European Patent Convention 2000, Art 52.
13. It can be a different, earlier date, where a patent application has been filed 12 months earlier in a country that is a member of the Paris Convention.
14. For example, the number of international patent filings made using the Patent Cooperation Treaty has grown significantly over the past 20 years and continues to do so: see http://www.wipo.int/edocs/pubdocs/en/wipo_pub_901_2016.pdf.
15. An example of a successful claim was *Kelly and Chiu v GE Healthcare Ltd* [2009] EHC 181 (Pat), [2009] RPC 12 (English High Court).

References

Journal Articles

- Cohen, J. E. (2007). Creativity and culture in copyright theory. *U.C. Davis Law Review*, 40, 1151.
- Fauchart, E., & von Hippel, E. (2008). Norms-based intellectual property systems: The case of French chefs. *Organization Science*, 19, 187.

- Ginsburg, J. (1992). No “sweat”? Copyright and other protection of works of information after *Feist v. Rural Telephone*. *Columbia Law Review*, 92, 338.
- Graham, S. J. H., Merges, R. P., Samuelson, P., & Sichelman, T. (2009). High technology entrepreneurs and the patents system: The results of the 2008 Berkeley patent survey. *Berkeley Technology Law Journal*, 24, 1255.
- Hovell, W. (1983). Patent ownership: An employer’s rights to this employee’s invention. *Notre Dame Law Review*, 58, 863.
- Machlup, F., & Penrose, E. (1950). The patent controversy in the nineteenth century. *Journal of Economic History*, 10, 9.
- Mandel, G. N. (2011). To promote the creative process: Intellectual property law and the psychology of creativity. *Notre Dame Law Review*, 86, 1999.
- Merges, R. (1999). The law and economics of employee inventions. *Harvard Journal of Law & Technology*, 13, 1.
- Mortensen, T., & Keshelashvili, A. (2013). If everyone with a camera can do this, then what? Professional photojournalists’ sense of professional threat in the face of citizen photojournalism. *Visual Communication Quarterly*, 20, 144–158.
- Oliar, D., & Sprigman, C. (2009). There’s no free laugh (anymore): The emergence of intellectual property norms and the transformation of stand-up comedy. *Virginia Law Review*, 94, 1787.
- Pantti, M. (2013). Getting closer? *Journalism Studies*, 14, 201–218.
- Pantti, M., & Bakker, P. (2009). Misfortunes, memories and sunsets: Non-professional images in Dutch news media. *International Journal of Cultural Studies*, 12, 482.
- Rahmatian, A. (2013). Originality in UK copyright law: The old “skill and labour” doctrine under pressure. *IIC—International Review of Intellectual Property and Competition Law*, 44, 344–345.
- Sawyer, R. K. (2011). The western cultural model of creativity: Its influence on intellectual property law. *Notre Dame Law Review*, 86, 2027.
- Seymore, S. B. (2011). Atypical inventions. *Notre Dame Law Review*, 86, 2057.
- Stallberg, C. (2017). The legal status of academic employees’ inventions in Britain and Germany and its consequences for R&D agreements, *Intellectual Property Quarterly*, 4.
- Tushnet, R. (1997). Legal fictions: Copyright, fan fiction, and a new common law. *Loyola L.A. Entertainment Law Journal*, 17, 651.

Books

- Bently, L., & Sherman, B. (2014). *Intellectual property law* (4th ed.). Oxford: Oxford University Press.
- Greenberg, M. H. (2014). *Comic art, creativity and the law*. Cheltenham: Edward Elgar.
- Iljadica, M. (2016). *Copyright beyond law: Regulation creativity in the graffiti subculture*. Oxford and Portland, OR: Bloomsbury.

- McLeod, K., & Dicola, P. (2011). *Creative license: The law and culture of digital sampling*. Durham and London: Duke University Press.
- Murray, L. J. (2014). Cultural labor in a small city. In L. J. Murray, S. T. Piper, & K. Robinson (Eds.), *Putting intellectual property in its place* (Chapter 7). Oxford: Oxford University Press.
- Murray, L. J., Piper, S. T., & Robinson, K. (Eds.). (2014). *Putting intellectual property in its place*. Oxford: Oxford University Press.
- Pantti, M., & Andén-Papadopoulos, K. (2011). *Amateur images and global news*. Bristol: Intellect, Limited.
- Piper, S. T. (2014). Copying and the case of the legal profession. In L. J. Murray, S. T. Piper, & K. Robinson (Eds.), *Putting intellectual property in its place* (Chapter 6). Oxford: Oxford University Press.
- Robinson, K. (2014). The art of the copy: Labor, originality, and value in the contemporary art market. In L. J. Murray, S. T. Piper, & K. Robinson (Eds.), *Putting intellectual property in its Place* (Chapter 8). Oxford: Oxford University Press.
- Silbey, J. (2015). *The eureka myth: Creators, innovators and everyday intellectual property*. Stanford: Stanford University Press.
- Woodmansee, M., & Jaszi, P. (Eds.). (1994). *The construction of authorship: Textual appropriation in law and literature*. Durham: Duke University Press.

Cases

European Court of Justice

- Football Association Premier League Ltd v QC Leisure and Karen Murphy v Media Protection Services* (Joined Cases C-403/08 and C-429/08) [2011] ECR I-09083.
- Football Dataco v Yahoo! UK Ltd* Case C-604/10 [2012] 2 CMLR (24) 703.
- Eva-Maria Painer v Standard Verlags GmbH and ors*, Case C-145/10 [2011] ECDR (13) 297.
- Infopaq International v Danske Dagblades Forening*, Case C-5/08 [2009] ECR I-6569.

UK

- Beckingham v Hodgens* [2003] FSR 238 (English Court of Appeal).
- Brighton v Jones* [2005] FSR (16) 288 (English High Court, Chancery Division).
- Cala Homes (South) v Alfred McAlpine Homes East* [1995] FSR 818 (English High Court).
- Football League v Littlewoods Pools* [1959] Ch 637 (English High Court).

Kelly and Chiu v GE Healthcare Ltd [2009] EHCW 181 (Pat), [2009] RPC 12 (English High Court).
Lucasfilm v Ainsworth [2011] UKSC 39; [2012] 1 AC 208 (U.K. Supreme Court).
NLA v Meltwater Holding BV [2011] EWCA 890 Civ; [2012] RPC 1 (English Court of Appeal).
Robin Ray v Classic FM [1988] FSR 622 (English High Court).
SAS Institute Inc v World Programming Ltd [2013] EWCA Civ 1482; [2014] RPC 8 (English Court of Appeal).
Sawkins v Hyperion Records [2005] RPC 32 (English Court of Appeal).
University of Southampton's Applications [2006] EWCA Civ 145, [2006] RPC 21 (English Court of Appeal).

USA

Campbell v Acuff-Rose Music, Inc (1994) 510 U.S. 569, 579; 114 S.Ct 1164.
Childress v Taylor 945 F 2d 500 (2d Cir. 1991). (US Court of Appeals, 2nd Circuit).
Davis v Blige 419 F. Supp 2d 493 (2005) (District Court, SDNY).
Feist Publications v Rural Telephone 111 S Ct 1282 (1991) (U.S. Supreme Court).
Thomsen v Larsen 147 F 3d 195 (2d Cir 1998) (U.S. Court of Appeals, 2nd Circuit).

Other Jurisdictions

Bsiri-Barbir v Haarmann & Reimer [2006] ECDR 28 (French Cour de Cassation).
CCH Canadian Ltd v Law Society of Upper Canada [2004] 236 DLR (4th) 395; [2004] 1 S.C.R. 339 (Canadian Supreme Court).
Kecofa v Lancome [2006] ECDR 26 (Dutch Supreme Court).

Legislation

Act on Employee's Invention 1957 (Germany)
Berne Convention for the protection of literary and artistic works 1886 (as revised, 1971)
Copyright Designs and Patents Act 1988 (U.K.)
Copyright Act 1976 (USA)
Copyright Act 1968 (Austl.)
 European Patent Convention 2000
Intellectual Property Code 1992 (France)
Patent Law 1959 (Japan)
Patents Act 1977 (UK)
Trade Related Aspects of Intellectual Property Rights 1994