

## 9 THE AMERICA INVENTS ACT OF 2011 AND THE EMERGING PUBLIC INFOSTRUCTURE OF PATENTS

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### ABSTRACT

This paper considers the emergence of *infostructure* as an element of international intellectual property law. It first examines the emergence of a *public infostructure* in patent law. It next examines how recent patent reform in the United States incorporates requirements that support the public infostructure. Finally, it considers the normative consequences of the public infostructure for international IP law.

**Keywords:** *infostructure, circulation, publication, America Invents Act, patent reform, right to information*

### I. INTRODUCTION

It is sometimes forgotten that a patent is a text; that is, a patent, like a novel, a poem, or a play, is written and is read. A disclosed patent, like a novel, a poem, or a play, has its own version of chapters (the abstract, the detailed description of the invention) and its own version of verse (the claims), and even its own versions of pictures (the drawings). A disclosed patent, also like all of these other forms, is intended to be read by an interested audience.<sup>1</sup> The reading of a patent, though, is an unusual kind of reading. The reading of a patent is assumed to happen in public insofar as the reading of a disclosed patent is understood to happen in circulation. By circulation, it is meant that it is likely that a patent is intended to be read by an epistemic audience that understands – and can consequently act upon – this text. An ideal reader, then, can comprehend a disclosed patent within a previous world of social knowledge in a given field or scientific community.<sup>2</sup>

Normative consequences in international, regional and national patent law flow from this notion that a patent is a circulating text. Initially, at the international, regional, and national levels, it means that the procedural requirements associated with disclosure requirements of patent law can be understood to impose far more substantive duties on the patentee than is commonly realized. The Supreme Court of Canada, in *Teva Canada Ltd v Pfizer Canada, Inc*<sup>3</sup>, has recently invalidated a patent on the drug popularly identified as Viagra because the patent

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<sup>1</sup> The author draws on the metaphor of circulation from the description given of public libraries in the initial form in the United States during the 18th and 19th centuries. Tom Glynn, 'The New York Society Library: Books, Authority and Publics in Colonial and Early Republican New York' (2005) 40 *Libraries and Culture* 493, 494 ('The idea of a public library as it is currently understood - a tax-supported, circulating collection, freely available to everyone in a community - is a relatively recent development').

<sup>2</sup> Kali Murray, *A Politics of Patent Law: Crafting the Participatory Patent Bargain* (Routledge 2012).

<sup>3</sup> *Teva Canada Ltd v Pfizer Canada Inc*, 2012 SCC 60 (2012).

failed to sufficiently disclose the contents of the respective invention.<sup>4</sup> The disclosed patent thus establishes the duties of the patentee to its public and furthermore suggests that public international law such as the Patent Cooperation Treaty, as Antony Taubman has noted, has played a vital role in establishing a publicly available resource of information that is 'freely knowable and accessible'.<sup>5</sup>

Additionally, the circulation of the disclosed patent suggests that the circulation of a granted patent is itself an act invested with public consequence. In many respects, this view of a patent as a circulated text thus suggests the growing commitments of international, regional and national patent law to viewing patent law as public law. Indeed, the informational burden of an improperly granted patent may impose significant burdens on the circulation of information within a given research or scientific community.<sup>6</sup> This communicative burden, along with others such as the public health and competitive harms associated with a granted patent, has ensured the claim that patent law is understood to have public consequence. Of course, the claim that patent law is understood to have 'public consequence' does not necessarily support the claim that patent law is public law, since patent law has been typically understood to be private law; that is, a law that solely adjudicates competitive injury that may occur between two private actors about a private dispute over ownership.

This is not to say, however, that patent law is not *becoming* public law. The public consequence of the disclosed patent is being addressed within an increasing maturation of public international intellectual property law and constitutional politics at the national and regional levels. The maturity of these two trends suggests that patent law in the 21st century can no longer be neatly divided into public and private models of administration and adjudication. The emergent public law of patent law has also been shaped by a generally unremarked trend in patent law: the evolution of sophisticated administrative practices at the international, regional, and national levels in the examination and issuance of patents is generating a range of information beyond the disclosed patent. Indeed, patent administration is building an independent public infrastructure of information that exists *separately* from the disclosure of any individual patent. The author terms this public infrastructure the patent infostructure, as it differs from other claims of infrastructure commons, insofar as it speaks to the information that is generated by governmental entities through their administration of patent law.<sup>7</sup> The infostructure exists both as information generated by the patent examination and

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<sup>4</sup> *ibid* 70 ('As noted above, this Court made it clear in *Consolboard* that the specification, which includes the claims and the disclosure, must define the "precise and exact extent" of the privilege being claimed, so as to ensure that the public can, *having only the specification*, make the same use of the invention as the inventor.')

<sup>5</sup> Antony Taubman, 'The Public Domain and International Intellectual Property Law Treaties' (2008) Australian National University College of Law Research Paper No. 07-17, 2.

<sup>6</sup> *Golan v Holder*, US 132 S Ct 873, \*907-908 (2011) J Breyer dissenting opinion: ('Taken together, these speech-related harms (e.g., restricting use of previously available material; reversing payment expectations; and rewarding rent seekers at the public's expense) at least show the presence of a First Amendment interest. And that is enough. For present purposes, I need not decide whether the harms to that interest show a violation of the First Amendment. I need only point to the importance of interpreting the Constitution as a single document - a document that we should not read as setting the Copyright Clause and the First Amendment at cross-purposes').

<sup>7</sup> David Levine defines public infrastructure as an 'essential set of goods and services drawn from the set of public works traditionally supported or directed by the public sector, including the operations of government itself'. David S Levine, 'Secrecy and Unaccountability: Trade Secrets in Our Public Infrastructure' (2007) 59 Fla L Rev 135, 141. Here, there is a departure from the informational

issuance process, as well as the electronic and tangible infrastructure, such as databases, registries, and search tool devices (for instance classification systems) that produce those devices. The informational infrastructure of patented information is then a core component of public patent law and thus may impact the development of international, regional, and national patent law.

The informational infrastructure of patent law, though, is by no means a settled collection of administrative and legal choices. The recent patent reform in the United States, however, provides a unique opportunity to consider how the informational infrastructure is emerging as a key concern of patent law in its new environment. The remainder of this paper considers one element of the informational infrastructure supported by the recent United States Congressional passage of the Leahy-Smith America Invents Act of 2011 (the AIA), which amended key elements of the Patent Act of 1952, with relevant comparisons to other infostructure regimes in international intellectual property law.<sup>8</sup>

## II. PUBLIC INFOSTRUCTURE AND THE AMERICA INVENTS ACT OF 2011

The American Invents Act is notable abroad for its harmonization of inventorship requirement under Section 102(a) of the Act. Its consequences, however, for the generation of an informational infrastructure are considerable and have been less examined within the relevant literature upon its enactment. A paradigmatic example of this is Section 122 of the Patent Act, which was amended to permit the submission of information by third parties during the examination of a patent. Section 122(e) thus expands the informational infrastructure of the patent in two keys ways. Firstly, it permits third parties to participate in what has been to this point a relatively closed examination process of a claimed invention. Secondly, Section 122(e) generates additional information such as the epistemic content of the associated social world of the patentee and other community members at the time of the patent.

As amended, Section 122(e) of the Patent Act permits 'any third party to submit for consideration and inclusion in the record of a patent application, any patent, published patent application, or other printed publication of potential relevance to the examination of the application' if such submission is made in writing: (1) six months after the application is published; (2) after the date of any first rejection of any claim during the examination; and (3) after the notice of allowance has been submitted by a patentee.<sup>9</sup> Section 122(e) further requires that any submission describe the relevance of each submitted document.<sup>10</sup> The legislative history of the American Invents Act suggests that Congress intended to lessen the barriers presented to competitors or other interested parties in presenting information to the

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infrastructure as defined by Brett Fischmann, who claims that the informational infrastructure should be defined as having three characteristics, including its non-rival nature, its substantial benefits or value, and its wide variance in downstream uses. Brett Fischmann, 'Infrastructure Commons' (2005), Mich St L Rev 121, 134. This paper contends that the infostructure is derived from government action that expands the content of, and access to, readily available information.

<sup>8</sup> Leahy-Smith America Invents Act, Pub L No. 112-29, 125 Stat 284 (16 September 2011).

<sup>9</sup> 35 U.S.C. §122(e)(1)(2012). Section 122 was made effective on 16 September 2012. Pub L No 112-29, § 8, §20(j), 125 Stat 284 (effective 16 September 2012). The basic structural content of §122 was initially included in 35 C.F.R. § 1.99. See H Rep No 112-98, pt.1, at 49 (2011).

<sup>10</sup> 35 U.S.C. § 122(e)(2)(2012).

United States Patent and Trademark Office (USPTO) during the examination of a patent.<sup>11</sup> The USPTO issued its final rule, 'Changes to Implement the Preissuance Submissions by Third Parties Provision of the Leahy-Smith America Invents Act', on 17 July 2012, which outlined the primary administrative changes, to be codified in Section 1.290 of Title 37 of the Code of Federal Regulations, that would be required for the USPTO to initiate changes as a result of Section 122(e).<sup>12</sup> The USPTO emphasized two key elements of the rule in its final rules statement. Firstly, third party access submissions under Section 122(e) would be encouraged by the development of a dedicated electronic interface that permitted immediate publication of the relevant information.<sup>13</sup> Secondly, although Section 122(e) granted a wide range of third parties the right to submit a pre-issuance submission, the examiner was not required to consider a listed document in its patent examination, nor may a third party respond to an examiner's treatment of an application.<sup>14</sup>

The inclusion of Section 122(e) in the American Invents Act, then, demonstrates both the potential of the emerging infostructure within patent law, as well as its current limitations. Section 122(e) permits third parties to engage with the examination of the patent before its ultimate issuance, thus fostering the deliberative content associated with a circulated patent. Its inclusion suggests that issued patents should be reflective of the pre-existing base of knowledge associated with a given epistemic community. The legal commitment to circulated knowledge is reinforced by an electronic or physical infrastructure that supports transparent access to the disclosed patent and its examination. The limitations of Section 122(e) are also equally apparent. Section 122(e) only permits public access to a secondary role in the pre-issuance, since examiners are not required to respond fully to documents submitted by third party submitters. A partial response to that concern is the wide range of post-issuance proceedings that are permitted under the American Invents Act, including substantial *inter partes* review and post-grant review. This is not a wholly sufficient response, however, since the pre-issuance submission requirements have the potential to generate objective information independent of any contested dispute by any given set of parties. Thus, Section 122(e) can only be seen as a useful start in ensuring the development of a sustainable patent infostructure.

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<sup>11</sup> H Rep No 112-98 ('After an application is published, members of the public - most likely, a competitor or someone else familiar with the patented invention's field - may realize they have information relevant to a pending application. The relevant information may include prior art that would prohibit the pending application from issuing as a patent. Current USPTO rules permit the submission of such prior art by third parties only if it is in the form of a patent or publication, but the submitter is precluded from explaining why the prior art was submitted or what its relevancy to the application might be. Such restrictions decrease the value of the information to the examiner and may, as a result, deter such submissions. The Act improves the process by which third parties submit relevant information to the USPTO by permitting those third parties to make statements concerning the relevance of the patents, patent applications, and other printed publications that they bring to the USPTO's attention'.)

<sup>12</sup> Changes to Implement the Preissuance Submissions by Third Parties Provision of the Leahy-Smith America Invents Act (17 July 2012) (to be codified at 37 C.F.R. pt. 1.290).

<sup>13</sup> *ibid* 42512. The publicly available database is now available at:  
<<http://www.uspto.gov/patents/process/file/efs/index.jsp>>

<sup>14</sup> *ibid* 42513. The Patent Act of 1952 also places a mandatory responsibility on the Director of the USPTO to provide for the 'full deployment of the automated search systems of the Patent and Trademark Office so that such systems are available for use by the public, and shall assure full access by the public to, and dissemination of, patent and trademark information, using a variety of automated methods, including electronic bulletin boards and remote access by users to mass storage and retrieval systems'. 35 U.S.C. § 41(i)(2)(2012).

Indeed, a more sophisticated infostructure is embodied within the European Patent Convention. Article 115<sup>15</sup> preceded the passage of Section 122 of the America Invents Act and thus offered an affirmative model for protection of the patent infostructure. Article 115 provides that 'following the publication of the European patent application, any third party may, in accordance with the Implementing Regulations, present observations concerning the patentability of the invention to which the application or patent relates' but like Section 122, it qualifies that participation by stating '[t]hat person shall not be a party to the proceedings'.<sup>16</sup> A truly substantive right to participate in the proceedings would be likely to provide for a more fully deliberative principle associated with Article 115.

Despite the limitations, however, the European Patent Convention contains a number of substantive requirements that support a more robust infostructure than in the United States. Two particular types of regulations demonstrate the more sophisticated approach embodied in the European Patent Convention. Firstly, while under Article 115, a third-party submitter is not permitted to be a party to a proceeding in terms of submission, this particular right is subsumed within Article 113(a) of the European Patent Convention, which provides for a generalized right to be heard in relation to the relevant proceedings.<sup>17</sup> Secondly, Articles 127-132<sup>18</sup> of the European Patent Convention provide for a range of responsibilities, including the requirement to maintain a patent registry, to permit inspection of the files, to produce an official journal related to the proceedings of the Office, and to exchange information with a variety of national and international offices. These articles affirm an important subsidiary impact of patent regulation: its generation of informational assets other than the patent itself.

Indeed, Article 127 places a mandatory obligation on the European Patent Office to make the European Patent Register 'open for public inspection'. Article 127, thus, suggests an affirmative obligation of preservation and furthermore that the obligation is to be conducted in such a way that permits open access to the relevant records of the Office.<sup>19</sup> Article 127, to be sure, fails to extend this requirement to other types of informational assets besides the Registry; however, this Article does provide a basis for refinement in the future. Thus, in many respects, the European Patent Convention offers a more sophisticated protection of the infostructure, although it too could be substantially revised and improved in the future.

### III. THE PATENT INFOSTRUCTURE OF PATENT LAW: ITS CONSEQUENCES

Understanding the patent infostructure as an independent entity, with its own set of rights and duties, differentiates from the public consequences that emerge from the circulated text of the patent. The circular text derived its value from its singular nature; its reproduction was intended in some respect to be passed along from individual reader to individual reader. A primary goal of the patent infostructure is to provide access to patents and their related prosecution in an aggregated manner. Indeed, it may be suggested that aggregated information

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<sup>15</sup> Convention on the Grant of European Patents, [2007], Article 115.

<sup>16</sup> *ibid.*

<sup>17</sup> Convention on the Grant of European Patents, [2007], Article 113(a) ('The decisions of the European Patent Office may only be based on grounds or evidence on which the parties concerned have had an opportunity to present their comments.').

<sup>18</sup> Convention on the Grant of European Patents, [2007], Articles 127-132 (providing for obligations to provide information to the public and member States).

<sup>19</sup> Convention on the Grant of European Patents, [2007], Article 127.

pertaining to a set of patents will become more important to the public than a single text. Current industry practices suggest that patent valuation (the assessment of a given patent's commercial value in exchange)<sup>20</sup> and patent mapping (the practice of analysing aggregated patents)<sup>21</sup> are becoming central to commercial patent practice. Thus, the independent importance of an informational infostructure may undermine the singularity of the circulated text of a patent. Moreover, third-party participation in patent decision-making is likely to be sustained on different grounds than participation which depends on the circulated text of a patent. While the generation of a participatory public builds on the circulated text of the patent as ideal, insofar as its circulation of the patent to a committed epistemic public is key to its representative claims, it suggests that there may be an important independent interest in the preservation and stewardship of the patent infostructure itself.

The generation of an informational infostructure is a significant normative consequence for patent law at the international, regional, and national levels. Specifically, it suggests that in the preservation and stewardship of a patent infostructure, patent public law may be linked more closely to the types of administrative practices and proceedings that accompany complex property systems such as property and environmental regimes. Carol Rose in an essay on public infrastructure and its impact on property rights, suggests that what we see as private activity (the generation of property) should be seen in the context of a public infrastructure (the building of publicly supported roads); Rose suggests that '[c]ommercer and trade are possible without publicly supported roads or publicly supported property rights - but public infrastructure makes these activities much easier, much more fluid, much cheaper, much more expansive, and hence vastly more productive'.<sup>22</sup> While the circulated text of a patent has always generated its own claims of public consequence in patent law, the independent recognition of an emerging public infostructure suggests that patent administrators need to be cognizant of their responsibilities to ensure informational access to patent decision-making.

It also suggests, in particular that the emergence of the public infostructure could be potentially linked to a right to information embedded within current national, regional and international law. The emergence of a public infostructure of patents, however, suggests another appropriate linkage in this area: national, regional and international transparency regimes that seek to provide access to governmental functions by an interested public. The right to information has typically arisen within two statutory contexts: more generally, within right to information regimes, in which a government must produce information to interested publics and more specifically within the context of an environmental regime. These national, regional and international transparency regimes can vary in significant respects as to the strength of this informational right. A strong right to information statute can impact patent administrative regimes. For instance, the Indian Patent Office publishes and maintains its patent publication and accompanying proceedings as part of its responsibilities under the India Right to Information Act of 2005.<sup>23</sup>

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<sup>20</sup> See generally William Murphy, John Orcutt, and Paul Remus, *Patent Valuation: Improving Decision Making through Analysis* (Wiley 2012) (discussing varieties of patent valuation).

<sup>21</sup> See generally Michelle Fattori, Giorgio Pedazzi and Roberta Turra, 'Text Mining Applied to Patent Mapping: A Practical Business Case' (2003) 25 *World Patent Information* (discussing patent mapping strategies).

<sup>22</sup> Carol Rose, 'Big Roads, Big Rights: Varieties of Public Infrastructure and their Impact on Environmental Resources' (2008) 50 *Arizona L Rev* 409, 432.

<sup>23</sup> India Right to Information Act 2005 Section 1(a). Section 1(a) of India Right to Information Act of 2005 provides that '[e]very public authority shall—(a) maintain all its records duly catalogued and

A right to information can also arise out of environmental law. Typically, analyses of the relationship of patent law and environmental law have focused on commodification engendered by patent claims on the availability of shared resources within indigenous cultures. Consequently, it has been suggested that Articles 15 and 16 of the Convention on Biological Diversity should inform the appropriate response in this area. For example, Peter Sand has identified in the Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters ('the Aarhus Convention') two types of access rights, 'passive access' rights contained within Article 4 that permit citizens to seek environmental information, and 'active access' rights contained within Article 5 that impose duties on governments to collect, disclose and disseminate information.<sup>24</sup> The public infostructure of patent law - if we draw on the basic lessons from international environmental and informational law - necessarily then can consist of basic access rights to aggregated patent information of the infostructure, as well as basic responsibilities on the part of the government to engage to collect, disclose and disseminate aggregated patent information of the infostructure.

#### IV. CONCLUSION

The public infostructure of patents is a new concept in the United States. Indeed, for interested third parties, Section 122(e) of the American Invents Act is a comparatively weak provision insofar as it invests them with minimal ability to challenge examiner decision-making as to the epistemic content of a patent before its issuance. Lessons from across the global international intellectual regime, such as those provisions contained within the European Patent Convention or the preservation obligations placed on the Indian Patent Office, suggest an emerging awareness of the public infostructure of patents. The public infostructure seeks in its ideal state an increased deliberation during the examination of a patent, preservation and stewardship of all relevant resources associated with patent infostructure, and transparent access to the relevant material of the public infostructure. Section 122(e) provokes, though, because it indicates a tentative step in the patent law of the United States towards the recognition of public infostructure of patent law in two key respects - its commitment towards the generation of additional epistemic information during the prosecution of a patent, as well as the transparent access to that specific information throughout the prosecution of a patent. Patent reform, however, is not intended to obtain a patent ideal and hopefully, Section 122(e) points to ways that a public infostructure of patent law at the international, regional, and national levels can be sustained.

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indexed and in a manner and form which facilitates the right to information under the Act and ensures that all records that are appropriate to be computerized are within a reasonable time and subject to availability of resources, computerized and connected through a network all over the country on different systems so that access to such records is facilitated.'

<sup>24</sup> Peter H Sand, 'The Right to Know: Freedom of Environmental Information in Comparative and International Law' (2012) 20 *Tulane J Intl and Comp L* 203, 217. I also identify a third type of informational choice within the patent regime, namely, a deep systematic transparency that actually places a burden upon the regulator to engage in participatory procedures. This can be seen within environmental law, when an agency must engage in a sustained analysis of the risks associated with a given set of environmental projects.

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