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IP Things as Boundary Objects: The Case of the Copyright Work

Michael J. Madison *

An ethic to supplement and guide the economic relation to land presupposes the existence of some mental image of land as a biotic mechanism. We can be ethical only in relation to something we can see, feel, understand, love, or otherwise have faith in.

--Aldo Leopold¹

I. Introduction

Why does intellectual property law concern itself with intangible things – inventions in patent law, works in copyright law, marks or signs in trademark law, and so on? The question points to something that seems overly technical, or formalist, in a way that distracts lawyers, courts, legislators, and policymakers from more important matters: the hard work of balancing the interests of first-generation innovators, creators, and authors; second-generation practitioners, consumers, and readers; and intermediaries of all kinds in the flow of knowledge and innovation through society. Responding formalistically, the answer is partly historical, to be sure. But the answer is also both conceptual and pragmatic. These “intellectual property [IP] things” are critical to the social and cultural function of IP law just as things more broadly are critical to the law in general. “What is an invention?” or “what is a work?” – the latter question being the subject of this chapter – turn out to be far from technical or formal or metaphysical. They are, instead, questions that go to the heart of the several roles that IP things play in both law and culture generally. Even though the flow of knowledge and innovation are critical to the effective functioning of IP law, the forms of knowledge and innovation matter mightily, too.

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¹ Aldo Leopold, *A Sand County Almanac, and Sketches Here and There* 214 (1968) (1949).

This chapter builds on my earlier writing on “things” in law and practice,² in which I made two points. First, I suggested that lawyers, scholars, judges, and policymakers are insufficiently attentive to the important roles that material and virtual objects play in our legal system, notwithstanding decades of attention to relational models of legal analysis encouraged by American Legal Realists and their successors. Second, I suggested that the law itself makes its objects, sometimes building them and sometimes finding them, and in that sense the law itself makes culture. I suggested a range of techniques and tools that legal actors use to make and find legal things. The heterogeneity of law’s methods holds important lessons for law and policy. Things, objects, and concepts are unavoidable yet often not perfectly definable.

In this chapter I pursue a related question: Is there a broader framework within which these methods operate, and a broader purpose to which they are put? What do things do, and what does law do with things? One might assume that the sole or primary next step with respect to IP things, for example, such as inventions and works, is that they become assets, exchanged in markets. Individuals and firms sell and buy copies. My claim in this chapter, however, is that copyright works (to take the case that interests me at present) are dynamic. Over their lives, as it were, and over the lives of authors, heirs, readers, and consumers, works take several forms and meanings and, as the law creates and interprets them, perform a number of functions. That different perspective on what things do and what law does with things brings several implications for the law.

The first of these, and the focus of this chapter, is that IP law in general and copyright law in particular should give up its demand that IP rights in works and in inventions be identified with specificity and certainty, so that the “metes and bounds” of a copyright or patent claim might be specified by analogy to the “metes and bounds” of a claim to real property. Instead, and because of the multiple dynamic functions of IP things, IP law does seek out, and should seek out, the fluidity of what appear to be the fixed boundaries of the work. That fluidity allows IP law to address two kinds of value pluralism with respect to the domains with which it is concerned: competing and therefore plural values with respect to any particular invention or work, and competing and therefore plural values with respect to the existence, definition, and scope of the things to which IP rights might apply. Works are not only the sites of contests between individual claimants to the value associated with an author’s creative expression, that is, boundaries within the scope of copyright itself. Works are also loci of contests

² Michael J. Madison, *Law as Design: Objects, Concepts, and Digital Things*, 56 **Case W. Res. L. Rev.** 381 (2005). For recent scholarship renewing interest in thingness in property law, see Henry E. Smith, *Property as the Law of Things*, 125 **Harv. L. Rev.** 1691 (2012); Lee Anne Fennell, *Lumpy Property*, 160 **U. Pa. L. Rev.** 1655 (2012); Kimberly Kessler Ferzan, *A Planet by Any Other Name*, 108 **Mich. L. Rev.** 1011 (2010).

and reconciliations among overlapping and sometimes competing social, cultural, and economic groups, institutions, and markets, that is, boundaries between copyright and culture, and between competing cultural interests.

To explore this topic, I focus on the idea of boundaries in a different sense. I supplement my earlier account of things with literature that identifies and explores so-called boundary objects—physical and intangible things that bridge distinct but complementary communities in flexible ways.³ Examining the idea of the work, the canonical thing of copyright law, I argue that the law (here, copyright) adopts and uses things (here, the work) in several different but related ways that can be unified conceptually in the following sense: The work operates as a boundary object across a number of different legal and cultural divides, clarifying the distinct status of relevant communities and practices but also bridging them, and ultimately if imperfectly and incompletely aligning them. Thing-ness is a recursive process in the law. The law makes things and explicitly or implicitly seeks the boundaries of things.⁴ But things also create and manage boundaries, and the law uses things to do that. The latter part of that dynamic is my focus here.

The boundary object construct therefore pairs my interest in legal and phenomenal things with my interest in two other, related foci of analysis: legal and phenomenal groups and communities,⁵ and the uses of metaphor in law, particularly metaphors grounded in geography and the physical basis of human experience.⁶ The introductory quotation above is from the work of the American environmentalist Aldo Leopold. For him, land was the necessary physical and metaphorical thing; the question he sought to answer – a cousin of my question here – was how to organize social life in relation to the natural resources that we rely on. I borrow that insight metaphorically, replacing physical place as the metaphorical space and time relevant to law, with objects. Having relied on law in large part to create the legally-recognized things (cultural resources) that we rely on, how do we organize social life in relation to those things?

³ The concept of the boundary object was introduced in Susan Leigh Star & James R. Griesemer, *Institutional Ecology, 'Translations' and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907-1939*, 19 **Social Stud. Sci.** 387 (1989).

⁴ See Michael J. Madison, *The Narratives of Cyberspace Law (or, Learning from Casablanca)*, 27 **Colum. J. L. & Arts** 249, 257-58 (2004) (commenting on the recursive, created character of boundaries in cyberspace).

⁵ See Michael J. Madison, *Social Software, Groups, and Governance*, 2006 **Mich. St. L. Rev.** 153.

⁶ See Michael J. Madison, *Notes on a Geography of Knowledge*, 77 **Fordham L. Rev.** 2038 (2009) (hereinafter, “Notes”); Michael J. Madison, *Rights of Access and the Shape of the Internet*, 44 **B.C. L. Rev.** 433 (2003).

This is not primarily or exclusively a question concerning property law, either in the sense that things might be defined so that they might be possessed or so that trespassers might be excluded, or in the sense that property law is designed to allocate interests in things.⁷ Instead, the question concerns a higher order (as well as lower order) relationship between law and culture. I build outward from IP law, as a particularly troublesome body of law that concerns certain types of cultural things: intangible things that bear close relationships to the life of the mind. IP law has an enormous amount to say about the shape of culture, and it is anchored in a handful of fundamental yet ill-defined conceptual things. Those change over time, as virtually all concepts do, but worse, in some key cases they seem to have little to no meaning whatsoever. IP things seem to be simultaneously central yet vacant. *Can* the thing-ness of those concepts be rehabilitated, *should* they be rehabilitated, and if so, *how*?

The two central things in IP law are inventions, which are central to patent law, and works, which are central to copyright. In both contexts, subsidiary concepts often get more attention. In patent law, the ideas of “invention” and “the invention” (related but distinct concepts) are largely reducible to novelty, nonobviousness (in American law), an “inventive” step (in other patent systems), and utility. “Invention” often has little independent meaning. In copyright law, the concept of the work builds principally on the idea of the author, to whom a work owes necessary originality or expression, and in the American system, on the concept of fixation or tangibility. But just as the author is copyright’s person, the work is copyright’s thing. And as patent law invokes the idea of the invention and seems to give that concept little independent significance, copyright law invokes the idea of the work, represented in American law as the “original work of authorship”⁸ and elsewhere as the “copyright work,”⁹ and rarely gives the work itself much weight. The omission is noteworthy not only in copyright practice but also in copyright literature. An enormous amount of scholars’ ink and lawyers’ and judges’ time have been spent decoding originality and expression; comparably little effort has been devoted to the work. It is, therefore, my principal subject and case study with respect to the legal meaning and functions of things in general and IP things in particular.¹⁰

⁷ The idea that property law and social life are mutually constitutive is well-represented in the scholarship of Carol Rose, among others. See **Carol M. Rose, Property as Persuasion: Essays on the History, Theory and Rhetoric of Ownership** (1994).

⁸ 17 U.S.C. § 102(a) (2012).

⁹ See Brad Sherman, *What is a Copyright Work?*, 12 **Theor. Inq. L.** 99 (2011).

¹⁰ My interest coincides with a modest amount of other recent scholarship on the same topic. See Paul Goldstein, *What is a Copyrighted Work? Why Does it Matter?*, 58

Why now? The idea of the work has been fundamental to most copyright law of the last century and a half, and during that time it has served both law and society tolerably well. The emergence of digital technology both challenges the concept of the work and reveals its limitations. In the analog era, fixation of copyright works in visible and possessable forms (in economists' terms, obviously rival copies) lent credence to the proposition that copyright works had tolerably well-defined limits. But how does one define the limits of a digital thing, that is, of a form of expression that by definition is expressed in a string of 1's and 0's? Any edge or limit is arbitrary in a sense, because the work ends wherever one declares that the string stops, and the string can easily be modified. What is a digital work, or a digital thing? Definitions based on outer boundaries or outer limits are apt to be illusory. Yet a copyright work today is thought to be medium-independent. If the boundaries of digital things are both technically and conceptually unclear, then comparable weaknesses lurk below the surface of the problem of identifying boundaries for works rendered in analog forms. In other words, digital technology exposes an older problem that is not simply technological. What I call the de-materialization of the work, along with the consequences of de-materialization for the law as well as for creative practices, have their roots in the emergence of modern copyright law more than a century ago. What are the boundaries of a pure intangible?

What began as a formal question and seemed to slip into conceptual mush — what is the work, and how does the work interact with culture? — has significant practical implications. The existence of a work determines the existence and scope of a copyright owner's initial rights.¹¹ In an infringement suit, identity between the plaintiff's work and the work of the accused infringer is fundamental to determining liability,¹² and a contrast between the plaintiff's work and the defendant's work is fundamental to determining the scope of possible fair use or fair dealing defenses.¹³ Given an initial work, does that work comprise subsidiary works (as a book might comprise separate chapters, each of which might be a work, or a book, film, or play might comprise multiple characters, each of which might be a work)? When does an initial work become a new, derivative work or copyrightable adaptation? American copyright law awards statutory damages on the basis of the number of works infringed,¹⁴ giving copyright owners a substantial incentive to multiply the number of works they identify in their

UCLA L. Rev. 1175 (2011); Justin Hughes, *Size Matters (or Should) in Copyright Law*, 74 **Fordham L. Rev.** 575 (2005); see also sources cited *infra* note 12.

¹¹ See 17 U.S.C. § 102(a) (2012) (providing the categories of works of authorship).

¹² See *id.* § 106 (setting forth the exclusive rights of the copyright owner).

¹³ See *id.* § 107 (describing the fair use doctrine).

¹⁴ See *id.* § 504(c) (providing for remedies for infringement).

creations.

Those doctrinal implications represent the nominal superstructure of my inquiry. Exploring the foundational questions is the real aim of this chapter. What analytical roles has the concept of the work been performing in the law, why has it been performing those roles, what flaws in the work have been exposed, and what, if anything, should law reformers do about them? One might frame the question less in the form, “what is the work?” and more in the form, “why is the work?” I argue below that copyright scholars and lawyers have been insufficiently attentive to the several dimensions of the work—functional, expressive, and communicative—which, combined, should inform our understanding of what the work is, what it means, and what it does. Because I am ultimately more concerned with these foundational issues, differences between common law and civil law copyright traditions have relatively little bearing on the discussion. Common law copyright treats “the work” primarily as an instrument of society’s interest in producing and distributing creative things. Civil law copyright treats “the work” primarily as recognition of the rights inherent in acts of authorship. In both contexts the idea of “the work” is subjected to extensive definitional analysis, much of which, I argue, is ineffective or incomplete.

I organize the chapter as follows. First, to illustrate the proposition that the concept of the work has no natural, fixed boundaries in the positive law of copyright, I summarize the text and structure of the American Copyright Act, in light of relevant international copyright history as well as American copyright history. For reasons of space I focus on American copyright law, although, as I note below, the idea of the work as foundational concept in copyright emerged elsewhere before it took firm hold in the United States, and the conceptual fragmentation that bedevils the idea of the work is not limited to American law.¹⁵ My goal, in other words, is not primarily an exegesis of the American statute nor, in the end, an exploration of copyright alone as such. My goal is to investigate the extent to which the idea of the work in copyright can and should be isolated from the closely-related ideas of authorship and of tangibility, or medium, and to suggest that the idea of the work has no formal limits in the law. In this sense, law has no formal independence from culture. Second, to illustrate the functions of the concept of the work in copyright, I review a series of relatively recent cases from the American experience that show how and why courts struggle with the

¹⁵ Several scholars outside the U.S. have queried the work in recent years. See Justine Pila, *Copyright and its Categories of Original Works*, 30 **Oxford J. Legal Stud.** 229 (2010) (England); Justine Pila, *An Intentional View of the Copyright Work*, 71 **Modern L. Rev.** 535 (2008) (England); Brad Sherman, *What is a Copyright Work?*, 12 **Theor. Inq. L.** 99 (2011) (Australia); Michal Shur-Ofry, *Baby Shoes and the Copyright Work: A Comment on Brad Sherman’s What Is a Copyright Work?*, 12 **Theor. Inq. L.** 1 (2011) (Israel).

idea of the work. This is not a comprehensive review. The illustrations point to a central organizing theme behind the idea of the work: The work in general and a work in a particular case both represent and are defined by boundaries and boundedness. I argue that if the concept of the work has value both legally and culturally, this is where that value (and values) gain traction.

Boundaries and boundedness have at least two meanings, and courts, scholars, and legislators have gone astray by sometimes overinvesting in efforts to *define* the boundaries of the work, as an abstract concept applicable generally to all forms of creation governed by copyright, without appreciating the role of the work in *creating* and *governing* boundaries between other concepts, groups, communities, and legal and extra-legal phenomena.¹⁶ Third, I conclude with some tentative and preliminary observations on what it might mean for copyright were this second idea of boundaries to be given greater emphasis, under the rubric of the boundary object construct, whether in the context of a more robust idea of the work or in the context of abandoning it. Beyond copyright, I offer some tentative suggestions for further application and refinement of the boundary object concept in law generally.

II. The Emergence of the Work as Intangible Thing

What is a work? What I aim to show here is that this question lacks a good answer as a formal or doctrinal matter, at least initially. Michel Foucault wrote, “A theory of the work does not exist, and the empirical task of those who naively undertake the editing of works often suffers in the absence of such a theory,”¹⁷ and I am mindful of his point that the identity of the author and the identity of the work are co-creations, each, in its own ways, defining the other. My quarry is

¹⁶ My claim here extends by implication to concerns regarding the boundaries of copyright law, as markers of the appropriate sphere of influence of copyright relative to patent, trademark, and the public domain. See, e.g., Lionel Bently, *Copyright and the Death of the Author in Literature and Law*, 57 **Mod. L. Rev.** 973, 976 (critiquing the argument that “[t]he boundaries of copyright law, built on the concept of authorship, no longer correspond to our ideas of what should be protected) and 983 & n. 54 (“These [digital, Internet] technologies change the ‘form’ of works, so that the boundaries of the properties can no longer be defined by anachronistic ideas of print and texts. ... [n. 54] “Such changes will require that the text be reconceived and that new ways of identifying the boundary between *what is mine* and *what is yours* be established. The reformulation of the ways in which works are identified, their boundaries ascertained and remunerations allocated are likely to rely increasingly on statistical approximations, while users are much more likely to be charged by reference to ‘time’ rather than numbers of pages.”) (1994).

¹⁷ Michel Foucault, *What is an Author?*, in **The Essential Foucault** 377, 379 (Paul Rabinow & Mark Rose eds., 2003).

related, but it is distinct. I am after the meaning(s) of “the work” in the law, not in art. What I am referring to here is the “work” as a legal thing, which is related to but which is conceptually and practically distinct from, the “work” or “the work of art” as an artistic or authorial object. Authors and audiences create artistic works; the legal system creates copyrightable (or copyright) works.¹⁸ I suggest that the lack of a good answer is attributable in large part of the de-materialization of the work during the latter part of the nineteenth century and the first part of the twentieth century. The phenomenon of de-materialization is often associated either with the rise of conceptual art during the twentieth century¹⁹ or with the emergence of digitization of expressive content during the latter twentieth century.²⁰ Digital technology compounds the problem but did not create it. To explore the point, I start with a brief examination of the American copyright statute, then move backward, through copyright history.

A. Current American Copyright Law

The word “work,” used as a noun, appears in almost every section of the American Copyright Act. It permeates Section 101, listing definitions.²¹ It defines copyrightable subject matter, identifies the subject of the copyright owner’s exclusive rights, limits the scope of fair use, and qualifies the entitlement of the successful infringement claimant to statutory damages. It is not an overstatement to argue that if one pulls too hard on the thread of the copyrighted work, the fabric of copyright law as a whole might unravel. As the law uses the term, what does it mean?

Section 101, the definitional section, does not include a definition of the work. Looking further, in the context of the statute as a whole, it quickly becomes clear that the Copyright Act has not accomplished and cannot accomplish the goal that it appears to set for itself: to identify and apply a consistent and straightforward meaning (if not definition) of the work.

¹⁸ **David Saunders, *Authorship and Copyright*** (1992); Madison, *supra* note 2; Sherman, *supra* note 8.

¹⁹ See **Lucy Lippard, *Six Years: The Dematerialization of the Art Object*** (1973) (documenting the emergence of conceptual art).

²⁰ See John Perry Barlow, *The Economy of Ideas: A Framework for Patents and Copyrights in the Digital Age*, **Wired**, Mar. 1994, at 84–90, 126–29, available at <http://www.wired.com/wired/archive/2.03/economy.ideas.html> (arguing that de-materialization has made copyright, which was designed to protect the bottle and not the wine, irrelevant in the digital era).

²¹ See 17 U.S.C. § 101 (2012) (“anonymous work,” “architectural work,” “audiovisual works,” “best edition” of a work, “copies” are material objects in which a work is fixed, and so on).

The canonical statement of copyrightable subject matter in American law appears in Section 102(a). Copyright “subsists,” according to the statute, in “original works of authorship fixed in any tangible medium of expression.”²² Some quick parsing distinguishes the phrase “original work of authorship” from the phrase “fixed in a tangible medium of expression.” The related ideas of “tangible media of expression” and “fixation” are easy enough to appreciate, if not always easy to apply in practice, but logic yields the inference that “original works of authorship” might exist that are not “fixed in a tangible medium of expression.” The text of Section 301(b)(1), concerning preemption of inconsistent state law, confirms the existence of “works of authorship not fixed in any tangible medium of expression.”²³ On a first read, the idea of the work does not have to do with an author’s choice of medium.

But this is too quick. No American copyright plaintiff is entitled to proceed with a claim unless the work is fixed in some tangible medium. The successive references to “the work” that is subject to the author’s exclusive rights in Section 106 must include, necessarily, the assumption that “the work” is embodied in some tangible object. “The work” has, at times, something to do with materiality and media.

Yet we know the phrase “original works of authorship” refers to the intangible object of the law. That is, in some respect the phrase refers to the author’s intellectual creation or production. Some works of authorship are not original, both according to the logic of the statute (one might have a “work of authorship” not prefaced by the word “original”) and according to the Supreme Court in *Feist Publications v. Rural Telephone Service*.²⁴ The idea of the work does not have to do solely with originality or with the scope and extent of the author’s expression.

Yet if the concept of the work requires the application of thingness that is independent of the author’s originality and authorship, neither are originality and authorship irrelevant to the identity of the work. Far from it. A work often is defined as what an author creates,²⁵ or as what an author claims or alleges to be the author’s creation. But an author-centered approach runs a number of

²² *Id.* § 102(a).

²³ *Id.* § 301(b)(1).

²⁴ 499 U.S. 340, 345 (1991) (“To qualify for copyright protection, a work must be original to the author.”).

²⁵ *See, e.g.*, Christopher M. Newman, *Transformation in Property and Copyright*, 56 **Vill. L. Rev.** 251, 292 (2011) (“A work of authorship is a planned sensory experience, designed by its author to give rise to an expressive experience in the mind of one or more intended audiences.”). The necessary inter-twinning of the work and authorship is essential to the civil law copyright tradition.

substantial and well-known risks. One is unreliability: authors have little incentive not to claim more than they actually created, although secondary evidence (such as evidence that the work, or text, speaks for itself) sometimes would backstop the author's position. A second is that an author-centric approach fails to interrogate the identity of the author or the sources on which "the author" draws. What of a person who contributes to a collective project that results in a single work? Is each contribution a work, because the contributor could fairly be characterized as an author? Or is the author the person (or entity) that is accountable for the end result? What about the "author" of material on which the later author draws? The premises underlying these and other "authorship" inquiries are well-known. Authors are usually real people, but authorship is a social and legal construct, even in cases where we plausibly identify a single person with a single artistic creation. The work creates the author, in other words, as much as the author creates the work.²⁶ A third risk is that equating the work with authorship overlooks the possibility that the work is performing an analytical function (or doing something else) that is distinct from the work that authorship is doing. A "work" might be something other than a "work of authorship." The statute refers frequently to "the work" without qualifying it as a "work of authorship," and it is often fair to infer (despite statutory instruction) that Congress meant "work of authorship" each time that it used the term "work." But not always.

For example, the definition of "derivative work" suggests that a "work" is nothing more (or less) than a "work of authorship":

A "derivative work" is a work based upon one or more preexisting works, such as a translation, musical arrangement, dramatization, fictionalization, motion picture version, sound recording, art reproduction, abridgment, condensation, or any other form in which a work may be recast, transformed, or adapted. A work consisting of editorial revisions, annotations, elaborations, or other modifications which, as a whole, represent an original work of authorship, is a "derivative work."²⁷

A derivative work is copyrightable and therefore is an original work of authorship. It is a work that is based on another work. In this instance the statute seems specifically to equate a "work" with "an original work of authorship."

²⁶ See generally Martha Woodmansee, *The Genius and the Copyright: Economic and Legal Conditions of the Emergence of the "Author,"* 17 **Eighteenth-Century Stud.** 425 (1984) (discussing the evolution of society's conception of the author and his relation to the work).

²⁷ 17 U.S.C. § 101 (2012) (defining "derivative work").

For a contrasting example, consider the statutory version of copyright’s venerable distinction between uncopyrightable ideas and copyrightable expression. Section 102(b) states: “In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work.”²⁸

The text here is subject to multiple readings. One version holds that “an original work of authorship” might be uncopyrightable despite the presence of originality and authorship.²⁹ An alternative holds that copyright is barred under Section 102(b), at least in many cases—ideas, notably—because the work lacks originality or authorship. The logical inference is that it is a work, but only a work, or in some cases not even that. An uncopyrightable fact falls into the same analytical space. A fact cannot be copyrighted because it lacks originality and/or authorship. Is it a work? Are uncopyrightable ideas and facts to be extracted from works, or are they by definition not part of works in the first place? Are works necessarily antecedent to authorship, or are they necessarily bound up with it? *Feist* seemed to conclude that some works have authors, and some do not. The Copyright Act seems to suggest both, at different times. As I argue below, so do the cases.

Finally, the statute sometimes suggests that an idea or a process might not be a work of authorship—or a work at all—for reasons having to do with its definiteness, or lack thereof, rather than its authorship. The fixation requirement serves this definiteness function to a significant degree, but the statute also deals with it separately. A work has an independent thing-ness that copyright law is bound to respect, a claim that is underscored by the one statutory definition that bears on the question of the work:

A work is “created” when it is fixed in a copy or phonorecord for the first time; where a work is prepared over a period of time, the portion of it that has been fixed at any particular time constitutes the work as of that time, and where the work has been prepared in different versions, each version constitutes a separate work.³⁰

That text speaks to fixation, but it speaks separately to versions and portions—to

²⁸ *Id.* § 102(b).

²⁹ In other words, policy reasons might lead courts to deny the presence of an enforceable copyright even if the work otherwise met the formal requirements of the statute. *See, e.g.,* *Hoehling v. Universal City Studios, Inc.*, 618 F.2d 972, 978 (2d Cir. 1980) (“[W]here, as here, the idea at issue is an interpretation of an historical event, our cases hold that such interpretations are not copyrightable as a matter of law.”).

³⁰ 17 U.S.C. § 101 (2012) (defining “created”).

size, and to edges, or limits³¹—and it does not touch directly on authorship or on originality.

At the end of the day, considered in formal terms, the fairest thing that may be said of the Copyright Act itself is that it points in multiple directions when asked “what is the work?” At times the work is what the author says it is, or what we understand the author to have intended; at times the work is what is original, or what is fixed in some tangible object.³² At times the work is only the sum total of the separate subject matter requirements of the statute. At times the work is the embodiment of a requisite thing-ness. And at times the work simply “is,” as an intangible thing, antecedent to considerations of authorship, tangibility, or definiteness.

Can the problem be cured, formally, by interposing some boundaries to what we call the work? The work can be defined in terms of other abstractions, all of which are necessarily unhelpful. If the goal were to identify the “metes and bounds” of the work, as a patent claim arguably defines the scope of a patented invention, then the answer is almost certainly that the goal is unrealizable.³³ The work is simply not subject to an all-purpose formal definition. “Size matters (or should),” as Justin Hughes argues in proposing that copyright courts be empowered to deny enforcement to copyright claims where the work is simply too small.³⁴ Helpful though that approach might be, the term and concept of the work captures too many things in a single word for the approach to be effective. A single word is too inflexible to deal with all the purposes that we assign to the subjects and objects of copyright and to all of the things that have been covered by copyright and might be covered by it in the future. Copyright interests and claimants assign a multiplicity of values to any particular work, but also to the very concept of the work.

Before turning to some cases that illustrate my point, we might question the relevant history and legislative history. Is formalism really unhelpful here, even if the formal terms of the statute are supplemented by legislative intent? For the

³¹ See Hughes, *supra* note 10, at 578 (discussing lack of a clear “minimum size” principle in copyright law).

³² See Madison, *supra* note 2 (describing the several methods by which law constitutes its objects).

³³ I draw attention here to the continuing struggles within patent law to define both what is a patented invention (that is, an invention as defined by patent law) and what is a patentable invention (that is, what is an invention that is possibly patentable). The two uses of the word “invention” in patent law do not always refer to the same “thing.” The most recent opinion of the United States Supreme Court on the question of patentable subject matter is *Mayo Collaborative Svcs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289 (U.S. Mar. 20, 2012).

³⁴ *Id.*

reasons summarized next, I believe that the answer is yes: there is no formal solution to the problem. Congress was not writing on a blank slate. The Copyright Act of 1976 emerged against a backdrop of nearly 100 years of international copyright history, nearly 200 years of American copyright history, and nearly 300 years of English copyright history. The work and the idea that the term represents have been part of the law since the beginning and have been incorporated into copyright systems around the world. Whatever the work means today, that meaning has been shaped by copyright's history and traditions, not just by Congress.

B. The Work in History³⁵

The ordinary English word “work” is used and has been used in a number of different senses, all of which are relevant to copyright law, and all of which have been used at points in copyright history. “Work” can be a verb (a sculptor works a block of marble, or an engraver works a plate). Any creator might work at his or her craft. “Work” is more commonly encountered as a noun. An artist might produce a painting, sometimes known as a “work of art” or as a “work of fine art,” in the sense that what the artist produced is fully co-extensive with the physical thing. An author might produce a book, also known as a work. In that usage the word “work” might refer solely to the physical thing but might also refer to the creative content that is bound up in the book, that is, the text. The author did not create the front matter or the index, perhaps. These may or may not be part of the author's work. More than one work (in any of these nominal senses) might be combined into a single, plural work. An artist may be said to have produced a body of work, by which we understand the artist produced a number of pieces that are, in the aggregate, treated as a single product. Again, the term slips between intangible and tangible referents. Legal usage today extends further than any of these, to capture the proposition that the work subject to copyright is solely and purely an intangible thing.

As a description of creative or cultural production in the English language, the “work” goes back at least to the early seventeenth century, but the usage in that era often did not align with modern usage. Ben Jonson's writings were published in 1616 as *The Works of Benjamin Jonson*, but the title came in for criticism. Some ridiculed the title as presumptuous: “Pray tell me Ben, where doth the mystery lurke / what others call a play you call a work.” Another rose to the publisher's and Jonson's defense: “The author's friend thus for the author says, / Ben's plays are works, when other's works are plays.”³⁶ Migration of the

³⁵ This Section draws on Michael J. Madison, *The End of the Work as We Know It*, 19 *J. Intell. Prop. L.* 325 (2012).

³⁶ The exchange is recounted in **Ian Donaldson, Ben Jonson: A Life** 326-27 (2012).

term into copyright took a while. In Anglo-American copyright law, “the work” appeared in early statutory and judicial texts but did not come into common use until the latter part of the nineteenth century as a standard referent for the purely intangible subject or object of the rights of an author or copyright owner. Even then, use of “the work” or the “copyrighted work” had more in common with the medium-specific character of older copyright law than the medium-independent law that we rely on today.³⁷

The first federal copyright statute in the United States, of 1790, spoke of copyright in particular material forms: “maps, charts, and books.”³⁸ Material form created the work, in a manner of speaking, although “the work” was not, as such, part of the law. Today we speak of an author creating a work. In the late eighteenth century, lawyers spoke of an author writing a book. The work was the author’s labor or the artist’s craft or skill, represented in the material production. Works were tangible things. The statutory revision of 1831 extended that framework, opening the door to copyright in work (not necessarily works) of a sort. The 1831 act authorized copyright protection for “any book or books, map, chart, or musical composition, print, cut, or engraving.”³⁹ In a separate section on renewals, the statute referred to the renewal term vesting in the “author, inventor, designer, engraver” of “the work.”⁴⁰ In context, “the work” seems to refer to a relevant material form rather than to an intangible abstraction. The revision of 1870 added more references to “the work” as the object of copyright, though still in the context of a broader recitation of copyrightable subject matter specified by particular forms rather than by a single abstraction. Copyrightable creativity was still largely defined by tangible context. Under the 1870 statute, copyright applied to

any book, map, chart, dramatic or musical composition,
engraving, cut, print, or photograph or negative thereof, or
of a painting, drawing, chromo, statue, statuary, and []

³⁷ The term “work” was known in publishing, centuries ago, as a referent for a manuscript or a book. Adrian Johns quotes Oldenburg, the seventeenth century publisher of the journal *Philosophical Transactions*, who objected to a translator’s name being printed on an edition of his book: “lest I should lose my good name, not being able to publish the work as I should like.” **Adrian Johns, *The Nature of the Book: Print and Knowledge in the Making* 518 (1998).** The abbreviated history in the text aligns with a history of the similar developments in Hughes, *supra* note 10, at 600–04, and with a longer account of the same period in Oren Bracha, *The Ideology of Authorship Revisited: Authors, Markets, and Liberal Values in Early American Copyright*, 118 **Yale L.J.** 186, 224–48 (2008).

³⁸ Act of May 31, 1790, ch. 15, 1 Stat. 124.

³⁹ Act of February 3, 1831, § 1, 4 Stat. 436.

⁴⁰ *Id.* § 2.

models or designs intended to be perfected as works of the fine arts [A]uthors may reserve the right to dramatize or to translate their own works.⁴¹

The Copyright Act of 1909 confirmed a significant shift in emphasis. The new law spoke in terms of protection for “the copyrighted work,” completing a century-long transition from a wholesale statutory focus on particular material forms to a nearly-wholesale focus on a single, overarching intangible abstraction. In the words of the statute, “the works for which copyright may be secured under this title shall include all the writings of an author.”⁴² The transition to abstraction was nearly but not entirely complete. For the 1976 Copyright Act, Congress invented the phrase “original works of authorship,” finally and fully distinguishing the intangible work from its fixed form, in a phrase applicable to all authorship, but the step from the 1909 abstraction to its current form was a very short one. The important conceptual shift, to the now-problematic and undefined term “work,” occurred roughly seventy-five years earlier.

A related transition in copyright decisionmaking occurred in the late nineteenth century. Copyright courts in the U.S. had long focused on a work as a material product of an author’s or creator’s effort, but not necessarily on the work as an intangible abstraction. To speak of the author’s work was to speak of a particular material production.⁴³ For example, in *Lawrence v. Dana*,⁴⁴ a leading mid-century case, the court summarized the plaintiff’s position:

Copyright is not the title of the author to his production. It is the statute monopoly [sic] to multiply copies of the book. . . . It attaches only to the book deposited. Mrs. Wheaton’s copyright is the right to multiply copies of that complex work, consisting of the text, the notes of Wheaton, the notes of Lawrence, in their character of notes to Wheaton, with their connections and attachments thereto. Lawrence’s work was attaching addenda and corrigenda to such portion of the text as he thought proper, so that they should perform the function of a note to that text, and

⁴¹ Act of July 8, 1870, § 86, 16 Stat. 198.

⁴² Copyright Act of March 4, 1909, ch. 320, § 4, 35 Stat. 1075.

⁴³ Eaton Drone’s influential copyright treatise approached the subject this way, equating an author’s work with his “intellectual production.” See **Eaton S. Drone, A Treatise on the Law of Property in Intellectual Productions in Great Britain and the United States Embracing Copyright in Works of Literature and Art, and Playwright in Dramatic and Musical Compositions** 1–8 (photo. reprint 1979) (Boston, Little, Brown, & Co. 1879).

⁴⁴ 15 F. Cas. 26 (C.C. Mass. 1869).

nothing further.⁴⁵

Scribner v. Stoddart,⁴⁶ not long afterward, equated the plaintiff’s “copyrighted work” with “the material publication” produced overseas by the plaintiff, a version of which was in the public domain in the United States but which had been reproduced without permission by the defendant. The plaintiff sued for infringement. Focus on the court’s use of the term “work” in the following passage (the court denied the requested injunction):

To reproduce a foreign publication is not wrong. There may be differences of opinion about the morality of republishing here a work that is copyrighted abroad; but the public policy of this country, as respects the subject, is in favor of such republication. It is supposed to have an influence upon the advance of learning and intelligence. The defendants at the beginning could not know that before this work was completed and fully issued it would contain articles which were copyrighted. They had seen previous editions of this work published, one after another, without any such obstacles being cast in the way of a reprint.⁴⁷

The term “work” here bridges an older sense of a work as “material product of particular labor” and a newer sense a work as an “intangible original product.” In the same spirit is *Bullinger v. Mackey*:⁴⁸

I next notice the point made, that the plaintiff has not produced proper evidence to show himself the author or proprietor of his works, within the meaning of the copyright laws. The argument here is, that no one but the plaintiff himself can legally establish the fact that the plan, arrangement and combination of his works originated in his brain. But, there is evidence showing that the plaintiff, by his own labor and that of persons employed by him, and working under his direction, gathered together from various original sources the material of his book; that the manuscript in which the matter was arranged was partly in his handwriting; and that from the manuscript the work was printed for him at his expense.⁴⁹

⁴⁵ *Id.* at 37.

⁴⁶ 21 F. Cas. 876 (C.C. Pa. 1879).

⁴⁷ *Id.* at 879.

⁴⁸ 4 F. Cas. 649 (C.C.N.Y. 1879).

⁴⁹ *Id.* at 651.

By contrast, a case decided only a short time later, *Gilmore v. Anderson*,⁵⁰ borrowed the idea of the work, an intangible abstraction, as the object of the copyright owner’s exclusive rights. The court wrote: “Section 4952 confers the ‘sole liberty of printing, reprinting, publishing, completing, copying, executing, finishing, and vending,’ the work on complying with the provisions of that chapter.”⁵¹ The court modestly changed the text of the statute, which provided (at the time) that the relevant author, inventor, etc. had the “sole liberty of printing, reprinting, publishing, completing, copying, executing, finishing, and vending the same.”⁵² The antecedent of “the same,” in the statute, was “any book, map, chart, dramatic or musical composition, engraving, cut, print, or photograph or negative thereof, or of a painting, drawing, chromo, statue, statuary, and [] models or designs intended to be perfected as works of the fine arts.”⁵³ For that text, the court substituted “the work.”

These cases are at most suggestive. But what they suggest is that courts in the latter part of the nineteenth century were well on their way to characterizing the author’s work as an intangible abstraction, that is, as a particular yet immaterial thing. That characterization was not necessarily differentiated clearly from treating the author’s work as a particular material item; in both senses the work was *something made*, or manufactured. The two senses were, and remain, linked in ways that have been poorly articulated. When and how can a work exist independently of the particular material form (if any) in which it was initially produced, and what is the sense of considering such a work independently of questions of originality? I turn to those questions in Part III of this chapter.

Scholars agree, however, that both judges and legislators in the late 1800s advanced a concept of the work, as something *made*, that divorced content from form. In older copyright law, works were static things produced by the person or people that the law constituted authors. Those things were, in practical terms, manufactures; calling them “works” was a subtle and indirect way to capture their necessary physicality. The concept of authorship and the concept of the work as merchantable thing, a printed book, had to be linked during the seventeenth century before the idea of creative authorship could be set free two hundred years later;⁵⁴ it was not given that originality could be captured in print as well as in performance, and only slowly, in the era of Jonson and Shakespeare, were playwrights recognized as having cultural (i.e., authorial) interests in

⁵⁰ 38 F. 846 (C.C.N.Y. 1889).

⁵¹ *Id.* at 848.

⁵² Act of July 8, 1870, § 86, 16 Stat. 198.

⁵³ *Id.*

⁵⁴ See **Joseph Loewenstein, Ben Jonson and Possessive Authorship** (2002) (describing the evolving relationship between performers and printers).

printed works that were at least equal to those of the actors and companies who performed plays. Once authorship was packaged as a work, its thingness (the ambiguity here is intentional) was a resource to be exploited. Scholarship on the emergence of the concept of “romantic authorship” during the nineteenth century demonstrates that reifying the intangible abstraction associated with the author’s production was part and parcel of a political strategy during the latter nineteenth century intended to expand and make concrete the idea of authors’ rights. The author’s “work” no longer referred to the author’s labor, as it once had.⁵⁵ The term became a vessel for justifications for copyright based on utilitarian concerns.⁵⁶ Oren Bracha has made a compelling case for the underlying economic and political considerations driving this shift toward reification of “the work” alongside “the author”: publishing interests that aimed to propertize an abstract version of an author’s intellectual production and capture an ever-broader range of economic opportunities associated with what became “the work.”⁵⁷ “The work” was a merchantable commodity; a book was the product of an author’s or printer’s craft.

For all of that, the politics of the time focused on “the book,” with its echoes of materiality, as much as on the work.⁵⁸ The Supreme Court in *Burrow-Giles*

⁵⁵ “Labour gives a man a natural right of property in that which he produces: literary compositions are the effect of labour; authors have therefore a natural right of property in their works.” **William Enfield, Observations on Literary Property** 21 (1774), quoted in **Mark Rose, Authors and Owners: The Invention of Copyright** 85 (1995).

⁵⁶ See **Brad Sherman & Lionel Bently, The Making of Intellectual Property Law: The British Experience, 1760-1911** 173-93(1999). “[T]he law turned its attention away from the value of the labour embodied in the protected subject matter, to the value of the object itself: to the contribution that the particular object made to the reading public, the economy and so on.” **Id.** at 173-74. Sherman and Bently emphasize the role that registration systems played in this shift, not only in copyright but throughout intellectual property law. My claim below regarding boundary objects, which may be extended beyond copyright works to inventions, designs, marks, and so on, suggests that the dynamic, boundary-making character of IP things continues despite registration practice.

⁵⁷ See Bracha, *supra* note 37, at 224–48.

⁵⁸ Johann Gottlieb Fichte, whose 1793 *On the Illegality of Printing* is credited with supplying much of the philosophical justification for recognizing an author’s intangible intellectual production, referred not to the work but to the book. Johann Gottlieb Fichte, *Beweis der Unrechtmäßigkeit des Buchernachdrucks. Ein Rasonnement und eine Parabel* [Proof of the Unlawfulness of Reprinting: A Rationale and a Parable], 21 *Berlinische Monaschrift* 443, 443–87 (1793) (Martha Woodmansee trans., 2008), translated in **Primary Sources on Copyright** (1450–1900) (L. Bently & M. Kretschmer eds.), available at http://www.copyrighthistory.org/cgi-bin/kleioc/0010/exec/ausgabe/%22d_1793%22. On Fichte’s contribution to the

*Lithographic Co. v. Sarony*⁵⁹ wrote:

An author in that sense is ‘he to whom anything owes its origin; originator; maker; one who completes a work of science or literature.’ ... So, also, no one would now claim that the word ‘writing’ in this clause of the constitution, though the only word used as to subjects in regard to which authors are to be secured, is limited to the actual script of the author, and excludes books and all other printed matter. By writings in that clause is meant the literary productions of those authors, and congress very properly has declared these to include all forms of writing, printing, engravings, etchings, etc., by which the ideas in the mind of the author are given visible expression.⁶⁰

As the book gave way to the work, and as the work as an abstraction seemingly became more “property-like” to suit the needs of emerging industrial markets, the work as a thing became *less* bounded, or (to some) less property-like. The abstract version of the work emptied the legal system of the one resource, creativity bound to tangible things in context, that might have provided a more or less unambiguous, limiting definition of the work.

International copyright developments reflect the same themes. The abstract work took on a leading role in the architecture of international copyright at precisely the same time that the concept of the work was being deprived by American courts and Congress of material or tangible constraints. The Berne Convention, signed in initial form in 1886, specified the subject matter of the

development of nineteenth century copyright, see, e.g., Maurizio Borghi, *Owning Form, Sharing Content: Natural-Right Copyright and Digital Environment*, in 5 **New Directions in Copyright Law** 197 (Fiona Macmillan ed., 2007) (describing the contribution of natural law to understanding the work).

⁵⁹ 111 U.S. 53 (1884).

⁶⁰ *Id.* at 57–58. The citation to Worcester is not explained in the text of the opinion but likely refers to *A Dictionary of the English Language*, a leading dictionary first published in 1860 by Joseph Emerson Worcester. Dictionaries can tell us only so much about usage, particularly dictionaries from the 19th century, when lexicographic practices were still evolving. Worcester is instructive nonetheless, as relevant definitions changed over time. See **Joseph E. Worcester, A Universal and Critical Dictionary of the English Language** (1854) (defining “author” as “[a] writer of a literary or scientific work; a writer,” among other things, and “work” as “[t]he product of the labor of the hands or of the mind; a literary production; a performance; a piece of mechanism; any fabric; any thing made.”). Worcester’s first dictionary was both more cryptic and less abstract. **J.E. Worcester, A Comprehensive Pronouncing and Explanatory Dictionary of the English Language** (1830) (defining “[a]uthor” as “[t]he writer or composer of a book,” and “work,” as a noun, as “toil; labor; a performance”).

Berne Union as “*la protection des droits des auteurs sur leurs oeuvres littéraires et artistiques*,” or “the protection of the rights of authors in their literary and artistic works.”⁶¹ British copyright law since 1911 has applied to “every original literary, dramatic, musical, and artistic work.”⁶² French copyright law governs the author’s *œuvre de l’esprit*, “all works of the mind.”⁶³

The French *œuvre* for the noun “work,” an object or thing, can be compared with a word not chosen: *travail*, which also means the noun “work,” but which evokes the effort, skill, and labor associated with producing something. *Œuvre* is the thing produced; *travail* is the job or effort undertaken to produce it. One might say that the course of nineteenth century was the course of shifting the law’s focus from the latter to the former. American copyright law today looks back on more than 200 years of evolution of the concepts of work and the work, during which those concepts evolved in broad terms from the idea of a stable, material referent to an apparently unbounded, undefined abstraction. The French *œuvre* has migrated to English as *oeuvre*, commonly defined as the works of a writer, painter, or other creator, taken as a whole, or any one of those works. The work has become one word and one concept, applicable to a multiplicity of authors, authorship, readers, consumers, merchants, and creative things.

III. The Work as Boundary Object

Some and perhaps much of that point has been made by others. Here, I part ways with those who suggest that the way forward is to embrace the ineffable dynamism of intangible creativity blended with materiality, that is, to focus entirely on interests rather than on things. (One version of that argument points to the work as co-extensive with the author’s expression.) I also set to the side arguments that try to impose specific and detailed limits on the work where none spring forth in the first instance. (One version of that argument points to the work as limited in all cases to the literal expression produced by the author.) Instead, as I noted in the Introduction, analysis of the work should be attentive to

⁶¹ **Berne Convention for the Protection of Literary and Artistic Works** 828 U.N.T.S. 221, art. 1 (Sept. 9, 1886).

⁶² See Copyright Act, 1911, 1 & 2 Geo. 5, c. 46, § 1(1) (Eng.).

⁶³ See Code de la propriété intellectuelle, art. L111-1 (“L’auteur d’une oeuvre de l’esprit jouit sur cette oeuvre, du seul fait de sa création, d’un droit de propriété incorporelle exclusif et opposable à tous.”). French copyright statutes from the earlier part of the nineteenth century referred in translation to the works of an author, but the original French is *ouvrages*, which more likely points to a tangible product of an artist or artisan. See Loi 3869 du 28 Mars 1852 rapport et décret sur la contrefaçon d’ouvrages étrangers [Law 3869 of March 28, 1852 on the Report and Decree on the Counterfeiting of Foreign Works], **Bulletin Des Lois De La République Française [Bulletin of Laws Of The French Republic]**, No. 510.

the multiple uses of the work in copyright—functional, expressive, and communicative—and to the role that the idea of the work plays as a kind of boundary itself, rather than being defined by boundaries. My claim in the remainder of this chapter is that the work should be considered a source, rather than a product, of boundary-making and governing.

It would be a mistake to invest the idea of boundaries, even as I have referred to them, with an over-arching sense of rigidity or solidity. To the contrary: the very de-materialized character of the work is fundamental to its modern service. All of the boundaries that I describe below, all the uses to which the work is put in copyright practice, are and should be porous. Their porosity is the point. (The porosity or permeability of boundaries, in service of one or more other interests, is a central theme of the work of Michel Foucault, among others. But nothing in my argument turns on Foucault’s influence.) The work both can and should be flexible.⁶⁴ But flexible does not and should not mean purely open-ended. Copyright scholars publicly celebrate and privately bemoan the unhelpfully unlimited “patterns of generality” analysis used by Judge Learned Hand to identify the core of an author’s protectable copyright interest.⁶⁵ Those patterns might be helpfully re-cast as boundaries. Of particular interest here is the work of Leigh Star, with different co-authors, identifying the concept of the boundary object:

This is an analytic concept of those scientific objects which both inhabit several intersecting social worlds (see the list of examples in the previous section) and satisfy the informational requirements of each of them. Boundary objects are objects which are both plastic enough to adapt to local needs and the constraints of the several parties employing them, yet robust enough to maintain a common identity across sites. They are weakly structured in common use, and become strongly structured in individual-site use. These objects may be abstract or concrete. They have different meanings in different social worlds but their structure is common enough to more than one world to make them recognizable, a means of translation. The

⁶⁴ See Madison, *supra* note 2, at 386–87.

⁶⁵ *Nichols v. Universal Pictures Corp.*, 45 F.2d 119 (2d Cir. 1930). Judge Hand wrote: “Upon any work, and especially upon a play, a great number of patterns of increasing generality will fit equally well, as more and more of the incident is left out. The last may perhaps be no more than the most general statement of what the play is about, and at times might consist only of its title; but there is a point in this series of abstractions where they are no longer protected, since otherwise the playwright could prevent the use of his “ideas,” to which, apart from their expression, his property is never extended.” *Id.* at 121.

creation and management of boundary objects is a key process in developing and maintaining coherence across intersecting social worlds.⁶⁶

It is possible, even likely, that the idea of the work in copyright practice is a boundary object within the above definition: Both the work in general and works in specific cases are things that bridge communities weakly in abstract terms, that permit adjacent communities to collaborate, cooperate, or co-exist, and whose flexibility allows a degree of coordinated but independent action within each community. Works are boundary objects that enable the expression of the multiple values that imbue copyright law, and that enable social and cultural values to be sustained in a legal system that is focused, nominally, on claims by individuals.

In other words, courts' treatment of the work in different factual and legal settings suggests strongly that the work has a weak abstract character that permits it to translate relationships between nearby communities or practices. I suggest that those adjacent communities or practices are defined largely by two paradigms of exchange of copyright things, which at times complement and at times compete with each other: market exchange and gift exchange.⁶⁷ Market exchange, or reciprocal exchange, is the domain of the copyright owner's exclusive rights, commodities traded in public and publicly-enforceable transactions between abstracted "parties." It is defined principally by fixation, by

⁶⁶ See Susan Leigh Star & James R. Griesemer, *Institutional Ecology, 'Translations' and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907-1939*, 19 **Social Stud. Sci.** 387, 393 (1989) (footnotes omitted). On the meaning and roles of boundary objects, see **Geoffrey C. Bowker & Susan Leigh Star, *Sorting Things Out: Classification and its Consequences*** 296–98 (1999). A good example of the application of the boundary object concept to a particular form of intellectual production is **Corynne McSherry, *Who Owns Academic Work?: Battling for Control of Intellectual Property*** (2001). Aside from the work of Corynne McSherry, the boundary object literature is not well-integrated into the legal literature. A notable exception is the scholarship of Dan Burk. He correctly points out that boundary objects have politics, which must be accounted for in any application of the concept to law. See Dan L. Burk, *Feminism and Dualism in Intellectual Property*, 15 **Am. U. J. Gender Soc. Pol'y & L.** 183 (2007).

⁶⁷ On the logics of gift economies, see generally Warren Hagstrom, *Gift Giving as an Organizing Principle in Science*, in **Science in Context: Readings in the Sociology of Science** 21 (Barry Barnes & David Edge, eds., 1982); **Warren O. Hagstrom, *The Scientific Community*** 12-13 (1965); **Lewis Hyde, *The Gift: Imagination and the Erotic Life of Property*** 60-61, 150-58, 190-94 (1979). The idea of collective or communal (i.e., non-market) sharing in copyright contexts has been discussed in Wendy J. Gordon, *Fair Use Markets: On Weighing Potential License Fees*, 79 **Geo. Wash. L. Rev.** 1814, 1823 (2011); Michael J. Madison, *A Pattern-Oriented Approach to Fair Use*, 45 **Wm. & Mary L. Rev.** 1525, 1677-87 (2004).

static construction, by finality of authorship, by discreteness of objects, by consumption, by expression or specificity, by sameness, and by the idea of manufacture. Gift exchange, by which I refer not specifically to gifts but instead to non-reciprocal sharing, is the domain of successor generations, of privateness, privacy, and family or other trusted groups, of performance and of the public domain, and of exceptions and limitations on the copyright owner's exclusive rights, where material is shared rather than transacted. It is defined principally by fluidity and dynamism, by experience rather than consumption, by continuity of creation, by flow rather than fixity, by idea or generality, by novelty, and by the idea of nature. Market and gift do not signify "things" and "no things," either literally or metaphorically; rather they signify different ways by which things are created, represented, and used.

These characterizations are, in both cases, broad and in certain respects overly broad concepts. At best they represent intersecting and overlapping poles on the broad market/gift continuum, helpful guideposts to what follows. In concrete institutional settings, they must often be blended. An obvious complexity here is that the intangible features of copyrighted works are, as economists teach, nondepletable and nonrival. Copyright things can be in more than one place at one time, and sometimes, because of the cumulative character of much creative practice, they not only are in both places at once, but often, they must be. Expression requires idea. Yet the two poles capture many of the ways in which the work in copyright "works" in practice: the work (or a work) divides one kind of market economy (copyright, patent, tangible property, and so on) from another, and the work (or a work) divides market economies (exclusive rights in IP) from gift economies (no rights, or exceptions to IP rights). It is both possible and sensible to examine these distinctions as boundary domains both in any particular instance, that is, with respect to the treatment and characterization of any particular work as a boundary object, and in general, that is, with respect to the concept of the work in general as a boundary object. And it is possible, sensible, and even essential to examine the distinction operating in multiple ways within a given work. The point is not that some works belong in the sphere of commerce and that other works belong in the sphere of sharing, or gifts. The point is that what courts and commentators call the work is an object within which, by which, and through which various attributes, functions, and symbols of cultural practice are assigned not only to individuals but also to loosely-bounded places, spaces, times, and groups.

I illustrate the proposition that works create and govern boundaries, as boundary objects, using examples from recent American judicial practice. I noted at the outset that digital technologies have made the challenges of the work more pronounced, but digital technology did not create them, and it is possible to expand several of the illustrations below with added older cases.

A. Platonism: Original Works and New Works

There are cases that begin with and then test the intuitive, naive idea of the work as a static thing, defined by boundaries (even if those boundaries themselves are not necessarily specified). The idea of work in this sense is at times grounded in, or the boundaries of the work are defined by, a sense of the Platonic or prototypical ideal of a given work, or what Paul Goldstein has characterized as the “*ur-work*.”⁶⁸ Copyright in these contexts attaches to a “canonical” version of the work, and for purposes of infringement by substantial similarity, or for purposes of identifying a creatively distinct derivative work, the second work is compared with its “canonical” predecessor. Character copyrights are particularly subject to this problem and to the Platonic-work-based solution, both where the copyright attaches to a fictional character as such as well as to a particular graphic representation of that character. The work as boundary object manages the intersections of markets.

A character representation case illustrates. In *Entertainment Research Group, Inc. v. Genesis Creative Group, Inc.*,⁶⁹ the defendant was accused of infringing the plaintiff’s copyrights in three-dimensional costume versions of famous advertising cartoon characters, such as the Pillsbury Doughboy, Geoffrey the Giraffe, and Cap’n Crunch. The copyrights were valid, if at all, if the costumes constituted derivative works, that is, original adaptations of the underlying, two-dimensional copyrighted characters. The court decided that the costumes were not derivative works. Any variations between the two-dimensional and three-dimensional versions of the characters were dictated wholly by functional considerations rather than creative judgments. Each character copyright related not to its particular physical manifestation but instead to a single canonical creative work, which was then represented in any number of forms and media—including both two-dimensional and three-dimensional versions. The court noted:

[N]o reasonable trier of fact would see anything but the underlying copyrighted character when looking at ERG’s costumes. . . . [B]ecause ERG’s costumes are “instantly identifiable as embodiments” of the underlying copyrighted characters in “yet another form,” no reasonable juror could conclude that there are any “non-trivial” artistic differences between the underlying cartoon characters and the immediately recognizable costumes that ERG has designed

⁶⁸ See Goldstein, *supra* note 10, at 1182–83 (discussing the idea in the context of *Walt Disney Co. v. Powell*, 897 F.2d 565 (D.C. Cir. 1990)).

⁶⁹ 122 F.3d 1211 (9th Cir. 1997).

and manufactured.⁷⁰

This kind of clean division between work and copy, or content and form, is the purest version of the work in legal action.

The point of the bounded, defined work here is not to define the work in the abstract. The boundary is not solely inward-looking (what is the content of the work?); it is outward-looking. The work is defined relative to its context, which usually means its business or market context. That perspective begins with the standard question, what is the distinction between this work and the accused work? It continues: What is the role of this work in the context of other works, either similar (or dissimilar) narratives that feature the character work, or sequels and other adaptations of the original narrative work. A single film or novel may turn out to contain numerous works: the narrative or principal plot, undisclosed or partially disclosed but emergent sub-plots, the principal characters, and descendants, dependents, and new versions of those characters. Yet none of those must be separately identified as a work when that initial film or novel is created; none of them has a pure or Platonic form either initially or later. Added works, or variations on the same work, usually emerge as the initial product is commercialized – or pirated.

The idea of the work here serves multiple goals. The first is obvious: to identify a boundary between sameness or identity, on the one hand, and the changed and the new, on the other hand. Or, what is “mine” (referring to the copyright owner) and what is “other” – that is, ours, or no one’s. On one side of the line (identity) lies copyright infringement. On the other side (difference) lies a new work, or perhaps nothing (that is, no thing) at all. The second, perhaps more important goals are to divide the copyright market defined by the work as marketable commodity from the rest of culture, where changed versions of the work are freely shareable, and to bound the copyright market defined by the initial work from copyright markets defined by other versions of that work or by adaptations or excerpts from that work – which may be, in themselves, distinct works. The idea of the work constructs the market in general, and distinct and different markets in particular. It defines the author’s market and existence of domains beyond that market, which may in turn be defined and organized in terms of distinct markets (each distinguishable variation on a source work may become a new, marketable work) or not (so that each distinguishable variation is, in effect, un-owned). With each new commodity comes a new market or markets, institution, or set of practices, each bounded lightly and, given the necessarily

⁷⁰ *Id.* at 1223 (quoting *Durham Indus., Inc. v. Tomy Corp.*, 630 F.2d 905, 908–09 (2d Cir. 1980)). In very much the same spirit is *Walt Disney Co. v. Powell*, 897 F.2d 565 (D.C. Cir. 1990), discussed in Goldstein, *supra* note 10, at 1182–83.

somewhat loose understanding of the idea of a market,⁷¹ by the work itself.

B. Incomplete Works: Authors and Institutions

The idea of “the work” can tell us when a work is a “work” worthy of copyright contemplation, or is instead a draft, sketch, or idea. In this sense, the work defines the trigger of copyright. Before something becomes a work, copyright law does not apply; the material is preliminary and therefore freely shareable, used and experienced. Justin Hughes pursues this reasoning, in part, when he argues that copyright law should not protect “microworks” because they are not works.⁷² (One might simply invoke the maxim *de minimis non curat lex*: The law does not concern itself with trifles.) In a related sense, a creative thing may emerge as a work from early or unformed effort, and in doing so it crosses a kind of copyright boundary. As a boundary object, a copyright work sits at an intersection between complete control of the thing vested in its creator, on the one hand, to governance of the thing managed by a complex that includes not only the creator but also other individual, institutional, and collective interests, on the other.

An art world case illustrates. In *Massachusetts Museum Of Contemporary Art Foundation, Inc. v. Büchel*,⁷³ the plaintiff Christophe Büchel was a conceptual artist who commissioned the defendant, the Massachusetts Museum of Contemporary Art (MassMoCA), to install a large, complex, and expensive conceptual sculpture. MassMoCA agreed to bear the expense of the installation. The parties’ contract failed, however, to provide sufficient detail regarding the project’s final scope. During installation, Büchel made substantial changes to its scope. Fearing that it would never recoup its installation expense via admission charges or otherwise, MassMoCA eventually suspended additional effort and opened the incomplete installation to public viewing. MassMoCA included signage making it clear to patrons that the sculpture on display was not the completed work of the artist. Büchel nonetheless sued, both under the relevant provisions of the Visual Artists Rights Act (VARA), Section 106A of the Copyright Act,⁷⁴ for violations of his rights to integrity and attribution, and also under the public display portion of Section 106 of the Copyright Act.

With respect to both claims, MassMoCA argued that Büchel had not proved

⁷¹ See Mark A. Lemley & Mark P. McKenna, *Is Pepsi Really a Substitute for Coke? Market Definition in Antitrust and IP*, 100 *Geo. L.J.* 2055 (2012).

⁷² See Hughes, *supra* note 10 (discussing and rejecting the modern trend toward protection of “microworks”).

⁷³ 593 F.3d 38 (1st Cir. 2010).

⁷⁴ 17 U.S.C. § 106A (2012).

the existence of a work that triggered any obligations under copyright law. As Büchel himself acknowledged, from the artist’s point of view the work of art here consisted of a specific kind of patrons’ visual and physical experience of the creation.⁷⁵ To MassMoCA, the presence or absence of a work was a kind of jurisdictional boundary. Until an author is done creating, copyright law is irrelevant.⁷⁶ On this reasoning, an unfinished sculpture is not a work. The district court agreed, but the court of appeals did not. The latter court relied on the copyright statute’s definition of “created,” which applies, it held, to unfinished works.⁷⁷ It held that Büchel’s work fell within the scope of VARA as a “work of visual art.”

Form matters, one might simply say. The appellate court’s interpretation of the statute almost certainly is incorrect if the idea of the work is to be independent of fixation, and if there is any jurisdictional boundary between creativity to which copyright attaches and creativity that lies outside of it.⁷⁸ Of course, such a boundary may not exist, which means that the court was correct after all. Cases on protection of “small” works, some of which started (and remained) small and some of which were small slices of larger creations, are divided. In some cases, any evidence of an author’s creativity, no matter how small or preliminary, justifies copyright protection. The salient cases come from the arena of digital technology. In *Tin Pan Apple Inc. v. Miller Brewing Co.*,⁷⁹ the court declined to hold, as a matter of law, that the defendant’s digital sampling of the lyrics “Hugga-Hugga” and “Brr” from the plaintiff’s copyrighted recording constituted copying of noncopyrightable material. If a single guttural syllable may constitute a work, then it might be said that anything may constitute a work. Some courts resist that conclusion. In *Newton v. Diamond*,⁸⁰ the court concluded that unauthorized copying of a six-second, three-note sequence of the plaintiff’s musical composition appropriated a part of the plaintiff’s work that was simply too small to matter.⁸¹ In *Cartoon Network LP, LLLP v. CSC Holdings*,

⁷⁵ See *MassMoCA’s Lawsuit, The ART Law Blog*, <http://theartlawblog.blogspot.com/2007/05/mass-mocas-lawsuit.html> (May 27, 2007) (blog post written by Büchel’s counsel).

⁷⁶ Before the 1976 Copyright Act took effect, this was indeed the case. With few exceptions, copyright applied only to published works.

⁷⁷ 17 U.S.C. § 101 (2012) (defining “created”).

⁷⁸ The statute clearly applies to things that are completed in pieces, such as movements of a symphony or chapters of a novel. It is less clear that the statute applies, or should apply, to every successful stroke of a pen or brush.

⁷⁹ 88 Civ. 4085 (CSH), 1994 U.S. Dist. LEXIS 2178 (S.D.N.Y. Feb. 23, 1994).

⁸⁰ 388 F.3d 1189, 1195 (9th Cir. 2004).

⁸¹ *Newton* also illustrates a different kind of boundary, between the domain of musical composition, or songwriting, and the related domain of performance and

Inc.,⁸² the supplier of digital video recording (DVR) services was held not to have infringed the plaintiff's copyrighted audio-visual works, where the copies made via the DVR technology were stored for 1.2 seconds apiece. These were whole copies, but brief copies. Neither of these cases turned on the idea of the work itself, but the idea of the work as a boundary, between creativity that matters for copyright purposes and creativity that does not, seems very much to have animated the courts' judgments.⁸³

The boundary management going on in all of these cases, but especially in *Büchel*, is not merely a boundary of form. The fact that *Büchel* sued under VARA, the limited version of moral rights protection available under American copyright law, suggests that more was going on in the case, and more was at stake with the work, than the functional delineation of the author's economic rights according to the presence or absence of a work. The work as boundary objects manages intersections between the practices and expectations of artists and authors, on the one hand, and the practices and expectations of other claimants and institutions, on the other. That boundary exists in at least two senses. First, from a moral rights standpoint, a work – *Büchel's* work – bears the imprint of the author himself or herself,⁸⁴ and it might be said, metaphorically, that the boundary defined by the work represents the boundary between the author as a whole person or personality, on the one hand, and a non-person, or the undifferentiated world of readers, viewers, and listeners, on the other. Before a collection of materials reaches the status of "work," that collection is simply stuff, at most the subject matter of chattel property law, but nothing more.⁸⁵ To

recording. The defendants, the celebrated rap group the Beastie Boys, used a sample of a recorded flute performance by the noted flutist James Newton. They had cleared the rights to the recorded performance of Newton's work (owned not by Newton but instead by ECM Records) but had not cleared the rights to the underlying musical composition. The three-note sequence from the composition that the court dismissed as unworthy of copyright was arguably quite creative – but only in its performed, recorded version. Art forms closely bound up with performance, such as music, drama, and sport, are filled with copyright works that can be productively analyzed as boundary objects. As in Newton, some dimensions of these fields are recognized culturally as copyright works; many are not.

⁸² 536 F.3d 121, 127 (2d Cir. 2008).

⁸³ In *Cartoon Network*, the court's rejection of liability for public performance by the DVR supplier turned on the question of whether the copies of the television programs stored by the defendant constituted one work ("performance," in the language of the relevant statute), produced by the copyright owner, stored in multiple copies, or multiple performances, each stored once at the request of the DVR subscriber. The court followed the latter path, in effect equating a work with a copy.

⁸⁴ See Borghi, *supra* note 58.

⁸⁵ In *Ets-Hokin v. Skyy Spirits, Inc.*, 225 F.3d 1068 (9th Cir. 2000). a commercial

recognize a work in Büchel’s sculpture was to recognize the whole of Büchel himself. This kind of boundary is present in other non-VARA moral rights cases in the U.S., notably *Gilliam v. American Broadcasting Companies*,⁸⁶ in which the integrity of the work *qua* work stands in for the integrity of the authors themselves.

The work is a boundary object in a second sense. Also present in the work are the interests and claims of the institutions of the art world, embodied in the particular case by MassMoCA. Curators, museum directors, board members, investors, donors, and museum patrons all have interests in the collection, curation, and presentation of the art works that make up each museum’s collection. Those interests, and legal and normative duties that accompany them, attach when works are formally part of the museum’s collection and not before.⁸⁷ Many of those interests are represented legally and normatively in property terms. Art institutions are bound not to deaccession works of art from their collections except under specific circumstances. Museums and their agents may not act purely in market terms. Having accepted these works as gifts, in many cases, museums undertake to care for them in part according to a trust relationship with society as a whole,⁸⁸ a relationship that aligns these institutions with the norms of gift exchange. Once a gift, always a gift, in a manner of speaking; to convert a gift into a marketable commodity is to violate the norms of gift-giving. When a work becomes formalized in the collection of a museum, therefore, the author’s interest is not erased, but it is recontextualized in the context of the institution. The concept of the work in *MassMoCA* and in the context of the art world in general permits those two communities – artists, on

photographer who had prepared photographs of a distinctive vodka bottle for advertisements sued his client, alleging that the client had rejected the photographs and procured and used virtually identical, infringing photographs from a different photographer. The defendant argued, among other things, that the plaintiff’s copyrights were invalid because they constituted derivative works and as such were not original when judged in comparison with the source object—the bottle itself. In this case, the court used the copyright statute’s definition of derivative works to interpose the concept of the work as a boundary between creative objects and everyday objects. In this case, the bottle, the court ruled, was an ordinary (if attractive) utilitarian object, possessing no originality or creativity aside from its use as a bottle. It was therefore not a work at all within the meaning of the law, and because it was not a work, photographs of the bottle could not be derivative works. The photographs were to be judged copyrightable under the usual standard applicable to any claimed work of authorship.

⁸⁶ 538 F.2d 14 (2d Cir. 1976).

⁸⁷ For more on the intersection of copyright law and curatorial interests, see Michael J. Madison, *Knowledge Curation*, 86 **Notre Dame L. Rev.** 1957 (2011),

⁸⁸ See Sue Chen, *Art Deaccessions and the Limits of Fiduciary Duty*, 14 **Art Antiquity & L.** 103 (2009).

the one hand, and art institutions, on the other hand – to interact constructively, if not always without disagreeing.

C. Fixity: Objects and Works

In each of the first two illustrations, the work as boundary object in effect keeps some material and things inside copyright, and therefore inside the world of markets, commodities, and exchange, and excludes other material, leaving it either to the world of non-copyright institutions, such as markets for chattel property, or art institutions, or to no markets at all. The point of the boundary object construct, however, is that this divide is at best fluid rather than absolute. It may be exclusionary with respect to material challenged in a particular case, or it may be inclusionary.

Software licensing provides the clearest example of this boundary principle in action via the copyright work. Software producers have learned to draft their license agreements in ways that permit them to capture copyright-based ownership of copies of their works as objects, knowingly conflating the modern copyright distinction between the copyrighted work and the tangible copy.⁸⁹ The result is that consumers of copies of copyrighted computer programs acquire their copies as mere “licensees” rather than as owners. The practical impact can be dramatic; “licensees” do not have the same power as owners to re-sell copies of copyrighted works in their possession. For example, in *Vernor v. Autodesk, Inc.*,⁹⁰ the plaintiff bought several packages (tangible copies) of high-priced copyrighted computer software produced by the software developer Autodesk. He bought them not from Autodesk but from customers of Autodesk, and in this declaratory judgment action he sought confirmation of his right to re-sell the packages free of the resale restrictions that Autodesk imposes on its direct customers as part of the license agreement that accompanies each copy of Autodesk’s products. That is, the plaintiff argued that he was an owner of his copies of Autodesk’s software and was privileged to re-sell them under the doctrine of first sale,⁹¹ despite Autodesk’s exclusive right to distribute copies of the work under Section 106(3) of the Copyright Act.⁹² The district court agreed with the plaintiff, but the court of appeals reversed. Vernor, the plaintiff, did not own his copies because the Autodesk customers who sold their copies to him were not, themselves, owners. They were licensees, not entitled to the benefit of

⁸⁹ See Michael J. Madison, *Reconstructing the Software License*, 35 **Loy. U. Chi. L.J.** 275 (2003).

⁹⁰ 621 F.3d 1102 (9th Cir. 2010).

⁹¹ 17 U.S.C. § 109(a) (2012).

⁹² *Id.* § 106(3).

the first sale doctrine.

The crux of the case was Autodesk’s (and the court’s) blending of the idea of the work and the idea of the copy in the license agreement that Autodesk included with each package. As the court of appeals described the agreement between Autodesk and its customers, the agreement

recites that Autodesk retains title to all copies. Second, it states that the customer has a nonexclusive and nontransferable license to use Release 14. Third, it imposes transfer restrictions, prohibiting customers from renting, leasing, or transferring the software without Autodesk’s prior consent and from electronically or physically transferring the software out of the Western Hemisphere. Fourth, it imposes significant use restrictions⁹³

The text of the agreement, as quoted elsewhere in the opinion, makes clear that the agreement pertains to the Autodesk computer program (“Release 14”), sometimes referred to as “the Software” (the particular version or release of a particular Autodesk program).⁹⁴ If one applies the copyright distinction between the work and one or more copies that embody the work, to which does the license pertain? Is Autodesk licensing the work, or the copy? The history of software licensing teaches that licensing the copyright in *the work* was originally the goal of software developers: to control the use of the work by customers who would otherwise be able to exploit the work by reproducing it in unexpected ways and settings.⁹⁵ But Autodesk’s license, like many modern software agreements, is not so narrowly or carefully drawn, and the court simply failed to ask whether “the Software” referred to the work or to the copy. If the agreement were construed as referring to the work, then Vernor, the plaintiff, would have been on relatively safe ground. Autodesk’s customers would have been “owners” of their copies and therefore entitled to re-sell those copies to Vernor, who could re-sell them again. The court assumed, instead, that the agreement referred to both the work and the copy. The idea of the work was not given an opportunity to perform the limiting function that it might have done. Instead, the idea of the work expanded the rights of the copyright owner. Autodesk and other software companies were given the power to control resale markets for copies of their works in ways that few other manufacturers can, and in ways that are strikingly inconsistent with the operation of resale markets for copies of virtually all non-digital copyrighted

⁹³ *Vernor*, 621 F.3d at 1104.

⁹⁴ *See id.*

⁹⁵ *See* Madison, *supra* note 89, at 310–16; *see also* Madison, *Notes, supra* note 6.

works.⁹⁶

To be fair to Autodesk and the software industry, drawing a classic distinction between the work and the copy in the context of digital products is difficult, even if the copyright statute specifies different legal rights with respect to each one⁹⁷. What a boundary between work and copy would mean in the digital context is a hugely problematic question. The work is by definition an intangible, an abstraction; for all practical purposes a digital product (whether a computer program or a digital version of some other creative work) is likewise an intangible, an abstraction. For an analog copy of a work, the distinction between the work and the copy is the distinction between thoughts (work) and atoms (copy). Physics determines the identity of the copy, for a person can touch the copy (or see it, or hear it). For a digital “copy,” the distinction is wholly arbitrary; the copy can be touched (or seen, or heard) but under circumstances that reinforce the intangible character of the work. Although a computer program resides in computer memory, which means that some physical substrate for the program resides somewhere, it progresses to human experience and understanding only via the application of other computer programs. Intangibles operate on intangibles in ways and in places that correspond poorly even to our experience of works reproduced or interpreted by analog technologies, such as film-based photography. At the least, with computer programs the difficulty in distinguishing works and copies leads to an enormous amount of analytic confusion; at worst it leads to efforts to conflate the scope of legal rights attached to works and to copies.⁹⁸ In a particular case, such as *Vernor*, the boundary

⁹⁶ See, e.g., *Kirtsaeng v. John Wiley & Sons, Inc.*, 568 U.S. ____ (2013) (applying the doctrine of first sale to copies manufactured abroad with the permission of a U.S. copyright owner, and re-sold in the U.S.); *UMG Recordings, Inc. v. Augusto*, 628 F.3d 1175 (9th Cir. 2011) (addressing re-sale rights regarding promotional copies of compact discs). The doctrine of first sale in American copyright law is closely related to the concept of exhaustion, which has been held to apply to copies of computer programs distributed in the European Union. Case C-128/11, *UsedSoft GmbH v. Oracle International Corp.*, 2012 E.C.R. I-0000.

⁹⁷ See Borghi, *supra* note 58. Cf. *supra* note 83 and accompanying text (describing the holding in the *Cartoon Network* litigation). A computer program can be reduced to its digits – the particular sequence of 1’s and 0’s that constitute its binary form – but that binary or executable copy no more defines the limits of the work embodied in that program than the words of a novel define the limits of the novelist’s copyright.

⁹⁸ See Madison, *Notes, supra* note 6. In the so-called digital “space,” the boundary between work and thing has an important additional dimension in the context of the anti-circumvention provisions of the Digital Millennium Copyright Act (DMCA). The term “work” is used twice, in both parts of the statute, but refers to different things in each place. In Section 1201(a), prohibiting circumvention of technological protection measures that control access to a work, “work” appears to refer to a particular material copy of a work. In Section 1201(b)(1)(A), prohibiting trafficking in technology that is

object that comprises the work may be a matter of the author’s unilateral designation, the purchaser’s or owner’s appropriation, or public policy. From the perspective of distinctions between tangible things and intangible works, what works and material are within the copyright system, and what lies beyond it, is nearly impossible to determine in general and can be processed in the particular case, using the concept of the work itself, only with great difficulty.

D. Multiplicity: One Work or Many Works

I argued above, in the context of partially completed art works, that the idea of the work at times expresses what might be called a finality interest, or a boundary between a continuing process on the one hand, in which the author or others wait until after the fact of creation to determine what is and what is not a work, and a finished, even independent, product, on the other hand. Yet courts do not consistently apply a principle that bars changes to the identity of a work after the act of creation is complete or that forces a copyright owner, or anyone else, consistently to choose one characterization or another. There are additional

intended to be used in circumvention rights control measures with respect to a work, “work” appears to refer to the intangible work of authorship to which the copyright owner’s rights attach. For extensive discussion and confusion on this point, see *MDY Industries, LLC v. Blizzard Entertainment, Inc.*, 629 F.3d 928, 944–48 (9th Cir. 2010), *opinion amended and superseded on denial of rehearing by MDY Industries, LLC v. Blizzard Entertainment, Inc.*, 2011 WL 538748 (9th Cir. Feb 17, 2011). The Federal Circuit’s construction of these sections tries to harmonize them, in a way that is not motivated by a single reading of the term “work” but that offers the advantage of that term’s being used consistently in both Section 1201(a) and Section 1201(b). See *Chamberlain Group, Inc. v. Skylink Techs., Inc.*, 381 F.3d 1178, 1203 (Fed. Cir. 2004) (requiring that the plaintiff in a case alleging violation of Section 1201(a)(2), trafficking in technology used to obtain unauthorized access to a protected work, prove that use of the technology had some nexus to infringement of a copyright).

Chamberlain Group implicitly relies on the work to soften the boundary between DMCA claims and the Copyright Act; *MDY Industries* implicitly relies on the work to harden that boundary. In *MDY Industries* itself, the court of appeals found the defendant liable under Section 1201(a)(2) for trafficking in technology designed to facilitate circumventing access to a copyrighted work. The court concluded that the relevant technology facilitated access to parts of the plaintiff’s online videogame that consisted of its “dynamic non-literal elements,” characterized by the lower court as the “real-time experience of traveling through different worlds, hearing their sounds, viewing their structures, encountering their inhabitants and monsters, and encountering other players.” *MDY Industries*, 629 F.3d at 943. The tension in that definition between the idea of the intangible work of authorship and the tangible form in which the work is embodied, even characterizing the latter as an “experience,” is palpable, and it evokes the same tension—call it a boundary—in the *MassMoCA* litigation. See *supra* notes 73-77 and accompanying text.

boundaries, therefore, between the unit and the whole and between the author and the audience. Giving full rein to authorial interests in the work suggests that the author should have unlimited or nearly unlimited discretion over the characterization of his product, at almost any point in the life of the product, whether for marketing and commercialization purposes, for infringement purposes, damages purposes, or some combination of these. When a creative product is released into the world, some number of copyright works are released with it, and as part of it. The balance of that material is shared with the audience without copyright protection attached.

To illustrate, consider the copyright status of a multi-episode television series. That series may be characterized as a single copyrighted work, because its plots, characters, settings, and themes carry over from episode to episode, and if so the work remains the same even if new episodes are produced. Or that series may be characterized as a sequence of episodes, each of which constitutes a separate work. A record album or compact disc (CD) is likewise both a single work and a compilation of underlying individual songs, each of which is a work. Parts of the boundary object are inhabited by commercial markets for the series and/or for each episode (and, correspondingly, for the full album or CD and/or for each individual song); other parts are inhabited by public access to and reuse of elements that do not comprise the series as a whole (if that is judged to be a work) or any particular episode (which might also or alternatively be considered a work). Moreover, any creative thing not only might be combined with other creative things to form a single compilation or collective work, and might be decomposed into subsidiary things that might themselves be treated as works, but those subsidiary things might themselves be de-composed into further works, or combined with other things to form other compilations or collections. In each transition, the potential for dis-assembly and re-formation of the initial item creates an opportunity for the work as boundary object to mediate among controlled exploitation of the work in one or more markets and public or other use not governed by copyright limits.

Courts have used the work as this sort of boundary object both in statutory damages calculations and in infringement settings. The American copyright statute's statutory damages provisions require that damages for infringement be computed according to the number of works infringed, rather than the number of infringements or the number of copies produced by the infringer.⁹⁹ Cases having to do with works comprised of other works, that is, compilations or collective works, cause problems. In *Bryant v. Media Right Productions, Inc.*,¹⁰⁰ the court computed statutory damages in a case involving infringement of a copyrighted record album by treating the entire album—a compilation—as a single work,

⁹⁹ 17 U.S.C. § 504(c) (2012).

¹⁰⁰ 603 F.3d 135 (2d Cir. 2010).

rather than as a collection of separate (and therefore compensable) works. The statute itself says that a compilation work is to be treated as a single work for purposes of assessing statutory damages.¹⁰¹ Should the album have been treated as a compilation work? A significant factor in the court’s decision was the fact that the copyright owner had registered the album with the Copyright Office as a compilation, had sold the compilation as an album, and had registered copyrights in some but apparently not all of the individual songs.¹⁰² Because the owner had made that choice in the first place, the court in effect barred the owner from having a second bite at the characterization apple when infringement and damages, rather than registration and marketing, were at issue.

Focusing on the album as such tends to reduce the amount of damages recoverable by a successful plaintiff. In the current era, when recorded music is often sold on a song-by-song basis rather than on an album basis, focusing on the album may discount the actual economic injury caused by the infringement. A record album that contains eight songs is a work in the same statutory sense as a record album that contains ten or twelve songs, even though the economic value of the two works might be different. The plain reading of the statute in *Bryant* strikes some as indifferent to the logic of copyright markets and unfair to authors.¹⁰³ Other courts have looked to an “independent economic value” standard—a third-party or audience perspective—for determining whether something is a work. In *Columbia Pictures Television v. Krypton Broadcasting of Birmingham, Inc.*,¹⁰⁴ the defendant had infringed several copyrighted episodes of a television series. For statutory damages purposes, the court determined that each episode should be treated as a separate work, because each episode could be treated as an independent economic unit.¹⁰⁵ But the episodes were generally packaged by the copyright owner as a series for purposes of broadcast television deals. The plaintiff’s economic injury therefore corresponded more closely to treatment of the series as a single work. The rule of *Bryant* runs the risk of under-compensating copyright owners. The rule of *Columbia Pictures Television* runs the risk of over-compensating them.

¹⁰¹ 17 U.S.C. § 504(c)(1) (2012).

¹⁰² *Bryant*, 603 F.3d at 141. The court assumed that copyrights in all of the songs had been properly registered. *See id.* at 140 n.4.

¹⁰³ *See* Goldstein, *supra* note 10, at 1184–85 (discussing the disparate treatment given to compilations).

¹⁰⁴ 106 F.3d 284 (9th Cir. 1997).

¹⁰⁵ *See also* *Twin Peaks Productions, Inc. v. Publications Intern., Ltd.*, 996 F.2d 1366 (2d Cir. 1993) (holding that infringement of eight episodes of a television series should be treated as infringement of eight independent works, or eight independent marketable things, when assessing statutory damages).

The rule that a “whole TV series is a single work,” rejected in the damages context by *Columbia Pictures Television*, was accepted in the infringement context in *Castle Rock Entertainment, Inc. v. Carol Publishing Group, Inc.*¹⁰⁶ Characterizing the *Seinfeld* television series in the context of infringement by substantial similarity, the court determined, with little discussion, that the entire series should be treated as a single work when compared with the defendant’s *Seinfeld* trivia book.¹⁰⁷ That case is justly criticized for using an unduly elastic concept of the work in order to capture a work published by the defendant that many believe should have been characterized as noninfringing, either because of a lack of similarity in the first place, or because the defendant was engaged in fair use, or both.¹⁰⁸ But the details of the critique miss the point that the context of the work as such defined the boundary between control of the creative content allocated to the copyright owner, on the one hand, and free re-use of that content allocated to the accused infringer. The defendant’s trivia book appropriated specific bits from specific episodes of the *Seinfeld* show: identities of both major (recurring) and minor (non-recurring) characters, character traits, plot points, props, sets and settings, costumes, and so on. Each bit was arguably an unprotectible fact about an episode or about the series as a whole, that is, not a work. In the aggregate, however, the bits added up, in the court’s judgment, to a substantially similar copy – an aesthetically and commercially similar copy – of the series taken as a whole. That is, the plaintiff’s work.

To be sure, at least one recent, notable case has reached what might be considered different conclusion. In *Warner Bros. Entertainment Inc. v. RDR Books*,¹⁰⁹ the defendant stood accused of infringing copyrights in J.K. Rowling’s several *Harry Potter* novels by creating a print version of a “Lexicon,” or encyclopedia, that catalogued plot points, characters, beasts, settings, spells, and other attributes of the novels in excruciating detail. The court treated the *Harry Potter* novels as a single source for purposes of the infringement analysis, although it repeatedly referred to the novels as distinct works, and it appeared to judge the Lexicon to be noninfringing under the fair use doctrine¹¹⁰ with respect to the novels themselves though infringing by virtue of its reproduction of an excessive amount of separate and specific Rowling companion works.¹¹¹ The

¹⁰⁶ 150 F.3d 132 (2d Cir. 1998).

¹⁰⁷ *Id.* at 140 (distinguishing *Twin Peaks Prod., Inc. v. Publ’ns Int’l, Ltd.*, 996 F.2d 1366 (2d Cir. 1993)).

¹⁰⁸ See, e.g., Rebecca Tushnet, *Copy This Essay: How Fair Use Doctrine Harms Free Speech and How Copying Serves It*, 114 **Yale L.J.** 535, 544–45 (2004) (arguing that the court undervalued the defendant’s transformative expression).

¹⁰⁹ 575 F. Supp. 2d 513 (S.D.N.Y. 2008).

¹¹⁰ 17 U.S.C. § 107 (2012).

¹¹¹ See *Warner Bros. Entertainment Inc.*, 575 F. Supp. 2d at 549–51.

court determined that the Lexicon was in effect a reference work, rather than an aesthetically or commercially similar version of the Harry Potter series. Its opinion is ambiguous, perhaps deliberately so, on the question of the identity of the work that the Lexicon was alleged to have infringed. Individual entries in the Lexicon matched individual items in the series. But only in some instances involving more elaborate and detailed summaries of certain plot elements did those items rise to the level of copyrightable work, potentially infringed by the defendant. In the sense of this chapter, that the idea of the work is a boundary object mediating the interests of different practices and their practitioners, the court's judgment in total is itself suggestive evidence that the idea of the work is doing just that. The copyright work created by J.K. Rowling and owned by Warner Bros. contains portions limited and controlled by them, and portions given, in effect, to those who would create encyclopedic companions. The court in *Warner Bros.* suppressed making an explicit decision regarding the identity of the relevant plaintiff's work. In doing so, it expanded the ability of an accused infringer to practice creativity by producing a reference work.

E. Made, Not Found: Manufactured Works, Natural Ideas

Works may be characterized in different ways at times and over time, but the idea of the work in any particular instance is also something that remains fundamentally the same. This is true both in the general sense that the idea of the work is meant to be the same across artistic disciplines, media, and eras and in the specific sense that once a work has been created, it cannot change. The work itself is static, even if the law permits authors, courts, and others to re-characterize what it is. But, of course, things change. Art changes. Do works change?

Courts wrestle in this sense with the idea of the work as a boundary between static and stable works, on the one hand, and dynamic and changing works, on the other hand. Let us call this a boundary between creative form and creative flow, sometimes expressed as a boundary between culture and nature and as copyright's distinction between idea and expression. For an illustration, consider a recent case involving gardens and landscapes.

In *Kelley v. Chicago Park District*,¹¹² the plaintiff, without question an established and successful artist, designed an elaborate public flower garden with the permission and participation of relevant public authorities. After a long period of maintenance of the garden and then disputes between the designer and the owner of the garden space, the owner, the Chicago Park District, made substantial modifications to the garden over the objection of the designer. The designer, claiming that the landscape design was an original work of authorship

¹¹² 635 F.3d 290 (7th Cir. 2011).

protected in copyright, sued for violations of the right to integrity of the work under the Visual Artists Rights Act. Among the questions faced by the court was whether the designed public garden was a “work of visual art,” or a work of any kind, covered by the statute. The court of appeals, rejecting the plaintiff’s claim, concluded that it was not, although for reasons related to the manner in which the parties framed the issue, the case did not decide whether or not it was. The court began by accepting (as the parties had) that the landscape design consisted of a painting or a sculpture, the categories of copyrightable expression that it most resembled,¹¹³ that is, a kind of artistic work, and then considered whether that work met the requirements of the statute as to originality and fixation.

The court concluded that it did not. The court worried that copyright here was asked to recognize a work that was “infinitely malleable.”¹¹⁴ The court concluded (in a questionable bit of reasoning) that the garden did not rise to the level of originality or stable fixation required by the law, because the living garden was subject to inevitable changes over time, and the changes were not the product of the plaintiff’s authorship.¹¹⁵ So, while the court itself gave little weight to idea of the work itself aside from the statute’s other subject matter requirements, originality and fixation, there is a boundary principle in play that is based on the idea of the work but that is defined by subject matter tests, not by the idea of the work as an independent, autonomous thing.

In dicta the court expressed skepticism that the plaintiff’s landscape design should be treated as a painting or a sculpture, that is, that the design should be treated as a work in the first place. Were the opinion to be reconstructed along more sensible lines, one would argue that the landscape design was neither a painting nor a sculpture, nor “like” either of those things, and therefore failed to constitute a work in the first place. Originality, expression, and fixation might be found wanting, and their absence given as reasons to support this hypothetical judgment, even though it should be noted that an author’s originality and expression might be present, and fixation might be found, yet a copyrightable work might still be absent. To support the case for the defense, one could analogize the landscape design not to a painting or to a sculpture but instead to an elaborate meal prepared by a trained chef. The chef, we know, is a kind of creator, working with natural and prepared ingredients, blending them in original and even expressive ways, anticipating their interaction with natural processes (such as heat and cold), and “fixing” the result in the form of the meal as presented at table. Yet it is widely understood (though not without some

¹¹³ *Id.* at 292.

¹¹⁴ *Id.* at 301.

¹¹⁵ *Id.* at 303–04.

controversy¹¹⁶) that neither the chef's techniques, the chef's recipes, nor the resulting meals are protected by copyright.

My reconstruction of what the court might have been trying to do suggests that there is more to the boundary problem here than the record allowed the court to address. The court wrote: "The Park District suggests that Wildflower Works is an uncopyrightable 'method' or 'system.'"¹¹⁷ It continued: "Although Wildflower Works was designed to be largely self-sustaining (at least initially), it's not really a 'method' or 'system' at all. It's a garden."¹¹⁸

Unpacking that last statement ("It's a garden"; therefore, by implication, it cannot be a work), here as in the cuisine example above the work operates as a boundary object that lies between yet connects static works and dynamic things, between static things and dynamic "processes" or "systems," and between the static created work and the dynamic natural idea. Traditional copyright law and its focus on the independent, intangible creative thing contrasts with deeper, organic processes that are revealed by nature, even while both perspectives on landscape design and gardens themselves are literally and physically present in one and the same place and space. The court's answer to the challenge of distinguishing these things — "[i]t's a garden"—is clearly inadequate, because it simply re-states the issue. Why is a garden not a work? A work *qua* work is communicative and expressive, not simply functional. A work expresses the author's creativity and the audience's response; a work communicates the fact that humans produced it.¹¹⁹ Anything else—plants, flowers, animals, and prepared food—communicates (or *may* communicate) the fact that organic processes are primarily driving what we see and experience.¹²⁰ Nature is *given*, both in the sense that it simply exists in a sort of pre-cultural state, and also in the spiritual or religious sense that nature is a *gift* from someone or something other than ourselves. Earlier in this chapter I referred to works as boundary objects that may frame distinctions between material that circulates in market-based economies and material that circulates in gift-based economies. My

¹¹⁶ See Christopher Buccafusco, *On the Legal Consequences of Sauces: Should Thomas Keller's Recipes Be Per Se Copyrightable?*, 24 **Cardozo Arts & Ent. L.J.** 1121 (2007).

¹¹⁷ *Id.* at 303.

¹¹⁸ *Id.*

¹¹⁹ See Abraham Drassinower, *Copyright Infringement as Compelled Speech*, in **New Frontiers in the Philosophy of Intellectual Property** (Annabelle Lever ed., forthcoming 2012), available at <http://ssrn.com/abstract=1954858> (arguing that a work subject to copyright is a communicative act).

¹²⁰ This distinction evokes the principle of patent law that "laws of nature" may not be patented. See *Mayo Collaborative Svcs.*, 132 S. Ct. at 1293-94.

identification here of nature with the idea of *gifts* is meant to evoke that same distinction. I believe that the court in *Kelley* was, inarticulately and ambiguously, using the idea of the work to divide the world before into precisely those two realms.

Gardeners and chefs know, of course, that what appears to be “natural” often reflects deep and thoughtful engagement by humans. The vocabulary of giving is far from univocal; we may say that we receive gifts (from God, from nature, from others), and that we have gifts (special skills) and that we share them. Often, the conceptual linkages embedded in those phrases go unrecognized and unexplored, as do linkages between gifts and agency. Characterizing nature as a gift and as a source of gifts does not necessarily exclude human agency. To exclude gardening and cooking categorically from copyright amounts not only to excluding the effort and ingenuity of a particular author but also the practices, traditions, and expectations of an entire field. That field may be human-directed and cultural; that field may be scientific and technological; that field may be spiritual and only partly known or knowable by humans. The work in the case of natural things and processes is therefore the locus of a debate about what is in copyright and what is beyond it, or what is owned and marketable and what is *given* (recognizing and shared). The boundary established by the work and identified by *Kelley* in the court’s quick, dismissive statement is the contested boundary between the owned, controlled “creative,” or made, which is commodifiable and merchantable, and the unownable, evolving natural, which is a gift and a source of gifts.

IV. Conclusion

The goal of this chapter has been primarily descriptive. I have argued that the study of the copyright work is an example and illustration of the study of IP things in general, including not only works but also inventions, marks, secrets, designs, and so on. I showed in earlier research that these things are not only legal constructs but legal constructs that emerge from patterns of social interaction and of legal and policy decisionmaking. The purpose of this chapter has been to advance that research by putting those patterns in a broader framework grounded in the idea of boundaries. The copyright work has been incompletely understood because courts, scholars, litigants, and others have spent too much time trying to define the outer boundaries of the work and not enough time trying to understand the work as boundary or, more precisely, as a boundary object.

The concept of the boundary object is borrowed from research in information science. Such an object is an incompletely specified thing whose very incompleteness allows that object to bridge practices and expectations across adjacent and overlapping but distinct communities of practice and expectation. This chapter shows that in American copyright law, the copyright

work acts as a boundary object, crudely and sometimes incompletely distinguishing spheres of market-based social activity from other spheres. Sometimes those other spheres are other, related exchange-based markets; sometimes, those spheres are characterized by open, unregulated distribution or exchange or are governed by non-copyright institutions and norms. Because works, as things, are conceived intuitively as integrated objects, those spheres must co-exist. As a boundary object, the work allows them to do so in particular places and times. Articulation and interpretation of a work that is produced by a particular author or authors, and accessed, read, and re-used by particular readers, listeners, critics, and consumers, simultaneously and effectively becomes a means of expressing the interests and histories of broader social groups and institutions. Some of those interests and histories find formal recognition and acceptance in acknowledged forms of copyright works; some do not. Law, in this sense, both makes and interprets culture.

What do I intend as the implications of my argument? The chapter does not make a case for law reform, or even necessarily for greater investment by courts and policymakers in the concept of the work. My more modest aim has been to explore and to highlight the respective roles of things and of groups in a body of law that is often conventionally framed in terms of relationships alone, and specifically in terms of relationships between individual agents – an author or creator, on the one hand, and a reader, or consumer, or new author or creator, on the other.

More broadly, the point of the chapter is that questions and solutions surrounding the notion of things in law, including IP things, are not limited to questions and solutions connected to property law and theory. Things–copyright works, in the case at hand–are ways of organizing and interpreting social life. If that perspective has been persuasive in the context of the copyright work, then the boundary object analysis may be applied to the patentable invention and to the mark or the sign in trademark law, to designs, secrets and know-how, personae, and beyond.

Boundary object analysis itself is far more elaborate and nuanced than I allow for here. Boundary objects have different types and forms; there are “good” or “successful” boundary objects and there are “bad” or “weak” boundary objects. Boundary objects are subject to power dynamics and to hierarchy and coercion. By introducing the idea of gift exchange in broad and crude juxtaposition with market-based exchange, for example, I do not mean to elide the possibility that gift economies may be fraught with problems, and the boundary objects may be mis-used or badly designed in ways that reinforce their problematic character. There is much work to be done in exploring the further implications of boundary object analysis in IP law. I do not suggest that the concepts of the copyright work or of IP things generally are problem-free or that the concepts necessarily should be left as-is. In fact, by critiquing IP things as both expressions of culture and shapers of culture, I hope to clarify the ways in which public policy goals and

questions of social welfare may be expressed through the ideas of IP things.

Along the way, in this chapter I have critiqued indirectly the law’s shift from a more contextual approach to the copyright work as the creation of an author to a more abstract, universalized approach. In order to make the copyright work more effective as an instrument of policy, that shift might be reversed somewhat, by working the law back toward context, either by recommending that courts interpret the idea of the work with greater sensitivity to the particulars of practice in a given community, tradition, or market. To bring that general proposition into focus and potential application, further work in this area should pursue the meanings of boundaries themselves. It would be a mistake to invest the idea of boundaries, even as I have referred to them above, with an over-arching sense of rigidity or solidity. That is, what I see and foresee is the end of the work as an independent, autonomous, static thing and its renewal as a modestly fluid, dynamic thing embedded in multiple communities and practices. Boundary object analysis may be applied likewise to other IP things and to legal objects generally, while recognizing that not every *thing* is a boundary object. Sometimes, an object is simply an object.

Embedded within the several boundaries that I have identified in this chapter is a challenge to intellectual property’s fundamental interest in creativity, or creation of the new. The statement in *Kelley v. Chicago Park District* that gardens cannot be copyrighted¹²¹ fails to explore reasons why that might be so. Let us think of “gardens” and “gardening” as metaphors as well as literal things and practices. Treat a creator as a gardener and a creation as a garden, or as something that has a dynamic existence for a time after its initial production, in the hands of the creator as well as in the hands of third-parties—readers, viewers, interpreters, and curators. The contours of that follow-on life of the work, both static and dynamic in different parts, are of significant interest to the copyright system because of their critical roles in preserving knowledge and creativity for access and use by later generations. I have referred to these processes in their collective sense as “curation.”¹²² A gardener, too, is a kind of curator. In the contemporary sense and in the context of digital networks, copyright interests in curation are only likely to grow, because no knowledge or creativity curates itself, and digital forms of knowledge, particularly when they might be distributed across networks, require at least as much curation, and perhaps more, than forms that originated on more tangible, analog media, such as books. IP law is properly concerned with the production and distribution of new things – new works, inventions, and so on – but the complete study of those things reminds us that IP

¹²¹ *Kelley v. Chicago Park Dist.*, 635 F.3d 290, 303–04 (7th Cir. 2011).

¹²² See Michael J. Madison, *Knowledge Curation*, 86 **Notre Dame L. Rev.** 1957, 1958 (2011) (calling the “problem of cultural heritage” the “challenge of knowledge curation”).

law is likewise concerned with the preservation and curation of existing things. The note is well-grounded in history. The political movement of the eighteenth and nineteenth centuries that supported recognition of the independent author as a legal character and the intangible work as a legal thing were grounded in a specific conception of the work as an independent, autonomous, and *natural* product.¹²³

My tentative identification of the boundary between market exchange and gift exchange signifies that the large debates in copyright law are not merely over the scope of the author's (or producer's) right and the scope of the user's or consumer's or next author's right, or the scope of the public interest in general. The large debates are about the shape and behavior of relevant institutions in each sphere:¹²⁴ firms, collectives, and other formal institutions for producing and exchanging copyrighted works in the marketplace; norms, traditions, commons mechanisms, and other institutions (such as universities, museums, archives, and lending libraries) for sharing copyrighted works and for curating them, in the gift sphere. That list of institutions is preliminary and illustrative only. The challenge here is to flesh out the institutional sense of what exists on each side of the relevant boundary and to understand how social life is organized in those places, and how it should be organized, relative to those cultural resources. Why, in other words, do we assign certain social practices to the market, and why do we assign certain social practices to other domains? Debates and disputes among specific authors, publishers, intermediaries, and accused infringers are usually framed for doctrinal purposes in terms of specific agents and specific creations, but the real players in the theaters of copyright are organizational, institutional, and cultural. The concept of the copyright work as boundary object helps us make explicit connections between the former (individual agents) and the latter (institutions and practices).

Finally, what do we make of the changing roles of law and physics in all of this? Neither the phenomena of the law (copyright works, as legal things) nor the phenomena of things themselves (works of art, as non-legal things) – are static. This point goes not only to questions about the work but also to things more broadly. Legal things, in my telling, are related to but distinct from phenomenal things; legal things, I suggest, have a dynamic character. Phenomenal things, in my telling, are largely given, and they are largely given in a centralized,

¹²³ See Mario Biagioli, *Nature and the Commons: The Vegetable Roots of Intellectual Property*, in **Living Properties: Making Knowledge and Controlling Ownership in the History of Biology** 241 (Max Planck Institute for the History of Science Preprint 382) (Jean-Paul Gaudillière, Daniel J. Kevles & Hans-Jörg Rheinberger eds. 2009) (drawing attention to the use of naturalizing metaphors in the writing of Edward Young).

¹²⁴ Julie E. Cohen, *Copyright as Property in the Post-Industrial Economy: A Research Agenda*, 2011 **Wis. L. Rev.** 141, 165.

hierarchical sense. Conventionally, an author writes a book; a publisher publishes the book. The law examines that book and identifies a “work.” I claim that this work is then used by copyright law to define boundaries in social life.¹²⁵

I have not, however, acknowledged that both phenomenal things and the law itself have dynamic characters and are subject to processes of cultural construction and interpretation, yet both clearly are changeable and constructed – that is, built by culture as much as found in culture. Digital network technology is rapidly making this explicit with respect to phenomenal things themselves. We have already seen file-sharing technologies adopt complex things and decompose them. Record albums become sharable files; Hollywood motion pictures and giant computer programs are broken down into shareable torrents. Distributed technologies of de-composition beget distributed technologies of re-composition. To wit: The emerging science of 3D printing may soon offer individuals the power to create or replicate tangible things in the home,¹²⁶ just as the personal computer first offered individuals the power to create or replicate intangible things. We have already seen processes of distributed production (what Benkler has called “commons-based peer production”¹²⁷) create complex objects, such as open source computer software, and Wikipedia.

I close with the following speculation, derived from the fact that my exploration of things and of groups is part of a broader interest in the sources and character of law itself. This review of the copyright work has been a case study of how a particular legal thing is created and governed in law. If these things are not what they seem, for the reasons suggested in the previous paragraph, then is law, too, not what it seems? Is law, particularly to the extent that it relies on and establishes things and groups, losing its essentially centralized character? Open source licenses and Creative Commons licenses and their emerging cousins are, in important ways, peer-produced forms of law and governance, enforceable via communal norms related to gift exchange models with respect to specified things at least as much as they may be enforceable by courts attuned to assumptions of market-based exchange, and perhaps more so.¹²⁸ If things are boundary objects

¹²⁵ It should be obvious that this sequence has a recursive character, but the recursion is necessarily slow-moving.

¹²⁶ See *The printed world*, **The Economist**, Feb. 10, 2011, at 77.

¹²⁷ See Yochai Benkler, *Coase's Penguin, or, Linux and the Nature of the Firm*, 112 **Yale L.J.** 369, 375-378 (2002).

¹²⁸ See Michael J. Madison, Brett M. Frischmann & Katherine J. Strandburg, *Constructing Commons in the Cultural Environment*, 95 **Cornell L. Rev.** 657, 661-62 (2010). For a different critique of centrally-produced law in an economy characterized by distributed production, see Gillian K. Hadfield, *Legal Infrastructure and the New Economy*, 8 **I/S: J. L. & Pol'y for Info. Soc'y** 1 (2012) (advocating production of law in private markets).

with respect to social practices, and the (legal) power to make things represents the (legal) power to make the boundaries represented in those objects, then distributed thing-making technologies and distributed law-making practices threaten to de-center law as a central source of authority over the shape of those practices. If I, with or without some relevant group, can make my own “thing,” I can, in a sense, make my own law and my own social world. Limits on thing-making and law-making stem, if they arise at all, not from the relationship of things to property law (thus confirming my initial reluctance to frame this project in terms of property law) but from the normative shape of society as a whole.