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# Is the accessibility of information on the WWW disrupting the foundation and rationale of the patent system of disclosure in exchange for grant of a patent?

Eliza Jane Saunders\*

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*This article considers the reliability of information sourced through the internet and looks at how some of the major patent offices around the world use information disclosed on the World Wide Web (WWW) as a source of prior art information in the examination of patent applications. The article then considers whether the use of the WWW as a source of prior art information for patent applications, particularly the use of “defensive publishing” as an intellectual property protection strategy, is disrupting the foundation and rationale for the patent system of disclosure in return for a granted patent right. What benefit has the patent system if innovation can arguably be stimulated more quickly through disclosure on the WWW at no cost to users? It is concluded that the fundamental patent law principles of sufficiency of disclosure, as well as enabling disclosure and “ascertainment” (in the assessment of novelty and inventive step under Australian patent law), will ensure that patent law maintains a hold over innovation in today’s society.*

## 1. INTRODUCTION TO PRIOR ART INFORMATION ON THE WORLD WIDE WEB

Computers, the internet and the World Wide Web (WWW)<sup>1</sup> have created an information age and global communication system that has revolutionised society. One of the most important areas of information and communication technology-driven change is the emergence of what has been termed “e-science”. This is defined as:

increased access, via desktop or other interface via the Internet, to distributed resources, global collaboration, and the intellectual, historical, analytical, and investigative output of a range of scientific communities.<sup>2</sup>

The WWW as a source of information has the following benefits:

- (a) immediate global publication by anyone at any time and anywhere with zero publication delay;
- (b) fast retrieval of information by anyone; and
- (c) is democratic, unregulated and effectively “public”.<sup>3</sup>

In general, patents are only available for inventions that are novel (have not been publicly disclosed before), involve an inventive step (are not obvious and require some inventive ingenuity) and are useful or industrially applicable (actually do what they say they will do). In order to determine if the requirements of novelty and inventive step have been met, a claimed invention will be compared with the existing state of the art, referred to as the “prior art”.<sup>4</sup> Such a determination is looked at through the eyes of the person skilled in the art (PSA). The definition of “prior art” is accordingly of

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\* Associate Lawyer, Patent and Trade Mark Attorney, Griffith Hack (<http://www.griffithhack.com.au>).

<sup>1</sup> This article refers to the “World Wide Web” (WWW) as distinct from the “internet” as the WWW more accurately identifies the “source” of information as opposed to the physical means and infrastructure through which such information can be accessed and which is more accurately defined as the “internet”.

<sup>2</sup> Arzberger P, Schroeder P, Beaulieu A, Bowker G, Casey K, Laaksonen L, Moorman D, Uhler P and Wouters P, “Promoting Access to Public Research Data for Scientific, Economic, and Social Development” (2004) 3 *Data Science Journal* 135 at 135.

<sup>3</sup> Staveren M, “Prior Art Searching on the Internet: Further Insights” (2009) 31 *World Patent Information* 54.

<sup>4</sup> See, eg *Patents Act 1990* (Cth), s 18(1)(b).



fundamental importance in the determination of the patentability of an invention. The WWW has revolutionised this search for prior art, providing an enormous source of searchable scientific and technical information.

The actual content and form of prior art information is a contentious technical question with different standards around the world (albeit now harmonising or “co-ordinating”).<sup>5</sup> Although there is no internationally agreed definition as to what constitutes prior art, it is generally understood that it consists of knowledge which has been made *available to the public* before the priority date of a patent.<sup>6</sup> Therefore, an invention is not patentable if it is placed in the public domain or publicly disclosed before its priority date.<sup>7</sup>

The definition of “disclosures” (whether including all of written publications, public oral disclosures and disclosure by use which place an invention in the public domain) depends on the jurisdiction in question. In some countries, the disclosure needs to be recorded in some sort of fixed form, while others include oral disclosures as a prior art information.<sup>8</sup> The patent laws of the EU, Japan and Australia effectively state that prior art comprises everything made available to the public (in writing, by public use or otherwise) before the filing date of a patent application. In assessing the validity of a patent application in the US, the patent office will also consider prior art disclosed before the invention occurred. It is not settled whether traditional knowledge<sup>9</sup> constitutes prior art information for the purpose of assessing the novelty of a patent application, due to the insular nature of its disclosure among small, usually remote, communities. Indeed, this has been one of the major obstacles to achieving international harmonisation of patent law.

Information available on the WWW without undue restriction is in most countries likely to constitute a disclosure. Indeed, if “oral disclosure” and “use” can constitute a disclosure, a form of written disclosure sourced from the WWW should easily fall into the realm of prior art information. Further, the fact that various subscription databases are inaccessible to developing countries or persons without access to the WWW is no different to the inaccessibility of prior art hidden away in a library of a remote location.

Information available on the WWW is prior art information for use by patent offices examining patent applications for applicants in conducting a patentability search or deciphering “what is out there” for innovation purposes, and for third parties with an interest in invalidating or opposing a patent or patent application. Such information can be available from patent databases from around the world (eg, IP Australia’s AusPat database, European Patent Office’s Espacenet database, World Intellectual Property Organization’s (WIPO) Patentscope database, and Derwent World Patents Index (WPI)), electronic online journals (including both online versions of traditional paper publications and

<sup>5</sup> Reference to “harmonisation” in this article will encompass “co-ordination”. Note the difference in meaning as encapsulated in Jacobs S, “Regulatory Co-operation for an Interdependent World: Issues for Government” in Organization for Economic Cooperation and Development, *Regulatory Co-operation for an Independent World* (1994) p 32: “Coordination” is “the gradual narrowing of relevant differences between regulatory systems, often based on voluntary international codes of practice” and “harmonisation” is “the standardisation of regulation in identical form”.

<sup>6</sup> World Intellectual Property Organization (WIPO) Standing Committee on the Law of Patents, *Disclosure of Technical Information on the Internet and its Impact on Patentability*, No SCP/4/5 (19 September 2000) p 2.

<sup>7</sup> Such disclosure can be subject to the grace period in various jurisdictions, such as Australia, the US, Japan and Canada, eg in Australia an applicant can publicly disclose their invention before filing an application without affecting the validity of a subsequent patent application provided a complete application is filed within 12 months of the disclosure (*Patents Act 1990* (Cth), s 24(1)(a); *Patent Regulations 1991* (Cth), regs 2.2(1A), 2.3(1A)).

<sup>8</sup> See, eg *Patents Act 1990* (Cth), s 7(1)(a) (and definition of “prior art base” set out below); *European Patent Convention*, Art 54(2) (defines “state of the art” as “everything made available to the public by means of a written or oral description, by use, or in any other way, before the date of filing of the European patent application”).

<sup>9</sup> “Traditional knowledge” generally refers to the long-standing tradition and practices of certain, usually remote, regional, indigenous or local communities.



“pure” electronic journals that exist only as electronic publications<sup>10</sup>), bulletin boards, archives, websites of commercial and not-for-profit organisations, information websites such as Wikipedia and news groups.

## 2. PRIOR ART INFORMATION STANDARDS: AUSTRALIA AND INTERNATIONALLY

### (a) Australia

Schedule 1 of the *Patents Act 1990* (Cth) defines “prior art information” as information that is part of the “prior art base” defined for both novelty and inventive step as:

- (i) information in a document that is *publicly available*, whether in or out of the patent area; and
- (ii) information made *publicly available* through doing an act, whether in or out of the patent area [emphasis added].<sup>11</sup>

Accordingly, disclosure may be in any form which makes the prior art information available to the public anywhere in the world. This clearly includes oral and documentary disclosures, and disclosure by public use or sale. There is no limitation on the form in which the disclosure is made, and “document” includes any paper or other material on which there is writing, “marks, figures, symbols or perforations having a meaning for persons qualified to interpret them”.<sup>12</sup> This is clearly satisfied by documentation available on the WWW.<sup>13</sup>

Section 7(1) of the *Patents Act* sets out the statutory test for assessing novelty:

An invention is to be taken to be novel when compared with the prior art base unless it is not novel in the light of any one of the following kinds of information:

- (a) prior art information made *publicly available* in a single document or through doing a single act;
- (b) prior art information made *publicly available* in 2 or more related documents, or through doing 2 or more related acts, if the relationship between the documents or acts is such that a person skilled in the relevant art would treat them as a single source of that information;
- (c) prior art information contained in a single specification [emphasis added].

In assessing whether an invention (a patent application) is novel, the prior art information (whether in documentary or use form) must have been “made publicly available”. What is “publicly available” is not defined in the *Patents Act*, and there is limited Australian authority, however, there are common law decisions which establish that “publicly available” means: available to at least one member of the public,<sup>14</sup> without restriction (such as an obligation of confidence), somewhere in the world. There does not, however, appear to be any requirement that the public have the means of knowing of the existence of, or location of, a document for it to be “publicly available”.<sup>15</sup>

In assessing novelty, prior art information must give to the PSA “clear and unmistakable directions”<sup>16</sup> of each of the essential integers of a claim to anticipate it, applying the same rules of

<sup>10</sup> For example, *Molecular Vision* is a web journal that disseminates research results on molecular and cellular biology of the visual system. Another is *Frontiers in Bioscience* which provides reviews and research articles in basic and clinical science. Both journals offer peer-reviewed information.

<sup>11</sup> Additionally, for the purposes of novelty, the “prior art base” includes information contained in patent specifications filed before the relevant priority date but not published until after the relevant priority date (“whole of contents” novelty).

<sup>12</sup> *Acts Interpretation Act 1901* (Cth), s 25.

<sup>13</sup> *Arrow Pharmaceuticals Ltd v Merck & Co Inc* (2004) 63 IPR 85 at [101]. See also *Aktiebolaget Hassle v Alphapharm Pty Ltd* (1999) 44 IPR 593, where material which an expert located and viewed while using the internet was considered by the court as common general knowledge.

<sup>14</sup> *Fomento Industrial SA v Mentmore Manufacturing Co Ltd* [1956] RPC 87 at 99. In the Federal Court of Australia too, it has been observed that the concept of information being “publicly available” involves the information being accessible to the public: see Bodkin C, *Patent Law in Australia* (Lawbook Co, 2008) p 104, citing *Stanway Oyster Cylinders Pty Ltd v Marks* (1996) 66 FCR 577; 35 IPR 71 at 74; *Sunbeam Corp v Morphy-Richards (Aust) Pty Ltd* (1961) 180 CLR 98; 1B IPR 626, where Windeyer J appears to have accepted that mere accessibility to the public was enough to amount to publication.

<sup>15</sup> Bodkin, n 14, p 104, citing *Merck & Co Inc v Arrow Pharmaceuticals Ltd* (2006) 154 FCR 31 at [103]; 68 IPR 511.

<sup>16</sup> *General Tyre & Rubber Co v Firestone Tyre & Rubber Co Ltd* [1972] RPC 457.



construction used for patent specifications.<sup>17</sup> Subject to the below, the invention must appear in a single disclosure, and it is not possible to make a pattern or mosaic of, or to read together, various pieces of prior art<sup>18</sup> (the so-called “rule against mosaics”). Important for the purposes of this article, is that there must be sufficient direction in the prior art disclosure for the PSA to recognise the invention and put it to practice;<sup>19</sup> it must be an “enabling disclosure”.<sup>20</sup> In general, a patent examiner in Australia will assume in the first instance that a disclosure is an enabling disclosure and if the applicant objects, the examiner must demonstrate otherwise.

Section 7(1)(b) provides for a form of “mosaicing” whereby two or more documents or two or more acts can be combined in the assessment of novelty but only where a PSA would treat them as a “single source of information”. There is little guidance provided by case law as to what constitutes “related documents” or “related acts”. It is generally understood that there would need to be some referencing to the other document/act/s for them to originate from a “single source”, or that evidence establishes that two documents might be read together by a PSA. In the realm of the WWW it is questionable whether or not pages from the same website or links provided on web pages could be held to provide information from a single source. Each case will depend upon its facts and whether the relevant PSA would regard them as such.

Section 7(2) and (3) sets out the statutory test for assessing inventive step:

(2) ... an invention is to be taken to involve an inventive step when compared with the prior art base unless the invention would have been obvious to a person skilled in the relevant art in the light of the common general knowledge ... whether that knowledge is considered separately or together with ...

(3) ...

(a) any single piece of prior art information; or

(b) a combination of any 2 or more pieces of prior art information;

being information that the skilled person ... could, before the priority date of the relevant claim, be reasonably expected to have ascertained, understood, regarded as relevant and, in the case of information mentioned in paragraph (b), combined.

Accordingly, prior art information can be combined with the common general knowledge (background knowledge and skills) of the PSA in the assessment of inventive step, as long as evidence establishes that the prior art information was ascertainable by the PSA, understandable, and regarded as relevant.<sup>21</sup> Again, evidence would need to be established that a particular web page was ascertainable by the PSA (eg, statements that an expert witness regularly perused a particular website where the relevant document is located) before it could be considered in combination with common general knowledge. Similarly, a number of separate pieces of prior art information cannot be combined with common general knowledge unless the evidence establishes that the PSA would have done so.

<sup>17</sup> IP Australia, *Australian Patent Office Manual of Practice and Procedure* at [2.4.6] (*Patent Office Manual*).

<sup>18</sup> *Nicaró Holdings Pty Ltd v Martin Engineering Co* (1990) 16 IPR 545.

<sup>19</sup> *Hill v Evans* (1862) 6 LT 90. More recently, it was cited as a general proposition in *H Lundbeck A/S v Alphapharm Pty Ltd* (2009) 177 FCR 151; 81 IPR 228, that a prior publication does not invalidate a patent unless it supplies sufficient information to enable a person of ordinary skill to produce the product subsequently claimed (*Acme Bedstead Co Ltd v Newlands Bros Ltd* (1937) 58 CLR 689 at 707).

<sup>20</sup> The disclosure must enable the PSA to “perceive and understand and be able practically to apply the discovery without the necessity of making further experimentation”: *Nicaró Holdings Pty Ltd v Martin Engineering Co* (1990) 16 IPR 545 at 549.

<sup>21</sup> However, note IP Australia’s proposal in *Getting the Balance Right: Toward a Stronger and More Efficient IP Rights System* (March 2009) to remove from *Patents Act 1990* (Cth), s 7(3), the requirement that prior art information for the purpose of inventive step be such that a PSA could be reasonably expected to have ascertained, understood and regarded as relevant. Such proposed amendment is an attempt to raise the inventive step patentability standard, however, as submitted in response by the IPTA, this would take the inventive step threshold to a level higher than that which exists in Europe and the US.



## (b) Substantive Patent Law Treaty

The *Agreement on Trade-Related Aspects of Intellectual Property Rights*, although establishing some minimum requirements for patentability,<sup>22</sup> is silent as to the actual tests for novelty and inventive step and accordingly, what is encompassed by prior art information. The *Patent Law Treaty*, similarly, deals more with the formal and procedural practical aspects of filing patent applications, rather than providing any international norm on the substantive requirements. However, plans for a Substantive Patent Law Treaty (SPLT) to internationally harmonise the substantive aspects of patent law have been recently reignited at WIPO after international negotiations came to a halt in 2003. Interestingly, consensus could not be reached in 2003 as both developing and developed countries were unable to agree on, amongst other things, what is encompassed by the concept of “prior art”. Accordingly, the last draft of the SPLT is relevant here.<sup>23</sup>

Article 8 provides that the prior art “shall consist of all information which has been made available to the public anywhere in the world in any form” before the priority date of the claimed invention. This Article is accompanied by rr 8 and 9 of the draft Regulations which specify that prior art includes “[i]nformation made available to the public in any form, such as in written form, in electronic form, by oral communication, by display or through use” and by the Practice Guidelines which explicitly refer to “Information that has been made available to the public through communication by electronic means, in particular, via an electronic database or the Internet”<sup>24</sup> as forming part of the prior art. Accordingly, under the draft SPLT, the availability of information disclosed via the internet is to be considered in the same manner as other forms of disclosure.

The crucial question relevant for electronic form disclosures is whether it was *reasonably possible* for the public to gain knowledge of the information concerned and to acquire possession of that content or not.<sup>25</sup> “[R]easonable possibility” is stated to imply that the public should not be required to make excessive efforts or break laws in order to gain access to information.<sup>26</sup> Accordingly, even where the prior art information was made available to a limited circle of people on the internet, it would be considered to have been made available to the public, provided no obligation of confidence was imposed.<sup>27</sup>

The following factors are set out under the draft SPLT as being required to be taken into consideration when determining whether information disclosed on the WWW was made available on a particular date:

- (i) public availability of the URL;
- (ii) possibility of search by a search engine; and
- (iii) credibility of the website.<sup>28</sup>

Draft Art 16 provides that evidence may be submitted to an office to demonstrate that information qualifies as prior art information or not, and such evidence may include that relating to date of disclosure, contents of disclosed information or that relating to the existence of a “reasonable possibility” that the public could access the information.<sup>29</sup> Of course, what constitutes evidence would be left to the applicable law of contracting parties to the SPLT.

<sup>22</sup> That is, that an invention be “new, involve an inventive step and [be] capable of industrial application”: TRIPS, Art 27(1).

<sup>23</sup> WIPO Standing Committee on the Law of Patents, *Draft Substantive Patent Law Treaty*, No SCP/10/2 (2003) (including *Draft Regulations under the Substantive Patent Law Treaty*, No SCP/10/5 (Draft Regulations) and *Practice Guidelines under the Substantive Patent Law Treaty*, No SCP/10/6 (Practice Guidelines)).

<sup>24</sup> Practice Guidelines, n 23 at [88].

<sup>25</sup> Draft Regulations, n 23, r 8(2)(a).

<sup>26</sup> Practice Guidelines, n 23 at [91].

<sup>27</sup> Draft Regulations, r 8(2)(b); Practice Guidelines, n 23 at [90](d).

<sup>28</sup> Practice Guidelines, n 23 at [90](d).

<sup>29</sup> Practice Guidelines, n 23 at [93].



Although the SPLT has not come into effect, it provides detailed law on the application of patentability tests, including evidentiary standards, to disclosures of prior art information made through the internet.

### 3. RELIABILITY OF PRIOR ART INFORMATION SOURCED FROM THE WWW

It is much easier to doubt the legal validity of documents published on the WWW than disclosures obtainable via traditional media.<sup>30</sup> This is basically due to the fact that the content of web pages can be changed almost in real time leaving few clues about what the pages looked like before the modifications took place (whereas updates to articles and books tend to leave the earlier editions unaffected and it is therefore easier to determine when particular content was published). Such reliability issues are not considered to be present, however, when looking at patent documents published through respectable electronic databases such as the WPI.

There has been an enormous amount of commentary on the reliability of information sourced from the WWW.<sup>31</sup> The reliability problems include the following.

#### (a) Permanency: Date of publication

As web pages can be frequently updated and revised, their content is rarely permanent. There is no certainty that a page as it looks now is the same as it appeared an hour ago.<sup>32</sup> It is therefore difficult to determine the exact dates on which certain content was posted or uploaded and publicly disclosed.

Indications of a date (eg “published on”, “last updated on”, “uploaded on” and “copyright”) are generally considered to be valid pointers as to the date of availability to the public. However, if there is no indication of when a document was made public in a particular form, then this becomes difficult. Even for documents such as PDFs, the “created on” or “last modified on” dates do not provide a reliable indication of the date of first publication on the WWW.<sup>33</sup>

However, there are now ways of establishing website posting dates in order to qualify a document as prior art. For example, Internet Archive, a private non-profit organisation based in the US, uses what is known as the Wayback Machine to create an historical archive of website documents and images via its website, <http://www.archive.org>. The Wayback Machine is able to automatically crawl most internet websites on a regular basis so as to secure a snapshot of the web pages as they existed on a certain day.<sup>34</sup> So, eg if a WWW page is found which is dated after the priority date of a patent, the Wayback Machine may be used to determine whether there is a relevant archived earlier version of the particular web page.<sup>35</sup>

#### (b) Factitious and transitory information

Specific reliability issues might arise when a document is not genuine or is only put on the WWW just long enough for a witness to see it before it is removed. Such information is frequently posted on, eg chat room and blog sites. In addition to authenticity of the information, the difficulty with such

<sup>30</sup> Archontopoulos E, “Prior Art Search Tools on the Internet and Legal Status of the Results: A European Patent Office Perspective” (2004) 26 *World Patent Information* 113 at 114.

<sup>31</sup> See, eg Archontopoulos, n 30; Pierotti N, “Does Internet Information Count as a Printed Publication?” 42(2) *Journal of Law and Technology* 249; Verhulst W, “The Impact of the Internet on Prior-art Searching in a Patent Environment” (1997) 19(2) *World Patent Information* 95; Verhulst W and Riolo J, “Prior Art Disclosures on the Internet: A European Perspective (Part 2: The Internet as Prior Art)” [2000] *Patent World* 16.

<sup>32</sup> Archontopoulos, n 30 at 119.

<sup>33</sup> European Patent Office, *Epidos News*, No 1/2004 (April 2004) p 5.

<sup>34</sup> See [http://www.peswiki.com/index.php/Tools:Documenting\\_Prior\\_Art](http://www.peswiki.com/index.php/Tools:Documenting_Prior_Art) viewed 16 October 2009.

<sup>35</sup> Staveren, n 3. However, the probative value of Internet Archive was not given much credit in the European Patent Office Board of Appeal Decision No T1134/06 (16 January 2007) at [3.2] (referred to in Klicznik A, “Prior Art from the Internet – A Potential Further Reason for Branching off a Utility Model from a Pending Patent Application” in Prinz zu Waldeck und Pyrmont W, Adelman MJ, Brauneis R, Drexel J and Nack R (eds), *Patents and Technological Progress in a Globalized World* (Springer, 2009).



information is determining date of publication which will depend upon the operation of the particular website, whether postings are date stamped and whether they can be altered or deleted once posted or dated.<sup>36</sup>

There is no case law on the authenticity of disclosure or of the minimum time requirement for information to be available on the WWW in order for it to be considered “accessible” to the public. In any case, if a piece of prior art information discloses the essential elements of a claim for an invention, whether genuine or not and as long as circumstances of its disclosure can be evidenced, it is likely to be novelty destroying. Assuming transitory information is accessible by the public, it is also likely to be considered prior art information if the relevant public is present, or able to be present, at the time the words are transmitted.<sup>37</sup> On the other hand, it is difficult to comprehend how “enabling” such a transitory disclosure would be.

### (c) Emails

Certainly, an encrypted email (one converted into incomprehensible code only convertible by the holder of a key) would not be generally available to the public. A personal non-encrypted email from one sender to a recipient, also may not be considered to be generally available to the public as it is not readily accessible. However, if an email is intercepted and posted or distributed by a third party, or distributed to a large mailing list, then it may become generally available.<sup>38</sup> For this reason, extremely confidential novelty destroying information should not be transmitted by non-encrypted email.

In general, it will depend on the factual circumstances of each case, including whether there has been a breach of any confidentiality obligations, as to whether distribution of an email can be held to have led to disclosure to the public.

### (d) Retrieval: Indexing

The idea of indexing is that someone skilled in the art can search and find information.<sup>39</sup> As the WWW is not indexed in any standard form, like a library catalogue or professional database, information is generally retrieved using search engines (eg Google and Bing). However, search engines vary in the particular algorithms they use (consider, eg Google’s use of organic and advertising listings), and thereby effectively do not consistently cover all documents located on the WWW. Further, it is difficult to adequately search the entire number of documents available on the WWW. For this reason, a search of the WWW cannot be held to have located every “relevant” document. In any case, case law and practice have shown that if some prior art information can be found and evidence can establish the availability of this information, then it will be held to be prior art information.

### (e) Conclusion on reliability

Prior art determination will essentially rely on evidence and it will ultimately be a question of the weight of admissible evidence. In Australia, eg, although there are no rules of evidence which specifically relate to establishing the existence and veracity of prior art disclosures on the internet, the usual rules of evidence apply (eg, that evidence is relevant, not hearsay or opinion evidence, nor subject to client-legal privilege) and the party relying on any such disclosure has the burden of proving it. In the Federal Court of Australia (and the UK courts), the standard of proof required in proving an internet disclosure is on the balance of probabilities.

<sup>36</sup> See discussion of this issue in Verhulst and Riolo, n 31 at 19.

<sup>37</sup> This raises an interesting issue in relation to the test for obviousness under Australian law, in particular, combining a document with the common general knowledge under *Patents Act 1990* (Cth), s 7(3) and whether certain internet sites, such as blogs, would be “ascertainable, understandable and regarded as relevant” by the relevant PSA.

<sup>38</sup> Bereskin & Parr LLP, *Internet Communications may Jeopardize Valuable Patent Rights*, [http://www.bereskinparr.com/ENG/AboutIP/patents/aboutip\\_disclose.html](http://www.bereskinparr.com/ENG/AboutIP/patents/aboutip_disclose.html) viewed 16 October 2009.

<sup>39</sup> Wegner H, *Prior Art Invalidity Defenses to E-patent Infringement* (paper presented at the SOFTIC 2001 Symposium, Tokyo, Japan, 20-21 November 2001) p 12.



The new challenge is how disclosure on the WWW can be proven and what weight should be given to evidence of such disclosure. Assuming that evidence of sufficient weight can be provided, it is considered that each of the above reliability issues with prior art information from the WWW can be overcome and internet disclosure treated just as another forum for disclosure. However, each case will depend upon its own particular factual circumstances as to whether a disclosure can be considered reliable (and is sufficiently enabling) to affect the prior art base.

#### **4. USE OF PRIOR ART INFORMATION SOURCED FROM THE WWW BY PATENT OFFICES**

The following sets out how some of the various patent offices around the world use information sourced from the WWW when they conduct searches for relevant prior art in the examination of patent applications.

##### **(a) IP Australia**

When IP Australia considers the novelty of a claim of a patent application, the prior art is restricted to information in a “document” that is “publicly available” before the priority date anywhere in the world.<sup>40</sup> Although defined as “prior art information” for the purpose of novelty, information made publicly available only through doing an act (which includes oral disclosure) is disregarded during examination.<sup>41</sup>

Information that is “publicly available” is information that the public has or can acquire by consulting some source open to it, ie, material that can be inspected “as of right” by the public.<sup>42</sup> It is enough that the information is available to one person as long as that person is able to use the information freely without an obligation of confidence.<sup>43</sup> The transitory, email and difficultly retrieved information discussed above would accordingly be “publicly available” before IP Australia, assuming that it is substantiated by evidence of sufficient weight.

The *Patent Office Manual* provides examiners with Guidelines for Non-Patent Literature (NPL) Searching on the Internet.<sup>44</sup> These guidelines state that a search of patent literature will usually suffice, and only if no citable art is found is it appropriate to consider a NPL search of the WWW. For technologies, such as biotechnology and electronic commerce, the guidelines provide that in some cases an NPL search may be the primary search. The guidelines divide material found solely on the WWW as falling into two categories.

##### **(i) Trusted publishers**

This includes electronic journals, newspapers, periodicals, television and radio stations, and scientific, electrical and medical journals. As the material in these databases remains static, the office considers that the publication dates associated with such material can be accepted at face value.

##### **(ii) Unknown reliability**

This includes websites belonging to private individuals, private organisations and commercial websites. The material on such sites can be very fluid, being subject to continual change in content or even removal altogether with little indication of what content was available at any point in time. The guidelines state that if the only citation (or best citation) is that found on a website of “unknown reliability”, the examiner should use the Wayback Machine to establish “a prima facie publication date” for a version of the web page that predates the priority date of the invention. In particular,

<sup>40</sup> *Patents Act 1990* (Cth), s 7 and Sch 1 (definition of “prior art information”). There is also “whole of contents” novelty which is not relevant for the purposes of this article.

<sup>41</sup> See *Patents Act 1990* (Cth), ss 45(1A), 101B(3), respectively.

<sup>42</sup> See *Patent Office Manual*, n 17 at [2.4.4.3].

<sup>43</sup> *Monsanto (Brignac’s) Application* [1971] RPC 153 at 159.

<sup>44</sup> *Patent Office Manual*, n 17 at [1.1.19], Annex Y.





examiners are required to print the relevant disclosure from the Wayback Machine which will include the URL of the website and publication date. This would satisfy the permanency reliability issue discussed above.

### (b) UK Intellectual Property Office

The UK Intellectual Property Office, similarly, is only required to consider documentary evidence in searching prior art during examination of a patent application. The *Manual of Patent Practice* specifically states:

in considering internet disclosures, the search examiner should cite any documents which are considered to be highly relevant, even if no publication date can be established or there is a possibility that the document was published later than the priority date of the invention being searched.<sup>45</sup>

If the applicant contests the publication date of an internet disclosure, the examiner is to decide the matter on the balance of the evidence available. Evidence from sources such as the Wayback Machine, while not conclusive, provides justification for an examiner's view that there is little doubt as to the date of disclosure.<sup>46</sup>

The UK Intellectual Property Office has recently ruled that an online news story that described a bank's method for authenticating website visitors was valid evidence of prior art.<sup>47</sup> The UK patent examiner had objected to the grant of the patent application on the basis of an article that appeared on the website of *Computing* magazine five months before the priority date. The applicant disputed the date of the website article, so issues arose as to whether the article had been made available to the public before the priority date and whether it had been altered since initial publication. In applying the same test as that for oral disclosure, being on the balance of probabilities (and noting that the European Patent Office requires a higher standard of proof of beyond reasonable doubt to be applied to documents from the WWW), the office held that as the magazine's website was "highly reputable" it was "highly likely" that it did appear on the date provided.<sup>48</sup>

### (c) US Patent and Trademark Office (USPTO)

There is no statutory definition under US Code Title 35 for patents specifically including an electronic transmission over the internet as prior art. However, the USPTO's *Manual of Patent Examining Procedure* (MPEP)<sup>49</sup> states: "Prior art disclosure on the Internet or an on-line database is considered in the same manner as other forms of written disclosure" (s 1843.01).<sup>50</sup>

"Printed publications" as prior art are discussed in s 2128 of the MPEP. A reference is a "printed publication" if it can be shown that the document has been "disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art, exercising reasonable diligence, can locate it".<sup>51</sup> This was cited and followed in *Re Wyer* 655 F 2d 221; 210 USPQ 790 at 794 (1981), where it was stated:

The traditional dichotomy between "printed" and "publication" is no longer valid. Given the state of technology in document duplication, data storage, and data retrieval systems, the "probability of dissemination" of an item very often has little to do with whether or not it is "printed" in the sense of that word when it was introduced into the Patent statutes in 1836. In any event, interpretation of the words "printed" and "publication" to mean "probability of dissemination" and "public accessibility" respectively now seems to render their use in the phrase "printed publication" somewhat redundant.

<sup>45</sup> UK Intellectual Property Office, *Manual of Patent Practice* at [17.54].

<sup>46</sup> *Manual of Patent Practice*, n 45 at [18.09.3].

<sup>47</sup> See UK Intellectual Property Office Decision No BLO/180/09 (29 June 2009) (Application by HSBC France as to whether patent application GB 0700698.4 complies with s 1(1)(b) and (d)).

<sup>48</sup> In any case, the office held that the patent was excluded from patentability for being a business method as its contribution was not "technical in nature".

<sup>49</sup> Original 8th edition (latest rev, Decemer 2008).

<sup>50</sup> See s 1843.01 ("Prior Art for Chapter 1 Processing"); 1800 ("Patent Cooperation Treaty")

<sup>51</sup> *ICE Corp v Armoco Steel Corp* 250 F Supp 738 at 743; 148 USPQ 537 at 540 (1966).



An electronic publication, including an online database or internet publication, is therefore considered a “printed publication” within the meaning of 35 USC s 102(a) or s 102(b),<sup>52</sup> provided that it was “accessible to persons concerned with the art to which the patent relates” and sufficient proof of the publication’s dissemination or availability to such persons can be produced.<sup>53</sup> Prior art disclosures on the WWW or an online database are considered to be publicly available as at the date the disclosure was publicly posted (MPEP, s 2128). In the absence of evidence of date of posting and publication date, the document cannot be relied upon as prior art under 35 USC s 102. As with printed publications, an examiner does not need to prove that someone actually looked at the electronic publication, and they can only be “relied upon for all that it would have reasonably suggested to one having ordinary skill in the art” (MPEP, s 2128).

In searching conducted by the USPTO as International Searching Authority for *Patent Cooperation Treaty* patent applications, the MPEP states (s 1843.01):

extreme caution must be exercised when using the Internet as a search tool where (as in most cases) the international application has not yet been published. Where a relevant database is accessible via the Internet, but an alternative secure connection to the same database is accessible, the secure connection must be used. Where no secure connection to a database on the Internet is available, the search may be conducted on the Internet using generalised search terms, representing combinations of features that relate to the claimed invention, which have already been shown to exist in the state of the art.

In *Ex parte Shaouy* (Appeal No 2007-0987, 24 May 2007), the patent examiner had indicated that a web page was available at the priority date and provided a copy of the web page, as retrieved from the archive, containing the URL, <http://www.web.archive.org/web/20001209085500/http://www.forecastpro.com>, at the top of the page. On appeal, the Board of Patent Appeals and Interferences noted that the numbers encoded in this URL corresponded to the publication date of the prior art, being 9 December 2000. The board found that the patent examiner’s reference to “internet archive ‘wayback machine’”, in combination with the date stamp encoded in the URL, was sufficient evidence of a publication date for a web page.

#### (d) Taiwan

The Taiwanese Patent Act defines a “publication” as all information accessible by the public and includes information obtained using the internet and electronic databases.

Whether information published online can be considered “published information” (as required under Taiwanese law) was recently considered in the IP Court of Taiwan in *2009-Xing-Zhuan-Su-33*. The IP Court stated that in determining whether information on a network can be deemed a publication, the court must take into account how the public learned of the website or its address and whether access to the network was limited by a password or payment. Information is regarded as published if anyone can freely access it by applying for a password or making a payment.

In the *Xing-Zhuan-Su* case, the relevant document (entitled *ExpressCard Standard*, downloadable by members) was available for free download upon payment or password application and as such, the information was held to be publicly available. Although the relevant document was marked “for internal business use of the company”, “distribution to third parties is expressly prohibited” and “is not for publication or general distribution”, because owners were not bound by a confidentiality obligation, the court could not conclude that the information had not entered the public domain. The document was therefore held to constitute public information and the patent was invalidated.<sup>54</sup>

<sup>52</sup> 35 USC 102 sets out the conditions for patentability, novelty and loss of right to patent as: “A person shall be entitled to a patent unless: (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States.”

<sup>53</sup> *Re Wyer* 655 F 2d 221; 210 USPQ 790 at 795 (1981).

<sup>54</sup> See Kuo YL and Chen C, *IP Court Clarifies Whether Online Publication Counts in Patent Spat* (“International Report” on this case), <http://www.iam-magazine.com> viewed 16 October 2009.



### (e) Conclusion on patent office practices

Although there is no particular consistency in the way that various patent offices around the world process disclosures of prior art information on the WWW, there is clearly a trend to use such prior art information if it is from a trusted and reputable source and/or its date of publication can be confirmed via the Wayback Machine. There are, however, controversial and unsettled issues surrounding the evidentiary requirements for relying upon information sourced from the WWW in the examination of the novelty and inventive step of patent applications.

## 5. DEFENSIVE PUBLICATION

Defensive publication is an intellectual property strategy whereby a party purposively publishes and discloses information relating to an innovation without applying for a patent so that it becomes part of the public domain. This has the effect of preventing others from patenting the same thing (as novelty is destroyed) and also helps secure freedom to operate as it can be used to revoke a patent if a patent is granted on the technology and infringement proceedings issued. Even if a competitor's patent is not completely invalidated, the scope of the claims can potentially be narrowed. Such a strategy can be particularly useful when one perceives a competitive threat from another company likely to apply for a patent.<sup>55</sup> Other objectives of defensive publication are likely to be control of disclosures that support claims of inventorship, the delineation of relevant prior art for patent applications, and the establishment of clear evidence of non-obviousness for one's own patent applications.

Defensive publications usually take the form of product literature, white papers, press releases, and papers published in research journals or trade magazines.<sup>56</sup> With the internet and WWW, such publications can be more readily published and disseminated. However, defensive publication is not appropriate all the time. It has been said that it should only be considered where:

- (i) the cost of patenting outweighs the benefit of the patent; and
- (ii) the invention cannot be protected in a manner that is sufficiently secure to support trade secret protection.<sup>57</sup>

The classic scenario for use of defensive publications involves incremental inventions that are:

- (i) covered by existing patent claims; and
- (ii) not embodied in a product with potentially long-term marketability.<sup>58</sup>

Once a valuable core patent is obtained, competitors can be drawn to "surround" the patented technology with their own patents covering incremental improvements by providing an improved product or a means of manufacturing it more economically. Defensive publications describing improvements to a core patent can in this way, although assisting competitors in practising the invention, prevent them from entering the marketplace with a patented product. Patent protection is generally preferable to defensive publication where a completely new technology is devised. In such a case, the expense of obtaining patent protection is likely to be justified by the extended patent protection.<sup>59</sup>

There are particular websites set up for defensive publication. For example, <http://www.ip.com> is an internet-based defensive publishing company that seeks to address the current online publication problems by electronically date stamping and authenticating each defensive publication to ensure that documents published through it become part of the text-searchable database accessible to patent offices around the world.

<sup>55</sup> IP.com, Inc, *IBM Technical Disclosures Prior Art Database* (25 July 2008), <http://www.securingininnovation.com/2008/07/articles/defensive-publishing/ibm-technical-disclosures-prior-art-database> viewed 22 October 2009.

<sup>56</sup> Borchardt J, *The Role of Defensive Publications in Intellectual Property Protection* (31 May 2007), <http://www.labmanager.com/articles.asp?ID=62> viewed 22 October 2009.

<sup>57</sup> IP.com, Inc, n 55.

<sup>58</sup> IP.com, Inc, n 55.

<sup>59</sup> IP.com, Inc, n 55.



## 6. EFFECT OF DEFENSIVE PUBLICATION ON PATENT SYSTEM

The heart of the patent system is a balanced “deal” between the government (representing the public) and a patent applicant, whereby the patent applicant discloses their invention to the public in exchange for a form of temporary “monopoly” on their invention.<sup>60</sup> Indeed, the basic theory of the patent system according to Blanco White<sup>61</sup> is that it is in the public interest that industrial techniques should be improved and that, in order to encourage this improvement and also to encourage the disclosure of improvements rather than their secret use, any person devising a patentable invention can be granted this form of “monopoly”, being the right to exclude others from using that invention (subsisting of a registered patent right) in return for disclosure of their improvement to the public. This “monopoly” is essentially an exclusive right to exploit the invention and to exclude others from manufacturing, offering for sale, selling or using the patent invention without authorisation.<sup>62</sup>

Defensive publication is arguably at odds with the patent system as it can effectively destroy this exchange “deal”: although it promotes disclosure of information to the public, there are no granted patent rights. To an applicant, however, the lack of patent rights may be justified by the absence of cost of publication as opposed to patenting.

However, the purpose of the patent system is not to limit the dissemination of information but to encourage innovation and development. Indeed, the idea that access to and sharing of data is essential for the advancement of science is a basic premise of the patent system.<sup>63</sup> For this reason, the use of the internet, and its ability to enable fast dissemination of information via the WWW, cannot be considered to be stifling innovation in any way. Accordingly, defensive publication, appropriately used, should not affect the operation of the patent system. In any case, it should be clear to anyone interested in innovation, that publication is not always the best strategy, and that by placing details of one’s innovation on the WWW, one is missing out on the opportunity of obtaining a valuable intellectual property right with enormous commercial benefit.

Furthermore, the patent system encourages the putting into practice of the invention which the unrestrictive internet, WWW and defensive publication do not. (Most patent systems around the world require that a patent application disclose a claimed invention in such detail that a PSA can carry out the claimed invention; this requirement, often known as “sufficiency of disclosure” or “enablement”, depending upon the jurisdiction,<sup>64</sup> is distinguishable from the requirement under the Australian law of novelty that prior art information be an “enabling disclosure” so as to anticipate a patent application.)

## 7. CONCLUSION

It is common among various jurisdictions and patent offices around the world, as well as at WIPO, that the medium of disclosure of prior art information is not a limiting factor as long as the information is made “publicly available”. It is fairly unanimous internationally therefore that information relayed through the internet has the potential to constitute sufficient disclosure to affect novelty or inventive step.

Each determination of prior art from the WWW case will depend upon the facts and the weight of evidence concerning the actual content of the disclosure to the public, the repute of the particular website and decipherable evidenced date of publication. The accessibility of the disclosure to the

<sup>60</sup> IP.com, Inc, n 55.

<sup>61</sup> Blanco White TA, *Patents for Inventions* (4th ed, Law Book Co, 1974) p 1.

<sup>62</sup> See, eg *Patents Act 1990* (Cth), s 13.

<sup>63</sup> Arzberger et al, n 2. This article discusses the proposal that research data, particularly that which is publicly funded, be openly available.

<sup>64</sup> See, eg *European Patent Convention*, Art 83: an application must “disclose the invention in a manner sufficiently clear and complete for it to be carried out by the person skilled in the art”; and 35 USC § 112(1): a patent specification is required to “contain a written description of the invention ... as to enable any person skilled in the art ... to make and use the same”. Note, however, that in the UK, “enablement” along with “disclosure” are cumulative requirements for anticipation. As cited in *H Lundbeck A/S v Alphapharm Pty Ltd* (2009) 177 FCR 151 at [190]; 81 IPR 228 per Bennett J: “The use of that expression tends to cause confusion between anticipation and sufficiency.”



public, including the date thereof, will need to be persuasively supported in evidence, such as from websites like <http://www.ip.com> or <http://www.archive.org> discussed above. Publication on a company website will obviously be less persuasive due to its changing content than publication in an online journal.

In general, prior art information available on the WWW, to validly destroy novelty and/or obviousness, will need to describe, anticipate or make obvious all the elements of the claimed invention.<sup>65</sup> Under Australian law, for the purpose of a novelty determination, whether the prior art information is an “enabling disclosure” is important, and for the purposes of an inventive step determination, its “ascertainment” is important. As discussed above, the fundamental foundation of patent law is that an applicant is given a temporary “monopoly” to exploit the patentable invention in exchange for disclosure of the applicant’s invention to the public. The fundamental principle of “sufficiency of disclosure/enablement” in a patent specification simultaneously lies at the heart of the patent system and it is here that the “disclosure” part of the bargain is fulfilled by the patentee.

For any government to maintain its part of the “bargain”, it needs to provide this temporary “monopoly” to the patentee to exploit the invention. In doing so, it needs to be able to stop others exploiting a patentee’s invention without authorisation (via patent infringement proceedings, including interlocutory action) and maintain a clear “monopoly” for the patentee by not allowing its patent office to grant patents which fall within the scope of the granted patent (applying the reverse infringement test of novelty). It is here that the requirements of “enabling disclosure” and “ascertainment” (at least in Australian patent law) ensure that patent offices only refuse patent applications where a prior art disclosure can be ascertained by the PSA and provide them with the tools to practically apply the invention.

Where, as it so often happens in defensive publication, a disclosure is made which may not be sufficiently “enabling” so as to anticipate a patent application and which itself does provide sufficiency of disclosure or enablement, then the real heart of the patent system continues to operate successfully so that such accessible yet insufficient, transitory information, and information available from suspect sources, cannot be used to prevent grant of a patent and thereby be seen to be disrupting the patent system.

What is clear is that as a source of information, the WWW and all of its various forms, has changed the landscape of prior art. However, the law on the legal validity of disclosures, particularly transient information available through social media chat rooms and blogs which is rapidly increasing as a form of global communication, is not settled, as the law always lags behind science and technology. Until the boundaries and limitations of the WWW become clear, and legal principles are established, each case needs to be determined in its relevant jurisdiction, on its facts and the weight of evidence tendered.

As fibre optic cables continue to replace metallic carriers as carriers of electronic information, new information can be placed into the public domain at the speed of light.<sup>66</sup> It is inevitable with the increasingly important role that the internet and the WWW play in providing information to the public, that researchers, examiners, patent applicants, searchers, opposers, infringers and other parties interested in the grant of a patent will rely more and more on the WWW as a source of prior art information.<sup>67</sup> This is particularly so considering the perceived “unresourcefulness” of paper publication, the decline in newspaper sales and the move towards a “greener” and “paperless” world.<sup>68</sup>

At this stage, it does not appear that the hegemony of the patent system will lose momentum. Although there might be incentives and objectives to defensively publishing one’s innovation, there are important reasons to pursue a patent instead, particularly for new technology, so that due return can be received for one’s conception, research and development. In any case, it seems that the

<sup>65</sup> Borchardt, n 56.

<sup>66</sup> Bereskin & Parr LLP, n 38.

<sup>67</sup> Oppenheimer M, “In Vento Scribere: The Intersection of Cyberspace and Patent Law” (1999) 51 Fla L Rev 229 at 230-231.

<sup>68</sup> See, eg Microsoft’s Tablet computers and News Corporation’s plan to move to the online use of newspapers.



fundamental patent law principles of enabling disclosure, sufficiency of disclosure and ascertainment of prior art in respect of the inventive step of patents, will ensure that the patent system, at least that in Australia, maintains its hold and grip on innovation in today's society, at least for the foreseeable future.

