

## Obviousness Under Chinese Patent Law

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### Executive Summary

Current Chinese Patent Law<sup>1</sup> requires “inventiveness,” a concept similar to the United States’ requirement that a patent’s subject matter be non-obvious.<sup>2</sup> One difference between the two requirements is that the Chinese standard is lower, in that the definitions of prior art and “ordinary skill in the art” make it harder in China to invalidate a patent application. Also, there is no “motivation from market force” factor in Chinese Patent Law, nor indication that Chinese Patent Law will adopt such a factor in the future for the purpose of invalidating a patent for being obvious. The gap between the Chinese Patent Law and the United States patent law will therefore widen after *KSR v. Teleflex*,<sup>3</sup> unless the next amendment to the Chinese Patent Law, due 2008, adopts some significant changes.

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<sup>1</sup> The Patent Law of the People’s Republic of China, amended 2000 (hereinafter “Chinese Patent Law”).

<sup>2</sup> “A patent may not be obtained [...], if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” 35 U.S.C. § 103.

<sup>3</sup> 127 S. Ct. 1727 (2007)

## Inventiveness Compared to Obviousness

### 1. Chinese Patent Law Overview

Despite China's 5,000 year history, China has never internally developed a concept of an intellectual property right.<sup>4</sup> The first "Patent Law of the People's Republic of China" was enacted March 12, 1984. It went into effect April 1, 1985.<sup>5</sup> The black-letter Chinese Patent Law has been further clarified by the Implementing Regulations of the Patent Law, which is also decreed by the State Council of China.<sup>6</sup> The Patent Law and the Implementing Regulations of the Patent Law were revised in 1992 and 2000.<sup>7</sup> Chinese Patent Law is currently in the process of its third revision as of February, 2008.<sup>8</sup>

Early versions of Chinese patent law were criticized by scholars for providing inadequate protection of intellectual property rights in theory and in practice, mainly for weak

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<sup>4</sup> Jeffrey A. Andrews, *Pfizer's Viagra Patent and the Promise of Patent Protection in China*, 28 Loyola Int'l & Comp. L. Rev. 1

<sup>5</sup> Dale Carlson et al., *Patent Reform at the Cross Roads*, 2006 North Carolina J. of Law and Tech 261; Yangtze Yan, Amendment to Chinese Patent Law, February 15, 2006, at [http://www.gov.cn/english/2006-02/15/content\\_191988.htm](http://www.gov.cn/english/2006-02/15/content_191988.htm); Yin Xintian, Deputy Principle Director, Administrative Department for Patent Examination, Chinese Patent Office, A Brief Introduction To The Patent Practice In China, 9 Duke J. of Comp. & Int'l L. 253.

<sup>6</sup> At [http://www.chinadaily.com.cn/bizchina/2006-04/17/content\\_569565.htm](http://www.chinadaily.com.cn/bizchina/2006-04/17/content_569565.htm)

<sup>7</sup> Yangtze Yan, *supra* note 5.

<sup>8</sup> SIPO, *Draft for Soliciting Opinions On The Third Amendment Of The Patent Law Of The People's Republic Of China ("Draft Amendment")*, July 31, 2006, available at <http://www.sipo.gov.cn/sipo/bgs/img/he.pdf>.

enforcement.<sup>9</sup> Initially, Chinese law provided little in the way of recourse for the holder of intellectual property rights, and whatever recourse existed in theory was difficult to achieve in practice.<sup>10</sup> For example, Pfizer obtained a patent for Viagra in China only after extensive litigation.<sup>11</sup> The lack of effective protection caused potential foreign investors to hesitate, despite the huge market potential in China.<sup>12</sup>

The Chinese government addressed the deficiencies through a series of amendments. For example, China is a signatory of both the Paris Convention for the Protection of Industrial Property<sup>13</sup> and the Patent Cooperation Treaty (PCT).<sup>14</sup> Accordingly, current Chinese patent law is compatible with the TRIPS requirements.<sup>15</sup> Also, in harmony with the U.S., Europe, and Japan, Chinese

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<sup>9</sup> Andrews, *supra* note 4.

<sup>10</sup> Andrews, *supra* note 4.

<sup>11</sup> See Andrews, *supra* note 4. See also National Working Group for Intellectual Property Rights Protection, *Pfizer wins patent protection for Viagra in China*, June 5, 2006, available at [http://www.ipr.gov.cn/ipr/en/info/Article.jsp?a\\_no=5485&col\\_no=99&dir=200606](http://www.ipr.gov.cn/ipr/en/info/Article.jsp?a_no=5485&col_no=99&dir=200606)

<sup>12</sup> Fred Greguras, *Will China Become a Global Power in Biotech?*, Biotech Workshop, Fenwick West LLP, December 5, 2003, available at [http://www.fenwick.com/docstore/Publications/Corporate/China\\_Global\\_Power.pdf](http://www.fenwick.com/docstore/Publications/Corporate/China_Global_Power.pdf)

<sup>13</sup> China signed the Paris Convention on March 19, 1985. See [http://usinfo.state.gov/ei/economic\\_issues/intellectual\\_property/ipr\\_china/china\\_ipr\\_glossary.html](http://usinfo.state.gov/ei/economic_issues/intellectual_property/ipr_china/china_ipr_glossary.html)

<sup>14</sup> China acceded to the PCT on January 1, 1994. See Naigen Zhang, *Intellectual Property Law Enforcement in China: Trade Issues, Policies and Practices*, presentation at the Fifth Annual Conference on International Intellectual Property Law and Policy at Fordham University School of Law, April 3, 1997, available at <http://law.fordham.edu/publications/articles/200flsPub6689.pdf>

<sup>15</sup> Carlson, *supra* note 3.

Patent Law requires novelty, an “inventive step,” and “practical applicability.”<sup>16</sup>

China has a first-to-file system, meaning that the first applicant to file his or her application with the patent office will receive priority, regardless of who actually was first to “invent” the invention.<sup>17</sup> This is notably in contrast to the US system, which currently is the only legal system that uses a “first to invent” scheme, although the Congress is likely to change that.

Under the Chinese patent system, the State Intellectual Property Office of the People’s Republic of China (“SIPO”) is the authority that receives and examines patent applications for invention, utility model and design.<sup>18</sup> SIPO is analogous to the U.S. Patent and Trademark Office (“USPTO”), for patent application, examination, and reexamination purposes.

## **2. Obviousness and Inventive Step**

In the United States, an invention is not patentable if “the subject matter as a whole would have been obvious at the

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<sup>16</sup> *Id.*

<sup>17</sup> Cynthia Smith, *A Practical Guide To Chinese Patent Law*, 29:2 SETON HALL LEGISLATIVE J. 643, 653 (2004), available at <http://law.shu.edu/journals/legbureau/Articles/Cynthia%20Smith.pdf>.

<sup>18</sup> SIPO, *Patent Applications*, July 19, 2007, at [http://www.sipo.gov.cn/sipo\\_English/about/examinationAffairs/200707/t20070719\\_178234.htm](http://www.sipo.gov.cn/sipo_English/about/examinationAffairs/200707/t20070719_178234.htm).

time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.”<sup>19</sup> For years, the Federal Circuit used a teaching-suggestion-motivation test (“TSM Test”) in the obviousness determination.<sup>20</sup> In *KSR*, the Supreme Court acknowledged that the TSM test may be useful. However, it rejected the Federal Circuit’s rigid application holding that “[t]he obviousness inquiry cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation, or by overemphasis on the importance of published articles and the explicit content of issued patents.”<sup>21</sup>

In comparison, Chinese patent law requires an invention to have an “inventive step” to be valid: “[a]ny invention or utility model for which a patent right may be granted must possess the characteristics of novelty, inventiveness and usefulness.”<sup>22</sup> Further, “[i]nventiveness means that, [1] compared with the technology existing before the filing date of the application, the invention has [2] prominent and substantive distinguishing features and represents [3] a marked improvement, or the utility model possesses substantive distinguishing

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<sup>19</sup> 35 U.S.C. § 103.

<sup>20</sup> John Knight, *Motivation for the Federal Circuit Test*, September 30, 2006, available at <http://digital-law-online.info/papers/jk/tsm.pdf>.

<sup>21</sup> *KSR Intern. Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1731-32 (2007).

<sup>22</sup> Chinese Patent Law, art. 22 (2000), available at [http://www.novexc.com/patent\\_law\\_92.html](http://www.novexc.com/patent_law_92.html)

features and represents an improvement.”<sup>23</sup> This is typically explained in Chinese textbooks in conjunction with the European Patent Convention standards of non-obviousness.<sup>24</sup> However, the “inventiveness” standard under Chinese patent law is only analogous, not identical, to the concept of “obviousness” under the U.S. patent systems.<sup>25</sup>

The following is an element-by-element analysis of the “inventive step” standard under Chinese patent law for “inventions” mentioned above.<sup>26</sup> .

#### *A. Prior art - “Technology Existing Before The Filing Date”*

The concepts of “prior art” in the U.S. and China are similar, with one subtle exception. In the U.S., a patent can be invalidated by a prior-filed, published patent application even before that patent application issues.<sup>27</sup>

There is a difference between the U.S. law and Chinese law in when a prior filed patent becomes prior art. Under Chinese patent law, the contents of a patent application filed by

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<sup>23</sup> *Id.*, para. 3 (numeric headings added).

<sup>24</sup> Andrews, *supra* note 4, at 31.

<sup>25</sup> Andrews, *supra* note 4, at 29.

<sup>26</sup> “Utility model” is another form of intellectual property protected under Chinese patent law. This concept is analogous to “industrial design” in the US, and is beyond the scope of this paper.

<sup>27</sup> 35 U.S.C. § 102(e)(1).

“another” before the filing date of the application being *examined and published* after the said filing date, “as referred to in Article 22.2, is not prior art,” and therefore is not taken into account when inventive step of the application is assessed.<sup>28</sup> Thus, for a prior-filed application to become prior art, Chinese patent law requires that the application be “examined” in addition to being published. Like the U.S., Chinese Patent Law requires automatic publication after 18 months of filing.<sup>29</sup> It is therefore possible in both country that a patent application is published before it is *examined*. In this case, the prior-filed and published patent application can be used as prior art to invalidate the current application under the U.S. law, but it cannot be used as prior art to invalidate the current application under Chinese patent law until its examination.

This difference is likely to change in the future. SIPO has been preparing to make the third amendment to Chinese Patent Law since April 2005.<sup>30</sup> In the draft of the amendment, the

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<sup>28</sup> SIPO, *Guidelines for Examination, Ordinance of the SIPO*, No. 38, ch. 4 § 2.1 (2006) (“SIPO Guidelines”), available at [http://www.sipo.gov.cn/sipo/zlsc/sczn2006/guidelines2006\(EN\).pdf](http://www.sipo.gov.cn/sipo/zlsc/sczn2006/guidelines2006(EN).pdf)

<sup>29</sup> “Where, after receiving an application for a patent for invention, the Patent Office, upon preliminary examination, finds the application to be in conformity with the requirements of this Law, it shall publish the application promptly after the expiration of eighteen months from the date of filing. Upon the request of the applicant, the Patent Office may publish the application earlier.” Chinese Patent Law, art. 34.

<sup>30</sup> Draft Amendment, *supra* note 8, art. 22.

wording for prior art requirement for “inventive step” changed from “compared with the technology existing before the filing date of the application” to “compared with existing technology.”<sup>31</sup> This change is significant and the exact scope of this change will unfold over time.

### *B. Prominent Substantive Feature*

Chinese Patent Law also requires an invention to have a “prominent substantive feature” to be valid. A “prominent substantive feature” is the Chinese requirement of non-obviousness. In this area, the requirement for non-obviousness is substantially similar to the United States patent law pre-*KSR*.

Under Chinese Patent Law, the requirement of “prominent substantive feature” uses almost exactly the same language as 35 U.S.C. § 103: “that an invention has prominent substantive features means that, having regard to the prior art, it is non-obvious to a person skilled in the art.”<sup>32</sup> In contrast to the U.S., the Chinese definition of “a person having ordinary skill in the art” is statutorily more elaborate, and less restrictive. For example, in China, this person is presumed to:

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<sup>31</sup> *Id.*

<sup>32</sup> SIPO Guidelines, ch. 4 § 2.2.

- (a) be aware of all the typical technical knowledge,
- (b) have access to all the technologies existing before the filing date or the priority date in the technical field to which the invention pertains, and
- (c) have the capacity to apply all the routine experimental measures before the filing date or the priority date.<sup>33</sup>

If the technical problem to be solved impels that person to seek technical means in other technical fields, he should also be presumed to have access to the relevant prior art, common technical knowledge, and routine experimental measures in the other technical field before the filing date or the priority date.<sup>34</sup>

A notable difference from U.S. law is that in China a person "with ordinary skill in the art" is not presumed "creative".<sup>35</sup> In the United States, the term "a person having ordinary skill in the art" as provided in 35 U.S.C. § 103 does not preclude creativity. "Ordinary skill in the art" is determined by a six factor test (roughly, education of the inventor, type of problem, prior solution, rapidity of solution,

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<sup>33</sup> *Id.*, ch. 4 § 2.4.

<sup>34</sup> *Id.*

<sup>35</sup> *Id.*

sophistication of the art, and education level of active workers in the field).<sup>36</sup> The additional no-creativity standard under Chinese patent law makes it less likely that a patent will be invalidated for lacking inventiveness in China than in the United States, because the “ordinary skill” in China is artificially defined as more restrictive than that in the United States. The more restrictive definition of “ordinary skill” makes it harder to invalidate a patent, thereby lowering the standard on patentability. The lower standard under Chinese Patent Law is justified by some Chinese commentators as being “tailored to the Chinese situation, for encouraging invention and creativity, and promoting technical progress.”<sup>37</sup>

The next issue is determining what is obvious to a person with ordinary skill in the art. Prior to *KSR*, in the U.S., the non-obviousness standard used the TSM Test - whether the reference expressly teaches, suggests, and motivates one with ordinary skills to make the improvement.<sup>38</sup> Chinese Patent Law, by contrast, explicitly states a standard for obviousness: “If the person skilled in the art can obtain the invention just by logical analysis, inference or limited experimentation on the

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<sup>36</sup> See *Environmental Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 696 (Fed. Cir. 1983), cert. denied, 464 U.S. 1043 (1984).

<sup>37</sup> Supei Zhang, *On The Standard of Invalidating Patents Under Inventiveness Requirement* (2006), available at <http://www.cnip.cn/news/zhuanli/zhuanliquandebaohuhezhuanlifalvweni/2006/0921/293.htm>.

<sup>38</sup> *Winner Int'l Royalty Corp. v. Wang*, 202 F.3d. 1340, 1348 (Fed. Cir., 2000).

basis of the prior art, the invention is obvious and therefore has no prominent substantive features.”<sup>39</sup> Furthermore, in the SIPO Guidelines for Examination, “motivation” is an important factor: “In the course of judgment, what is to be determined is whether or not there exists such a technical motivation in the prior art as to apply the said distinguishing features to the closest prior art in solving the existing technical problem.”<sup>40</sup> The difference between the two systems is the measure of objectiveness: objective as to the reference in the United States, and objective to the person with ordinary skill in the art in China. Under the Chinese system, the examiner or judge does not look at the reference, but whether the fictitious person of ordinary skills can reach the invention just by logical analysis. This provision, coupled with the lack of jury trials in China, makes it difficult to predict the outcome of an application or a challenge.

### *C. Notable Progress*

For a patent to be valid under Chinese Patent Law, it must show “notable progress” from existing art. This requirement is

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<sup>39</sup> SIPO Guidelines, ch. 4, § 2.2.

<sup>40</sup> SIPO Guidelines, § 3.2.1.1(3).

analogous to the primary and secondary factors for establishing non-obviousness under United States case law.

“Secondary consideration” in the United States include commercial success, long felt but unsolved needs, failure of others, etc.<sup>41</sup>

The “notable progress” requirement in Chinese Patent Law is soft. The Guidelines provide that “an invention represents notable progress if the invention can produce advantageous technical effect as compared with the prior art. For instance, the invention has overcome the defects and deficiencies in the existing technology, or has provided a different technical solution to solve a certain technical problem, or represents a certain new trend of technical development.”<sup>42</sup> No guidelines exist on what constitutes a defect, nor are there guidelines on how much of a “difference” a new solution must possess. Such vagueness gives the examiner or court tremendous power in deciding the validity of the patent.

Commercial success, a *Graham* factor, is explicitly described in the Chinese patent Guidelines. Commercial success, if directly brought about by the technical features of the

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<sup>41</sup> *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1 (1966).

<sup>42</sup> SIPO Guidelines, ch. 4, § 2.3.

invention, "means that the invention has advantageous effect on the one hand and it is non-obvious on the other hand."<sup>43</sup> This clause is a substantial restatement of United States case law where if there is proof that commercial success is tied to the product, a so called "nexus", it is proof of non-obviousness. Interestingly, on this matter, the Chinese patent Guidelines explicitly used the word "non-obviousness" instead of the "inventiveness" in the official English version.<sup>44</sup>

#### *D. Combination of References*

Both United States case law and Chinese Patent Law permit the combination of references when rejecting an application as being obvious. In the United States, although the Supreme Court rejected rigid application of the TSM test, it is still a viable method of analyzing whether a combination is obvious.

In China, "it is permissible to combine together different technical contents disclosed in one or more prior art documents to assess the claimed invention."<sup>45</sup> Where two or more published documents are referenced to establish the obviousness, or lack

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<sup>43</sup> SIPO Guidelines, ch 4, § 5.4.

<sup>44</sup> SIPO Guidelines, ch 4, § 2.2.

<sup>45</sup> SIPO Guidelines, ch. 4, § 3.1.

of inventiveness, of a claimed invention, decisions from the Chinese Patent Reexamination Board suggest that there are several important factors for consideration:

(a) how far apart the technological fields of the two or more reference documents are;

(b) whether the technical problem resolved by the indispensable technical features of the invention is the same as that resolved by the corresponding prior art in the reference documents;

(c) whether the invention arrived at by combining the relevant prior art in the reference documents is an idea that one with ordinary skill in the art can arrive at through routine analysis, or an idea that can only be arrived at by unconventional thinking and overcoming long-standing technical prejudice; and

(d) whether the result produced by such a combination can be expected by one with ordinary skill in the art.<sup>46</sup>

To invalidate a patent by a combination of references in China requires more factors to be considered than in the United States. Items (c) and (d) above refer to the "one with ordinary skill in the art," and are, as explained above, more inventor-friendly than the United States person having ordinary skill.

Moreover, the closeness of the field and solving the same problem do not make it harder to invalidate a patent under Chinese law. These two requirements are general requirements under United States law, which requires a reference to be

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<sup>46</sup> Andrews, *supra* note 4.

analogous - either in the same field, or solving the same problem.<sup>47</sup> Thus, with respect to closeness of field and solving the same problem, the requirement of Chinese Patent Law is effectively the same as in the United States.

### **3. KSR and Chinese Patent Law**

In *KSR v. Teleflex*, the Supreme Court suggests that market forces can be used in addition to teaching, motivation, and suggestion:

When a work is available in one field, design incentives and other market forces can prompt variations of it, either in the same field or in another. If a person of ordinary skill in the art can implement a predictable variation, and would see the benefit of doing so, §103 likely bars its patentability.<sup>48</sup>

This is generally considered as raising the creativity requirement.

One looming question in China is whether the patent examination process will be affected by *KSR*. China has a civil law system that requires any change in patent standards be made in either an amendment of the Patent Law or a change in the

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<sup>47</sup> *In re Clay*, 966 F.2d 656, 658-659 (Fed. Cir. 1992).

<sup>48</sup> *KSR Intern. Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1731, 2007.

regulation.<sup>49</sup> To date, no suggestion to change the law or these regulations have been made. On the contrary, some commentators believe that the new standard in *KSR* cannot be a reason to raise the inventiveness standard in China. For example, one commentator has noted that: "the state of the art in China trails the developed countries, and the most important patents in China are often acquired by foreign entities. A lower 'inventiveness' requirement is helpful in creating incentives for Chinese enterprises to acquire patent, and encourage Chinese owned intellectual property."<sup>50</sup> Whether China reacts to changes in U.S. patent law remain to be seen.

### **Conclusion**

When determining obviousness, Chinese Patent Law uses substantially the same factors and elements as the corresponding United States statutes and case law, except with lower standards in determining "one with ordinary skills in the art," higher requirement for prior art (although likely to change in the future), and greater leeway for the examiner or judge to decide on the validity of the patent. After *KSR*, it is generally

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<sup>49</sup> Wikipedia, *Legal Systems of the World*, at [http://en.wikipedia.org/wiki/Legal\\_systems\\_of\\_the\\_world](http://en.wikipedia.org/wiki/Legal_systems_of_the_world).

<sup>50</sup> Wenjun Yan, *Inventiveness in Light of a Latest US Patent Case*, Intellectual Property News, May 31, 2007, available at [http://www.sipo.gov.cn/sipo/xwdt/jdlt/200705/t20070531\\_173693.htm](http://www.sipo.gov.cn/sipo/xwdt/jdlt/200705/t20070531_173693.htm).

believed that it will be harder for a patent to satisfy the "obviousness" requirement in the United States. However, there is no sign yet that China will raise its bar to patentability, especially given the fact that the "market force" is not a factor in either Chinese Patent Law or other Chinese patent regulations. It is not mentioned in the latest proposed amendment to the Chinese Patent Law. Therefore, the difference in patentability between China and the United States, although small, may increase after the *KSR* ruling.