

# The IP Law Book Review

IP Law Center, Golden Gate University School of Law

**Vol. 2 No. 1 (September 2011) pp. 35-52**

**FIGURES OF INVENTION: A HISTORY OF MODERN PATENT LAW** by **Alain Pottage and Brad Sherman**. Oxford University Press, 2010. 212 pp. Hardback \$150.

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FIGURES OF INVENTION could plausibly be described as Justice Joseph Story's observation that "the doctrine of patents may truly be said to be the metaphysics of the law"<sup>1</sup> meets Jacques Derrida's iconic aphorism "there is nothing outside the text."<sup>2</sup> For the faint-hearted this is, perhaps, reason enough to skip the book, but this would be a grave mistake. Pottage and Sherman have produced an insightful, fascinating and original work. It examines a topic that has recently attracted growing attention—the history of patent law in the nineteenth and twentieth centuries—from a novel and uncommon perspective. In pursuing their project of retracing the emergence of the concept of the invention in modern American patent law the authors combine insights and methods from the fields of history, sociology of science and technology, linguistics, and law. The outcome is a rich synthesis that adds an important and illuminating layer to our understanding of how the most fundamental constitutive concept at the heart of the modern field of patents—the invention—was created and reshaped over the course of two centuries.

What is an invention? Contemporary patent lawyers are rarely bothered by this question. Their focus is typically more pragmatically fixed on doctrines (such as patentable subject matter, novelty or non-obviousness), or on practices (such as claim drafting, prosecution of a patent application, or establishing an infringement claim in litigation). Nevertheless, the concept of the invention lies at the heart of the patent system. It is an element which is taken for granted, around which most patent discourse is organized. The underlying concept of the invention gives meaning to the doctrines and practices at the very same time that it is constituted and shaped by them. The invention acquired this status simultaneously with the rise of the

modern concept and praxis of intellectual property. The two are thus closely intertwined. Scholarly accounts differ greatly in dating the rise of intellectual property with some locating it as early as the fifteenth century.<sup>3</sup> As Pottage and Sherman correctly point out, however, key elements of the modern ideology of intellectual property are the assumption that ideas rather than artisan skill or know-how are the prime movers of innovation and a sharp distinction between the artisan and inventor as the creator of intellectual ideas (p.29). Those elements consolidated only in the late eighteenth and nineteenth centuries. In the area of patents the concept of the invention was the main locus where those conceptual developments were played out.

Justice Story made his observation at the moment of this rupture when a new set of assumptions and concepts was beginning to take hold. This accounts for the metaphysical nature that Story associated with patents, and which he elsewhere attributed to copyright as well.<sup>4</sup> It was at the time when one conceptual system was declining and another one was beginning to take its place that the background assumptions of the system were exposed and were experienced as metaphysical. Another reason was the obviously constructed, or as Pottage and Sherman put it, “fabricated” nature of the invention (p.17). In the new scheme of intellectual property inventions were designated as intangible, ideal objects of property and clearly distinguished from any material apparatus, commercial trade, or person embodying artisanal skill. Once this happened, courts, lawyers and commentators were faced head on with the daunting task of having to define the invention and demarcate its borders. One, after all, does not encounter inventions in the abstract, idealist sense that the term came to denote in patent discourse on the streets or even in research laboratories. Beginning with the 1795 great English case of *Boulton & Watt v. Bull*<sup>5</sup> Anglo-American courts and commentators found themselves in a struggle to come to terms with the invention. The struggle took many doctrinal and conceptual forms, but in nineteenth century American patent jurisprudence its most elaborate and intense manifestation was the question of the patentability of “principles.”<sup>6</sup> In 1835 one commentator in the *Westminster Review* described the word “principle” in patent law as a “law- fantom,” a “witchcraft used by the lawyers [that] consists in mingling three different meanings together, used by the aid of certain professional solemnities, producing a mystical word, capable of harlequinizing an idea into many various forms.”<sup>7</sup> No matter how much treatise writers and judges denied this observation and tried to explain that the source of the problem was a semantic confusion,<sup>8</sup> the vexing question of the patentability of principles came back to haunt them during the entire century. Looking back in 1890,

the treatise writer William Robinson commented on this century-long confusion. He was too sanguine when he claimed that at that point the issue was resolved and the meaning of invention was finally pinned down by his “scientific” analysis.<sup>9</sup> In the early twenty first century American courts are still struggling in a variety of doctrinal contexts to come to terms with the meaning and implications of the modern elusive concept of the invention. The overt theoretical terminology of the nineteenth century was replaced by doctrinal and normative discourse. The strong experience of the metaphysical nature of the law dissolved as the new scheme of intellectual property became established and as the elements of that scheme became the silent conceptual foundations of the field that are taken for granted. But the basic dilemmas, tensions and indeterminacy generated by the fabricated notion of the invention remained, to a large extent, the same.

FIGURES OF INVENTION examines how the modern notion of the invention and the elaborate conceptual framework woven around it came into being and how it mutated and evolved in the American patent system since its birth in 1790. While in this respect the book is an intellectual-legal history, the authors’ main focus is neither law nor intellectual concepts. Instead, they are mainly preoccupied with what might be called practices of instantiation. These are the ways in which the abstract concept of the invention became real, understandable and accessible in and through everyday practices in the court room, the patent office, or the patent lawyer’s office. At the heart of these practices are material media and techniques of representation: texts, drawings, models, deposited biological samples. Indeed, Pottage and Sherman declare, in what should be charitably read as a rhetorical exaggeration, that the “main actors are not people but material modes of representation” (p.17).

It is here, at the methodological core of the work that Derrida (who is never mentioned in the text)<sup>10</sup> enters the picture. This core consists of three basic premises. The first one is that inventions as intangible “objects” are never directly accessible. They always “have to be elicited from material embodiments... through the material features and observable movements to which patent discourse ascribes legal significance” (p.13). The second premise is that these material embodiments are “like texts” in the sense that they always have to be “deciphered, interpreted and ascribed a meaning” (p.13). This interpretive activity is “thoroughly constructive” in that it does not merely uncover meaning but rather creates it. The third one is that patent law and practice as a “medium of communicative action” (p.10) is not a system of straightforward representation in the sense of direct correspondence between “word and world” (p.9). The sign (in this case the

various representations of the invention) does not constitute a straightforward image of its referent (in this case the invention), but rather involves a “risky intermediary pathway” (p.9). All that is accessible to us are “chain[s] of reference” that are “fabrications that make the invention visible and tractable” and in contingent ways “condition how and what appear as the invention” (p.10).

At times Pottage and Sherman state the third premise in ways that could be read as subscribing to an implausible but rather common understanding of one of the main tenets of deconstruction, i.e. the claim that signs are completely self-referential in the sense that they refer only to other signs rather than to anything in the world.<sup>11</sup> When, for example, in discussing the role of the patent claim the authors remark that “when interpreters elicit a referent from a text they are not crossing a divide between word and world, they are moving along a chain of reference, between texts and quasi-texts” (p.144),<sup>12</sup> this could be easily read as adopting the complete self-reference view. Its popularity notwithstanding, however, this view is both implausible and based on a misreading of the aphorism that usually serves as its battle-cry “there is nothing outside the text.”<sup>13</sup> A much more plausible reading of the claim does not deny altogether the relationship of reference between signs and the world, but rather rejects the notion that we can ever have a direct access to the world which is not mediated through signs. While signs (or means of representation) do refer to an external reality the latter is always accessible to us only through the prism of the former, with its mediating effect and its susceptibility to interpretation and reconfiguration.<sup>14</sup> Pottage and Sherman’s methodological stance in the book could and should be read this way. Their observation that “there is nothing beyond a chain of reference“ is only plausible if one emphasizes the crucial qualification in the second half of that sentence: “or at least nothing that can be noticed otherwise than by extending or inflecting the chain” (p.148). The focus of the work is on the means of representation for “fabricating” inventions not because there is nothing outside these means, but rather because inventions are only accessible to us and only acquire their specific meaning through these “figures of invention.”

The substance of the book’s account is a survey of the various modes of fabricating inventions—such as specifications, models, claims, or the deposit of biological samples—as they developed, mutated, and interacted with each other during a period of almost two centuries. The starting point of the survey is a brilliant analysis of the conceptual construct that was the focal point of all the various modes of fabricating inventions during the covered period referred to by the authors as the paradigm of industrial

manufacture. Within this paradigm the invention was imagined as an ideal template from which a potentially endless series of identical material products could be reproduced. The paradigm of industrial manufacture was thus firmly located within the social conditions, both material and ideological, of mass industry producing standardized commodities. Of the various facets of the paradigm of industrial manufacture that the authors carefully draw out three interrelated ones seem particularly important. First, relying on Marx's analysis of alienation Pottage and Sherman explain how in the new system of manufacturing the process of materially creating artifacts was completely "instrumentalized," both practically and ideologically. "[N]ew workshop organization, mechanization, and (ultimately) automation" (p.26) transformed the physical process of manufacturing into a series of standardized, monotonous and thoughtless operations and turned the craftsman into a mere laborer. Second, this new sharp distinction between the physical process of fabrication and the underlying design of the product or the invention embodied in it marked a new understanding of "disembodied knowledge," clearly separated from the process of manufacture or from the skill and person of those taking part in it (pp.22-25). It was at this point that Marx located the appearance of what we call "intellectual property" which he described as the worker being "brought face to face with the intellectual potentialities of the material process of production as the property of another and as a power that rules over him" (p.29). It was also the point at which "invention becomes a business and the application of science to direct production becomes a prospect which determines and solicits it" (p.30). Third, this framework clearly designated ideas or disembodied knowledge as the central and most valuable part of the process of manufacturing. The intellectual original templates, as opposed to the countless physical derivative copies, became the "prime movers" of industry and the most important assets within it (p.20).

Pottage and Sherman see the paradigm of industrial manufacture as lying at the heart of modern patent discourse, but their ultimate interest is in the various ways in which this framework was instantiated through material practices and techniques or in the "specific technical and practical networks that animate the discourse of patent jurisprudence" (p.43). The first significant practice of this kind in modern patent discourse to be analyzed is the specification. The specification or the written description of the invention established at the heart of the field of patents a specific mode of fabricating inventions: it textualized them. From a modern perspective for which the textualization of inventions is taken for granted, it is easy to miss the contingency and importance of this development. The written description first appeared in eighteenth century England, probably at the

initiative of patentees, for reasons that had little to do with the modern theory of the function of the specification.<sup>15</sup> It was only in the late eighteenth century that courts and then commentators reconceptualized the disclosure in the specification as a crucial element of a “deal” between the public and the patentee, the act that constituted the patentee’s consideration in the form of giving the invention to the public.<sup>16</sup> American patent law adopted this theory from its inception. The practice, however, was very different from the theory both in Britain and the United States. For most of the nineteenth century, due to a combination of practices, administrative attitudes and rules, the specification was not a readily available document disclosing the invention to any interested member of the public (pp.54-58). During this period the main function of the specification was ideological rather than practical.

While acknowledging the ideological role of the specification during this period as a key component of the official theory (rather than practice) of patents, Pottage and Sherman locate its main significance elsewhere. In their account the crucial effect of the specification was turning the invention into a “thing” and thereby paving the way “for the emergence of the modern concept of invention” (p.59). At the end of the eighteenth century the invention came to be described in patent jurisprudence as the object of property rights. But seen as an idea the invention seemed to many, famously Thomas Jefferson,<sup>17</sup> as lacking the essential traits of the traditional tangible object of property and therefore as incapable of being subjected to property rights. The problem was thoroughly debated in Britain in the context of copyright and its own intangible object of property—the “work”—in the late eighteenth century litigation and public debate over the question of common law literary property.<sup>18</sup> Like the literary work, as an abstract idea the invention had no visible or clear boundaries to demarcate an owned object, no markers that could indicate possession or what was being possessed. The specification resolved or at least ameliorated this problem by identifying the invention with a concrete text. It thereby “fostered a practical sense of the invention as something that could be possessed, delimited, or conveyed” (p.59). The key to this effect was “recollection” or reproducibility—the ability to have a stable and concrete perception of the invention from which it could be communicated and reproduced (p.60). This created an analogy to or a partial substitute for the markers of possession and ownership that in the case of tangible objects were expressed in spatial and material ways. In the authors’ words, “reproducibility was a surrogate for materiality” (p.62).

For most of the nineteenth century the specification was neither a reflection of its official role as the patentee's consideration nor a central element of the specific techniques used for conceptualizing and defining particular inventions. During that period these techniques were dominated by the model rather than the specification. The twofold significance of the specification was located elsewhere. First, as Pottage and Sherman convincingly argue, it played a crucial role in constructing the invention as an object of property, thereby absorbing the conceptual and practical shocks generated by the modern notion of intellectual property. Second, the specification introduced and placed at the center of patent discourse the basic technique of textualizing the intangible. This technique was based on the creation of a separate textual layer that was identified as the invention itself or as capturing it in a form more amenable for the demands and assumptions of property discourse. The significance of this development is illuminated by its contingency. There was nothing necessary or preordained in the appearance of this technique and the assumptions associated with it. This is borne out by the parallel development of other fields of intellectual property, most notably copyright, that never came to rely on similar techniques of textualization.

The next figure of invention covered is the model. Whereas modern eyes tend to see patent models as curious toys or novelty items, relics from bygone simpler times, during most of the nineteenth century the model was the main means for representing and coming to terms with specific inventions. The model dominated the practices of representing the invention to a much greater degree than reflected in the formal legal rules pertaining to it. It played a central role in dealings with the Patent Office, in priority checks, in communication between lawyers and patentees, and especially in litigation. During its heyday it was considered a much more reliable and accurate means for capturing the essence of invention by comparison to text or drawings. In 1867 one judge instructed the jury that “[t]here is nothing, perhaps, more satisfactory upon questions involving the identity of several mechanical structures than the exhibition of the machines or accurate models of them.”<sup>19</sup> An array of connections linked the model to the doctrinal and conceptual frameworks of the time and made it particularly congruent with them. The paradigmatic invention of the period was the machine. Jurists who struggled to conceptualize the patentable essence of inventions came up with a construct they called the “mode of operation” or later the “idea of means.” Robinson described it in his treatise as “the intellectual essence of that artificial method by which the inventor has applied to some determinate end, the natural force.”<sup>20</sup> This inventive essence was understood as revealing itself through observation of the

machine in action, as something that “can ordinarily be perceived and apprehended by the mind... only by observing the powers or qualities of matter, or the laws of physics, developed and put into action by that arrangement of matter.”<sup>21</sup> Models, as Pottage and Sherman explain, “became an established means for communicating the invention because they were adapted to a form of mechanical knowledge in which machines were apprehended as ‘sensible objects,’ or as visible and manipulable artefacts” (p.87). Models also fitted the modes of claiming inventions and litigating the validity or infringement of patents. The nineteenth century method for determining the scope of patented inventions and of prior art was based on central claiming.<sup>22</sup> This involved describing or demonstrating a core embodiment and then identifying the scope of invention as encompassing any variant substantially similar to it. In litigation juries played an important role in regard to questions of validity, construction and infringement. The model was the perfect media for these conditions. It offered judges and especially jurors a three dimensional visual representation of a core embodiment of the invention that was accessible and comprehensible. It is no wonder that “most patent infringement actions turned on arguments made through the material rhetoric of the model” (p.105).

It was only toward the end of the nineteenth century that the model declined and lost its primacy to the text. Thus in 1879, reversing the earlier hierarchy, the New York Times could comment that the model “may easily be made to show features and principles not embodied in the original invention.”<sup>23</sup> The rise of the status of the text also marked the ascendancy of the textual element that today is most associated with the invention: the claims. Contemporary patent lawyers who tend to take for granted the equation of the claims with the protected invention itself may be surprised to learn that although claims were formally required since the 1836 Patent Act,<sup>24</sup> they only acquired this status gradually and relatively recently. The exclusive association of the protected invention with the language of the claims and the modern strict peripheral claiming approach (based on the premise that the claims mark the outer limits of the protected invention) developed in a slow process that extended well into the twentieth century, indeed, probably into the 1970s.<sup>25</sup> Pottage and Sherman chronicle the process in which claims arose to this dominant status, gradually displacing or subordinating not just models but also the specification and drawings. They also provide an illuminating discussion of the set of techniques or craft skills—to which following one early twentieth century manual writer they refer as “claimology” (p.135)—that developed around claims: drafting and construction techniques that simultaneously relied on and created the



new status of claims. Claims and models, the authors argue, are very different ways of representing inventions and of translating them into legal forms. Giving legal meaning to inventions using models operated mainly “within the context of the trial” (p.118) through a relatively free-form or common-sense-based manner in which “the process of translation was always taken up afresh in each case” (p.119). Claims, on the other hand, introduced the invention in trial already coded in legal and highly stylized terms. Litigation arranged around a model (and premised on central claiming) had the form of inquiring after “the ‘real’ nature of the invention” (p.119). With claims that are assertive in nature and already coded in legal forms the central underlying question became “whether a given mechanical feature could bear the legal significance claimed for it by the inventor” (p.119). Claims did not change, of course, the fact that the legal meaning of a mechanical invention was “open to negotiation” (p.119), but they did fundamentally alter the frame and the dynamics of this negotiation.

The last two chapters of FIGURES OF INVENTION are devoted to describing the ways in which the rise and gradual acknowledgment within patent law of categories of inventions markedly different from the paradigm of the machine—at first plants and then other living organisms—challenged both the doctrinal-conceptual assumptions of patent law and the existing modes of fabricating inventions. The framework that developed in the context of patents as “mechanical jurisprudence” did not collapse, but some of its elements came under strain, while others mutated and were adapted to accommodate the new subject matter. Pottage and Sherman identify three main elements composing the modern notion of invention (within the paradigm of the industrial manufacture): origination, description, and reproduction (p.174). The emergence of new biological inventions challenged the first two elements. These challenges were met, at least in part, by rearranging the relationship between the elements and by altering their relative significance. The 1930 Plant Protection Act<sup>26</sup> that extended patent-like protection to new asexually reproduced plant varieties exposed the tension between newly emerging categories of invention and the dominant framework. Unlike the context of mechanical innovation, developers of new plant varieties were not inventors in the sense of being originators. They did not originate the invention by creating and putting into practice a preconceived design, but rather captured and stabilized new plant variants produced by nature. Additionally new plant varieties did not easily lend themselves to textualization. The difficulties in adequately reducing such innovations to a written disclosure created tensions both with the formal requirement of enablement and with the established mode of fabricating inventions through texts. On the formal-doctrinal level these

tensions were handled by relegating plant patents to a separate legal regime that, among other things, greatly liberalized the disclosure requirement. The more fundamental ideological challenge triggered a reconsideration of the concept of invention and, ultimately, partial adjustments to it. Most importantly, in order to accommodate plant patents invention was now theoretically framed as being “inductive rather than originating” (p.153). The emphasis shifted from designing and creating a new innovation to identifying and stabilizing mutations found in nature and giving them reproducible form. This rearranged the elements of the industrial manufacture framework. Whereas in the traditional framework the innovative idea preceded and controlled the reproduction, here the reproduction tamed the innovation and captured the idea.

In the second half of the twentieth century and especially after the Supreme Court’s decision in *Diamond v. Chakrabarty*<sup>27</sup> opened the floodgates, biological innovations, no longer confined to a special sui generis regime, entered the mainstream of the patent system. This extended the challenges first precipitated by plant patents. What does it mean to invent a living organism? Where does one draw the line between the “product of nature” and human ingenuity? How are innovations of this kind captured, described, and defined? Pottage and Sherman suggest that the basic conceptual maneuver used to normalize patents in living organisms was based on generalization and analogy. From this perspective biotechnology came to be seen as analogous to mechanical manufacture because it “is the latest variation on the theme of instrumental—or instrumentalizing—technology; just as the mechanical and chemical sciences instrumentalized inanimate nature, so biotechnology instrumentalizes animate nature, and turns organisms into manufactures” (p.181). Accommodation of the new subject matter occurred not just on the conceptual level, but also through the emergence of new techniques for fabricating inventions. Pottage and Sherman highlight in particular two of those techniques. The first is disclosure by way of deposit of biological samples that replaced the traditional emphasis on “intellectual possession” of the invention with “possession of the biological means of (re)production” (p.193). The second is the exploitation within patent practice of new scientific methods for taxonomy and naming codes for organisms for purpose such as drafting claims or analyzing novelty and patentable subject matter questions. The authors diagnose such uses as a new figure of invention that they name the “composite biological-textual representation” (p.200). Drawing on the book’s theme of construction of the invention through interlocking chains of representation, they explain that the two techniques and others combined to fabricate the biological invention: “[t]he material deposit, the written

descriptions of its competences (in the patent text and in the patent literature), the taxonomic data associated with the deposit, the claims of the patent, evidence of the state of the art—all constitute the elements of an operation of ‘induction between particulars’ from which the form of the biological invention emerges” (p.206).

Together these chapters form a fascinating journey through the ways in which the metaphysical emerged from the everyday, mundane practices of patent law. The picture, as the authors recognize (p.18), is incomplete. One suspects that interesting variants of the story could be told about the development of the various ways of fabricating inventions in the chemical, electrical, and informational fields, as well as about what is known in the U.S. as “business method patents.” Nevertheless, the work offers an insightful analysis of a broad swath of subfields of invention, undertaken from an original perspective that is largely unexplored in the patent history literature. What else could one ask for? Naturally, the answer is: “more.” The remarks that follow suggest some relative weaknesses of the work, but they are mainly aimed at offering some lines of inquiry along which the implications and significance of the current account could be further explored.

One somewhat disappointing aspect of *FIGURES OF INVENTION* is the extent to which it is not written as “history from below.”<sup>28</sup> The term has multiple meanings in historiographical usage, but as used here it means an historical account which is empirically grounded in the actual practices and experiences of historical actors and which relies on sources that are relatively close to those experiences. The book relies mainly on formal legal sources such as reported appellate court opinions, legal treatises, and patent manuals and guides that are several times removed from the actual practical experiences of most relevant actors. Admittedly, the authors extract an impressive amount of data from the “traces” left in those documents, but the account based on them is by necessity still remote from being a rich empirical reconstruction of actual practices. To be sure, this is easier said than done.<sup>29</sup> Moreover, since one can only do so much in one work, a more history from below perspective might have required compromising one of the book’s valuable features—its broad sweep. Still, given the authors’ strong methodological emphasis on social practices and on the ways that material media functioned in actual activities of historical actors, it is noticeable that the work does not include much by way of thick description of such elements. What exactly did patent lawyers, patent examiners, and patentees do during the various stages of the life of a patent? How exactly did the figures of invention surveyed operate and how were

they used in the courtroom setting or in lawyer-client communication? Was the development of modes of representing invention shaped by the fact that, according to some accounts, around the 1860s a single law firm prosecuted about a third of the patents issued in the U.S.?<sup>30</sup> To put the point more constructively, FIGURES OF INVENTION could be seen as a brilliant but still rather abstract and speculative framework for understanding historical patent practices; a framework that ideally should be filled with more concrete content (and inevitably be reinterpreted along the way) by narrower, and more empirically attuned future studies.

Another issue which merits more consideration is the comparison of the history of the representation and fabrication of invention with the parallel processes in other fields of intellectual property that were haunted by the same fundamental difficulty of conceptualizing and instantiating the intangible. A case in point is patent law's not quite identical twin: the field of copyright. Initially, it is tempting to draw a categorical distinction between the two fields. Unlike patents, in copyright—especially copyright in books that were the paradigmatic subject matter of the early nineteenth century—the intangible object of property is already given in a relatively stable and concrete form of a text.<sup>31</sup> It follows, perhaps, that in copyright there was less of an urgent need for creating additional layers of representing and fabricating the object of protection. This line of reasoning is faulty, however, because copyright, whether it applies to texts or—as began to happen in the second half of the nineteenth century—to other non-textual subject matter, involves its own constructed and elusive object of property: the work.<sup>32</sup> Just as the machine is only a specific embodiment of a more abstract constructed entity that is seen as the real object of patent protection, the text of a literary work or the material form of a photograph is seen as one specific embodiment of a broader abstract object known as the work to which copyright applies. Indeed, the elaborate nineteenth century theorization of intellectual property as ownership of an abstract intangible essence that could be manifested in many different concrete forms appeared simultaneously in patent and copyright jurisprudence.<sup>33</sup> Just as the invention can only be reached through chains of fabrication, access to the work always requires some mediating representational media. Although perhaps not as readily apparent, such means of fabrication are just as pervasive in copyright practice as they are in the patent context. Consider, for example, the master in chancery report that was a standard tool in nineteenth century copyright litigation in equity,<sup>34</sup> expert opinions and their various textual and non-textual techniques for dissecting and representing creative works, and legal arguments that construct through language works,

such as the “James Bond character”<sup>35</sup> or the “Harry Potter world,”<sup>36</sup> that are only manifested in a group of specific novels and films taken together.

Copyright, in short, is based on means and techniques of fabrication, every bit as much as patent law, but not on the same means and techniques. One significant difference is that, contrary to patent law, copyright never developed a stable practice of a formalized textual layer regulated by specific rules and conventions that is taken to be a full description and demarcation of the intangible object of property. The point is twofold. First, there is a need for an historical account parallel to that of FIGURES OF INVENTION in the field of copyright. Second, some complex comparative questions arise. Given the ongoing struggle within the two fields with the same representational difficulties and the joint conceptual framework that assumes an intangible object of property, what accounts for the very different techniques of fabrication that developed within them? Is there something “really” there in the nature of the typical subject matter of the two fields that makes each amenable to different modes of representation? Perhaps it could be argued that, given the subject matter of copyright, works could relatively easily be constructed through direct sensual experience of a concrete embodiment thereby making such direct experience the center around which other fabrication techniques are usually deployed. In the context of technological innovation, the argument would go, it is harder for most people to construct inventions on the basis of direct experience of specific technological embodiments and therefore fabrication techniques tend to revolve around separate layers of representation such as the text of claims and the specification. Alternatively, are the different modes of representation in the two fields simply the outcome of historical contingencies and path dependencies, of the fact that in certain moments in the timeline certain techniques were more readily available or simply accidentally got entrenched? Does the correct account combine, perhaps, elements of those two different explanations?

Last to be discussed here but not least in importance is the question of the significance of the changing patterns of fabricating inventions uncovered by FIGURES OF INVENTION. Why, if at all, did it matter that in different periods different figures of invention became dominant? Are these techniques of representation “just a language” in the colloquial sense that any speaker, as long as she masters the relevant forms and conventions, can convey the same content or make the same arguments equally effectively within each mode of representation? Alternatively, these techniques may be like language in the sense associated with the term since the linguistic turn, that is, language as constitutive of reality, as organizing and constraining

through its internal unique forms, structures and relations the very ways in which speakers understand and experience reality.<sup>37</sup> From this perspective the shift from one mode of representation to another matters greatly because it affects and constrains the meaning of what is being represented. The authors' recurrent denial that one could have access to the reality of inventions in a way which is unmediated by chains of representation suggests that their sympathy lies with the latter alternative. The book, however, never offers an account of the concrete effects created by the mediation of invention through different modes of representation or of how those effects were created. Ultimately this is a variant of the old unresolved question in critical legal history of tilt or legitimation.<sup>38</sup> Is it the case that frameworks of legal arguments or concepts may have a constraining or constitutive effect, in the sense of privileging or legitimizing certain substantive options and marginalizing others? If so how does this effect come into being? FIGURES OF INVENTION raises similar questions about the legal practices of fabricating inventions. An elaborate account of the consequences of changing practices of fabricating inventions, if feasible, could connect these changes to social effects. Were certain subject matter areas more likely to be seen as naturally suitable for patent protection under a particular mode of representation? Did practices of constructing invention help to mold assumptions about the appropriate scope or shape of patents? Most importantly, were the legal practices merely after the fact practical-ideological reflections of changes determined by other social forces (e.g. plant patents were introduced and the legal forms and practices were adjusted to that change), or did they play some active causal role in facilitating some outcomes and resisting others? FIGURES OF INVENTION contains some interesting hints, but not a clear and elaborate attempt to answer these questions.

That FIGURES OF INVENTION gives rise to these fascinating questions, even if it does not adequately answer them, is a testament to the quality and depth of the work.

## ENDNOTES

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<sup>1</sup> Barrett v. Hall, 2 F. Cas. 914, 923 (C.C.D.Mass. 1818).

<sup>2</sup> Jacques Derrida, OF GRAMMATOLOGY 163 (The Johns Hopkins University Press, 1976).

<sup>3</sup> Pamela O. Long, OPENNESS, SECRECY, AUTHORSHIP: TECHNICAL ARTS AND THE CULTURE OF KNOWLEDGE FROM

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ANTIQUITY TO THE RENAISSANCE (The Johns Hopkins University Press, 2001); Pamela O. Long, Invention, Authorship, “Intellectual Property,” and the Origins of Patents: Notes Toward a Conceptual History, 32 *Tech. & Culture* 846, 847 (1991).

<sup>4</sup> *Folsom v. Marsh*, 9 F. Cas. 342, 344 (C.C.D. Mass. 1841).

<sup>5</sup> (1795) 126 Eng. Rep. 651 (C.P.).

<sup>6</sup> See Oren Bracha, *Owning Ideas: A History of Anglo-American Intellectual Property* 432-491 (June 2005) (unpublished S.J.D. dissertation, Harvard Law School).

<sup>7</sup> 44 *Westminster Review* 459 (1835).

<sup>8</sup> See e.g. *Barrett v. Hall*, 2 F. Cas. 923; Willard Phillips, *THE LAW OF PATENTS FOR INVENTIONS* 96 (1837); 1 William C. Robinson, *LAW OF PATENTS FOR USEFUL INVENTIONS* 192 (1890).

<sup>9</sup> Robinson, *supra* note 8, at 114.

<sup>10</sup> The themes of deconstruction are injected into the work indirectly through the authors’ reliance on a strand of the sociology of science literature that appears to draw heavily from that body of thought.

<sup>11</sup> For a critical reference to this common view see James K. A. Smith, *JACQUES DERRIDA: LIVE THEORY* 44 (Continuum, 2005); Duncan Kennedy, *A Semiotic of Legal Argument*, 45 *Syracuse L. Rev.* 75, 108 (1991).

<sup>12</sup> See also p. 144. (“the axis along which meaning emerges is the ‘lateral’ axis that relays word to word, text to text, rather than a ‘vertical’ relation of text to thing”).

<sup>13</sup> Famously, Derrida firmly rejected the reading of his claim that there is nothing outside the text as denying the existence of a non-textual reality. See *JACQUES DERRIDA, LIMITED INC.* 136 (Northwestern University Press, 1977).

<sup>14</sup> See Smith, *supra* note 11, at 44-45; Colin Wight, *Limited Incorporation or Sleeping With The Enemy: Reading Derrida as a Critical Realist*, in *REALISM DISCOURSE AND DECONSTRUCTION* (Jonathan Joseph, John Michael Roberts eds., Routledge, 2004), at 206-208; Quentin Kraft,

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Toward a Critical Re-Renewal: At the Corner of Camus and Bloom Streets, in *BEYOND POSTSTRUCTURALISM: THE SPECULATIONS OF THEORY AND THE EXPERIENCE OF READING* (Wendell V. Harris ed. 1996), at 242-243; Duncan Kennedy, *A Semiotics of Critique*, 22 *Cardozo L. Rev.* 1147, 1182 (2001), note 99.

<sup>15</sup> Bracha, *supra* note 6, at 66-68; Christine MacLeod, *INVENTING THE INDUSTRIAL REVOLUTION: THE ENGLISH PATENT SYSTEM 1660-1800*, at 51 (Cambridge University Press, 1988); E. Wyndham Hulme, *On the Consideration of the Patent Grant Past and Present*, 13 *L.Q.R.* 313, 317 (1897).

<sup>16</sup> The classic English case is Lord Mansfield's 1778 decision in *Liardet v. Johnson*. The case was never officially reported. See John N. Adams & Gwen Averley, *The Patent Specification: The Role of Liardet v. Johnson*, 7 *J. Legal Hist.* 156 (1986).

<sup>17</sup> Letter from Thomas Jefferson to Isaac McPherson (August 13, 1813), in 8 *THE WRITINGS OF THOMAS JEFFERSON* 326 (Albert Ellery Bergh ed., 1907).

<sup>18</sup> See e.g. Ronan Deazley, *ON THE ORIGIN OF THE RIGHT TO COPY* 115-210 (Hart Publishing, 2004); Mark Rose, *AUTHORS AND OWNERS: THE INVENTION OF COPYRIGHT* 67-112 (Harvard University Press, 1993); Brad Sherman & Lionel Bently, *THE MAKING OF MODERN INTELLECTUAL PROPERTY LAW: THE BRITISH EXPERIENCE, 1760-1911*, at 19-42 (Cambridge University Press, 1999).

<sup>19</sup> *Blanchard v. Puttman*, 3 *F. Cas.* 633, 635 (C.C.S.D. Ohio 1867).

<sup>20</sup> *Robinson*, *supra* note 8, at 199.

<sup>21</sup> George Ticknor Curtis, *A TREATISE ON THE LAW OF PATENTS FOR USEFUL INVENTIONS IN THE UNITED STATES OF AMERICA*, at xxviii-xxix (1849).

<sup>22</sup> See Karl B. Lutz, *Evolution of the Claims of U.S. Patents* (pt. 3), 20 *J. Pat. Off. Soc'y* 457, 472-474 (1938); Dan L. Burk and Mark A. Lemley, *Quantum Patent Mechanics*, 9 *Lewis & Clark L. Rev.* 29, 52 (2005) John M. Golden, *Constructing Patent Claims According to Their "Interpretive Community": A Call for an Attorney-Plus-Artisan Perspective*, 21 *Harv. J. L. & Tech.* 321, 348-349 (2008).



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<sup>23</sup> “The patent bill,” *New York Times*, January 11, 1879 (cited at p. 107).

<sup>24</sup> Act of July 4, 1836, ch. 357, §6, 5 Stat. 119.

<sup>25</sup> Golden, *supra* note 22, at 349.

<sup>26</sup> Act of 23 May, 1930, ch. 312, 46 Stat. 376.

<sup>27</sup> 447 U.S. 303 (1980).

<sup>28</sup> See William E. Forbath, Hendrik Hartog & Martha Minow, Introduction: Legal Histories from Below, 1985 *Wis. L. Rev.* 759; Jim Sharpe, History from Below, in *NEW PERSPECTIVES ON HISTORICAL WRITING* 24 (Peter Burke ed., Pennsylvania State University Press, 1991).

<sup>29</sup> Especially when it is said by a reviewer much of whose work is a rather abstract conceptual history of intellectual property that relies on much the same kind of sources as *FIGURES OF INVENTION*.

<sup>30</sup> Kenneth W. Dobyns, *THE PATENT OFFICE PONY: A HISTORY OF THE EARLY PATENT OFFICE* 129 (Sergeant Kirkland’s Press, 1997). According to the author this law firm was Munn & Co.

<sup>31</sup> For a similar, although not identical, argument see Mario Biagioli, Patent Republic: Representing Inventions, Constructing Rights and Authors, 73 *Social Research* 1129, 1144 (2006) (in copyright “[t]he law simply recast the author function of certain kinds of texts that already existed” while in patents “the law did not reinterpret the text as being authorial but rather mandated the production of a new kind of text, and by doing so, constructed the inventor as an author”).

<sup>32</sup> Indeed Brad Sherman has recently begun analyzing the “work,” though not its history, in terms equivalent to those applied to inventions in *FIGURES OF INVENTION*. See Brad Sherman, What Is a Copyright Work?, 12 *Theoretical Inquiries in Law* 99 (2011).

<sup>33</sup> See generally Bracha, *supra* note 6.

<sup>34</sup> For a detailed description of the master’s report in one seminal nineteenth century copyright case—*Folsom v. Marsh*—see R. Anthony Reese, *The Story of Folsom v. Marsh: Distinguishing between Infringing and Legitimate Uses (Copyright)*, in *INTELLECTUAL PROPERTY STORIES*

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(Jane C. Ginsburg and Rochelle Cooper Dreyfuss eds., Foundation Press, 2006), at 275-77.

<sup>35</sup> *Metro-Goldwyn-Meyer v. American Honda*, 900 F.Supp. 1287 (C.D.Cal. 1995).

<sup>36</sup> *Warner Bros. Entm't Inc. v. RDR Books*, 575 F. Supp. 2d. 513 (S.D.N.Y. 2008).

<sup>37</sup> For some classic early versions of this position see Ferdinand De Saussure, *COURSE IN GENERAL LINGUISTICS* (Charles Bally et al. eds., Open Court, 1986); Benjamin Lee Whorf, *LANGUAGE THOUGHT AND REALITY: SELECTED WRITINGS OF BENJAMIN LEE WHORF* (J. Carroll ed., Technology Press of Massachusetts Institute of Technology, 1956); Edward Sapir, *SELECTED WRITINGS IN LANGUAGE CULTURE AND PERSONALITY* (David G. Mandelbaum ed., University of California Press, 1949).

<sup>38</sup> Wythe W. Holt, *Tilt*, 52 *Geo. Wash. L. Rev.* 280 (1984); Duncan Kennedy, *A CRITIQUE OF ADJUDICATION* 236-247 (Harvard University Press, 1997).

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**Suggested Citation:** 2 *The IP Law Book Review* 35 (2011)