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# The Acknowledgement and Understanding of Foreign Legal Doctrines in Patent Cases in Thailand

## การรับรู้ และทำความเข้าใจในหลักกฎหมายต่างประเทศ ในคดีสิทธิบัตรในประเทศไทย\*

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### Abstract

As commonly known by scholars particularly those who work on patent issues that the patent law was originally created in industrialized countries, where technological development and the progress of science have flourished the most. What perpetually follows from there has continually been a great number of litigations on various patent issues, including infringement and invalidation lawsuits, stemming for one reason from high competition in those aforesaid countries. As a consequence, people in the patent realm, specifically courts in those countries have abundant resources to utilize as tools to originate legal doctrines for the courts

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themselves as well as all related parties to be able to rely upon when cases occur. Thailand, as a country that has just adopted the patent law into its legal sphere around half a century ago as compared to several centuries in countries like the European countries or the United States, still lags behind on the aspect of generating patent legal doctrines. The research leading to this article, therefore, seeks to submit a proposition for all interested parties, specifically the courts to make the acknowledgement and develop the understanding of foreign legal doctrines on patents, and adjust them to be in line with the Thai laws and use them as the foundation to create the country's own patent legal doctrines. The foreign legal doctrines on patents chosen mostly from case law of the United States as they related to the Thai cases studied by the research selectively and exemplary proposed include the doctrines of claim construction, claim differentiation, prosecution history disclaimer, prosecution history estoppel, literal infringement, infringement by doctrine of equivalents, anticipation, obviousness, clear and convincing evidence and analogous arts.

**Keywords:** patent, Thai patent law, court decisions, doctrine, acknowledgement, Silom case, MacroPhar case

## บทคัดย่อ

นักวิชาการทั้งหลาย โดยเฉพาะท่านที่ทำงานในด้านสิทธิบัตร ทราบกันทั่วไปว่า กฎหมายสิทธิบัตรนั้น เป็นสิ่งที่ได้ริเริ่มขึ้นโดยประเทศอุดหนากรรม ซึ่งพัฒนาการทางด้านเทคโนโลยี และความก้าวหน้าทางด้าน วิทยาศาสตร์เป็นบานมากที่สุด ส่งผลให้สิ่งที่ตามมา คือ คดีที่มีเป็นจำนวนมากในประเทศไทยต่าง ๆ ด้านสิทธิบัตร รวมถึงการละเมิด และการเพิกถอน ที่ส่วนหนึ่งเกิดจากการแข่งขันที่สูงมาก ดังนั้น ผู้คนที่อยู่ในวงการสิทธิบัตร โดยเฉพาะศาลในประเทศไทยเหล่านั้น มีทรัพยากรที่มีมากมายในอันที่จะใช้เป็นเครื่องมือในการสร้างหลักกฎหมาย เพื่อที่ศาลเอง รวมถึงผู้ที่เกี่ยวข้องจะได้นำมาใช้เมื่อมีคดีเกิดขึ้น ประเทศไทยซึ่งเป็นประเทศที่เพิ่งได้รับเอากฎหมายสิทธิบัตรมาเมื่อราครองศตวรรษที่ผ่านมา เมื่อเปรียบเทียบกับหลายศตวรรษในประเทศญี่ปุ่นหรือ สหรัฐอเมริกา ยังอยู่ล้าหลังประเทศเหล่านั้นในประเทศไทยก่อให้เกิดหลักกฎหมายด้านสิทธิบัตร งานวิจัยที่ นำมาสู่บทความนี้จึงได้มุ่งที่จะยืนยันเสนอดำรงรับผู้สนใจทั่วโลก โดยเฉพาะอย่างยิ่งศาล ให้มีการรับรู้ และ พัฒนาความเข้าใจในหลักกฎหมายต่างประเทศด้านสิทธิบัตร และนำมารับให้เข้ากับกฎหมายไทย จากนั้น ใช้เป็นพื้นฐานในการสร้างหลักกฎหมายด้านสิทธิบัตรของตนเอง โดยหลักกฎหมายต่างประเทศด้านสิทธิบัตร ที่ส่วนใหญ่คัดสรรมาจากการที่เกิดจากคำพิพากษาของศาลในสหรัฐอเมริกาที่เกี่ยวข้องกับคดีสิทธิบัตร ในประเทศไทยที่งานวิจัยได้ทำการศึกษา ที่ได้มีการเลือกสรร และนำมาเสนอเป็นตัวอย่างในบทความนี้ ประกอบด้วย หลักกฎหมายว่าด้วย การตีความข้อถือสิทธิ การจำแนกข้อถือสิทธิ การสละสิทธิ์โดยภูมิหลัง



การยื่นจดทะเบียน การปิดปากโดยภัยหลังการยื่นจดทะเบียน การละเมิดตามความหมายของคำ การละเมิดโดยหลักความเที่ยบเท่า การคาดหมาย ความเป็นที่ประจักษ์ พยานหลักฐานที่ชัดเจนและน่าเชื่อถือ และศิลปะที่อุปมาเหมือน

**คำสำคัญ:** สิทธิบัตร กฎหมายสิทธิบัตรไทย คำพิพากษา หลักกฎหมาย การรับรู้ คดีสิลิม คดีแม็คโครฟาร์

## 1. Prologue

Amongst all the intellectual property cases, patent litigations are said to be the most complicated, sophisticated, and perplexed. The reasons for this are on the one hand, the nature of patents that involve technological development and the progress of science, on the other hand, the benefits, interests, and profits that patents can help generate. Therefore, as one of the most effective money making tools, legal realm has been designing laws, especially the patent law itself to confer all possible protection on each patent in order for the said matter of intellectual property right to be most efficiently safeguarded. Consequently, patent law was initially enacted in those countries where science and technology flourished foremost. Afterwards, patent law has been imported into many other countries through many channels, forcefully or voluntarily. However, cases occurred more in those countries with stronger industrialization since industry is one key factor to prosperity of patents. Therefore, legal principles related to patent protection have been developed over a century under jurisdictions of the courts in various industrialized countries such as the European countries, the United States and Japan, but in a country like Thailand, those principles are yet to be formulated.

To be fair to the Thai legal domain, specifically the courts, there have not been many cases of patent litigations being brought to their jurisdictions and the path in the past has not been so available for them to take into account foreign legal doctrines. This is due to the statutory and normative principle of judicial proceedings that acknowledgement of foreign legal doctrines is a matter of fact that no matter how much information the courts have or how knowledgeable the judges are regarding said doctrines, they are confined by the procedural laws and legal rules that said matter of fact must be presented to the benches by the parties to the cases in order for the foreign legal doctrines, as a matter of fact, to be taken into account.<sup>1</sup>

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<sup>1</sup> See ประมวลกฎหมายวิธีพิจารณาความแพ่ง [Thai Code of Civil Procedure] มาตรา 84 และ 84/1 [Sections 84 and 84/1]. Section 84 stipulates that the consideration of a matter of fact in a case shall be done by relying on the evidence presented in the file of that case and Section 84/1 provides that the party asserting a fact to support a contention bears the burden of proof on that fact; See also คำพิพากษาศาลฎีกาที่ 3537/2546 [Supreme Court 3537/2546]. It was held by the Supreme Court that a contention on the existence of a foreign law and the application of which to the case must be appertained to the duty of the party raising such contention to attest by introducing the statute and the application of said law through a testimony of a witness who is an expert on such foreign law to satisfy the court that said law merits the justification. By



Hence, within the jurisdictions of Thai courts, lack of resources for development of legal principles especially on patent issues is still an obstacle for them to create legal doctrines.

In the research leading to this article, two landmark Thai patent cases as well as cases especially from U.S. courts together with other documents such as law textbooks and law journals were studied in order to explain the acknowledgement and understanding of foreign legal doctrines in patent cases in Thailand. The research has sought to present illustrative cases on patents under the jurisdictions of Thai courts in comparison with other courts, especially U.S. courts and to analyze those cases in order to gain legal explanations on patent laws that will be useful for the future decisions of the courts. It focused mainly on in-depth documentary review and provided a full-fledged analysis of the acknowledgement and understanding of foreign legal doctrines on patents through two landmark patent cases in Thailand involving pharmaceutical patents owned by multinational corporations who alleged two local generic companies for patent infringement. However, the finale of the cases turned out to be a big upset of the pharmaceutical circle. One of the most important key factors to the breakthrough of judicial judgments and decisions in those two cases was the willingness of the judges and justices of the Intellectual Property and International Trade Court, the Specialized Court of Appeals, and the Supreme Court to hear, listen, and apply foreign legal doctrines on the cases before them in order to justify the cases they had to decide.

## 2. Acknowledgement and Understanding of Foreign Legal Doctrines and the Developments in Patent Cases

It is definitely not a general practice and perhaps a rare action that a court in one country takes into account laws, decisions or even legal doctrines of another country while dealing with its own cases for an obvious reason of an independency of the courts and on the whole of the countries. Nonetheless, it is not unprecedented that courts in different countries make references to, explanations of, and arguments from decisions of courts in other countries since laws and legal doctrines in different jurisdictions may be interrelated to a certain extent. Towards such sequitur, supporting

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the same token, an assertion on foreign legal doctrines must be done through a similar procedure so as for the courts to be able to take them into consideration.

cases such as the UK Actavis UK Ltd. v. Eli Lilly & Co.,<sup>2</sup> the Australian Tritech Technology v. Gordon<sup>3</sup> and TS Production v. Drew Pictures<sup>4</sup> were studied together with many cases of the U.S. courts. But in the U.S., it may usually be that the application of foreign judgments has generally been opposed to as may be seen through cases of courts in that country as discussed particularly through the article of Roberto Rosas<sup>5</sup> that elucidated the more accepted principle of not accepting foreign laws to be applied under various jurisdictions of U.S. courts with the exception that relevancy can be demonstrated to the extent that it may be deemed by courts that observations of foreign laws would be more beneficial and justifiable for the parties to the disputes. Furthermore, an article by Elaine Mak pointed out that the quality of judgments may be improved through attentions given to general principles of law intricately reviewed by foreign courts.<sup>6</sup>

Conclusively speaking, the acknowledgement of foreign legal doctrines on various aspects involving issues related to patents including prosecution and litigation can greatly support courts including patent offices, litigants, applicants as well as any other interested parties to deal with diverse issues of patents through the understanding to come of said legal doctrines once they are acknowledged. Patent legal doctrines can be complicatedly perplexed; notwithstanding, precise knowledge and reasonably rational apprehension on them can brush off incomprehension and misreading, which in turn can help to assist decision making for courts, patent offices, litigants, applicants and other patent associated interested parties. In this chapter, legal doctrines studied throughout the research leading to this article will be tied in with factual anecdotes from two cases<sup>7</sup> of precedent from the Thai courts, i.e., Intellectual Property and International Trade Court TP 81-82/2555<sup>8</sup> [hereinafter Silom

<sup>2</sup> Actavis UK Ltd v Eli Lilly & Co, [2017] R.P.C. 21.

<sup>3</sup> Tritech Technology Pty Ltd v Gordon, [2000] FCA 75.

<sup>4</sup> TS Production LLC v Drew Pictures Pty Ltd, [2008] FCA 1110.

<sup>5</sup> Roberto Rosas, 'Foreign Patent Decisions and Harmonization: A View of the Presumption Against Giving Foreign Patent Decisions Preclusive Effect in United States Proceedings in Light of Patent Law International Harmonization' (2018) 18 John Marshall Review of Intellectual Property Law 1, 14.

<sup>6</sup> Elaine Mak, 'General Principles of Law and Transnational Judicial Communication' in Laura Pineschi *General Principles of Law – The Role of the Judiciary* (Vol 46, Springer 2015) 45.

<sup>7</sup> In both of the two cases, the leading attorney was Mr. Manothai Pramoj Na Ayuddhya and the counselor was Jade Donavanik.

<sup>8</sup> ค่าพิพากษาค่า牋ทรัพย์สินทางปัญญาและการค้าระหว่างประเทศที่ ทป. 81-82/2555 [Intellectual Property and International Trade Court TP 81-82/2555].



case I] and Supreme Court 9832-9833/2560 [hereinafter Silom case II];<sup>9</sup> and Intellectual Property and International Trade Court TP 195/2560 [hereinafter MacroPhar case I]<sup>10</sup> and Specialized Court of Appeals 828/2562 [hereinafter MacroPhar case II]<sup>11</sup> in order to demonstrate the practical application of those doctrines in actual cases in Thailand. Indeed, not all the legal doctrines explicated in the research leading to this article were well discussed in each of the cases, some were more utilized, others may not have been explicitly touched upon, but all were thought of to a certain extent, towards which this article will be illustrating each of them respectively.

## 2.1 Acknowledgement of foreign legal doctrines in patent cases

A terse comparison of three terms discussed by the research leading to this article should be useful to be briefly touched upon to grasp the proposition of acknowledgement of foreign legal doctrines – those terms are enforcement, recognition, and acknowledgement. Enforcement is an action to bring a law into effect, while recognition is an act that takes legal effect of an acceptance, whereas an acknowledgement is an acceptance that the fact exists.<sup>12</sup> The intention of the research is to establish a ground for acknowledgement of foreign legal doctrines in order for related parties, particularly the courts to make use of these doctrinal rules that have mostly been created by case laws in countries with abundant resources provided through cases, in particular patent cases, mainly from the United States in order to fill in the information that may have not yet been had in the libraries of patent proceedings in Thailand. Indeed, when a proposition to acknowledge foreign legal doctrines is petitioned, the decision whether to make the acknowledgement would be exclusively under the prudent consideration of the courts of jurisdiction. Typically, the judges do not suddenly turn down the request, but rather allow the requester to demonstrate, reason and rationalize the petition. The followings are exemplifications of the expedition in courtrooms to demonstrate the actual action of

<sup>9</sup> คำพิพากษาศาลฎีกาที่ 9832-9833/2560 [Supreme Court 9832-9833/2560].

<sup>10</sup> คำพิพากษาศาลทรัพย์สินทางปัญญาและการค้าระหว่างประเทศที่ ทป. 195/2560 [Intellectual Property and International Trade Court TP 195/2560].

<sup>11</sup> คำพิพากษาศาลอุทธรณ์ชั้นฎีกาที่ 828/2562 [Specialized Court of Appeals 828/2562].

<sup>12</sup> See Black's Law Dictionary (11th ed. 2019). “Enforcement n. 1. The act or process of compelling compliance with a law, mandate, command, decree, or agreement;” “Recognition n. 1. Confirmation that an act done by another person was authorized;” “Acknowledgement n. 1. A recognition of something as being factual.”

proposing the proposition through two cases litigated in courts overseeing patent issues as earlier mentioned, i.e., Silom case and MacroPhar case.

The set of Silom cases came about due to the allegation of Novartis AG under the point of view that the product of Silom Medical, i.e., a pharmaceutical composition comprising valsartan as the main active ingredient infringed upon its patent, i.e., Thai Patent No. 18749 with counterpart patent U.S. Patent No. 6,294,197 (the '197 patent) on several claims including claims 1, 2, 4 – 7, 18 – 25, and 38 – 41,<sup>13</sup> towards which the primal problem, especially for Silom Medical was that the Patent Act of the Kingdom of Thailand<sup>14</sup> only provides broad protection for patents under Section 36 and 36bis that only the owner of the patent shall have the rights: (1) in case where the patent has been granted in respect of a product, the right to produce, use, sell, have in possession for sale, offer for sale or import the patented product into the Kingdom; and (2) in case where the patent has been granted in respect of a process, the right to use the patented process, produce, use, sell, have in possession for sale, offer for sale or import the product produced by means of the patented process into the Kingdom.<sup>15</sup> The scope of said rights of the patent owner with regard to a patented invention shall be as indicated in the claims, and thereupon, the determination of the scope of the invention in relation to such claims, the characteristics of the invention as specified in the detailed description or the specification of the invention and its drawings, shall be taken into account; and said scope of the invention shall include the characteristics of the invention which, even though not particularly indicated in the claims, have the same qualifications, functions and effects as those indicated in the claims according to the view of a person having ordinary skill in the art or other technologies related to the invention.<sup>16</sup>

The crux of said provisions of the Thai Patent Act, indeed, may not have been due to the wordings themselves, but because there have been very limited interpretations of the law, both in terms of textual interpretation (the focus is mainly

<sup>13</sup> See คำพิพากษาศาลทรัพย์สินทางปัญญาและการค้าระหว่างประเทศที่ ทป. 81-82/2555 หน้า 1 [Intellectual Property and International Trade Court TP 81-82/2555 at p. 1]; See also U.S. Patent No. 6,294,197 (considered as English translations of Thai Patent No. 18749 claims 1, 2, 4 – 7, 18 – 25, and 38 – 41).

<sup>14</sup> พระราชบัญญัติสิทธิบัตร พ.ศ. 2522 แก้ไขเพิ่มเติม พ.ศ. 2535 และ พ.ศ. 2542 [Thailand Patent Act B.E. 2522 (1979) as revised by Patent Act B.E. 2535 (1992) and by Patent Act B.E. 2542 (1999) [hereinafter Thai Patent Act].

<sup>15</sup> ibid มาตรา 36 [Section 36].

<sup>16</sup> ibid มาตรา 36ทวิ [Section 36bis].



on the text or the wording itself) or contextual interpretation (the focus covers the text or the wording within the context or the intention of the law), especially through the courts of judiciary so as to be enough for the parties, particularly the defendant to be able to pursue the case with suitable legal mechanisms. There have been a number of issues that have not been adequately addressed or never discussed, in particular in the courts of law having jurisdictions over patent issues. The aspects most important to the Silom case, such as claim construction, claim differentiation, prosecution history disclaimer, prosecution history estoppel, have not really been deliberated in the chambers of courts.

Primarily, in patent litigation, the foremost action that must be had is claim construction, to which in the Silom case, it can be said to a certain extent that the IT and IP Court did establish some sort of claim construction, but the missing part which can be a very important tool to ensure that claim construction is appropriately taken in regard to what was actually claimed by the applicant and upon which what is the proper understanding of an ordinary skilled person in the art – the prosecution history has not been mentioned. In fact, it has been well settled in the U.S. that “[t]he purpose of claim construction is to ‘determin[e] the meaning and scope of the patent claims asserted to be infringed,’ ”<sup>17</sup> and the “[w]ords of a claim are generally given their ordinary and customary meaning, which is the meaning a term would have to a person of ordinary skill in the art after reviewing the intrinsic record at the time of the invention.”<sup>18</sup> In addition, “in interpreting an asserted claim, the court should look first to the intrinsic evidence of record, *i.e.*, the patent itself, including the claims, the specification and, if in evidence, the prosecution history”<sup>19</sup> – “[s]uch intrinsic evidence is the most significant source of the legally operative meaning of disputed claim language.”<sup>20</sup>

In the Silom case, the crucial reason why prosecution history was needed, and in fact not only this, there were many more conceptual readings of the law to be had,

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<sup>17</sup> *O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1360 (Fed. Cir. 2008), quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed.Cir.1995) (en banc), *aff'd* 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996).

<sup>18</sup> *Ibid*, citing to *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed.Cir.2005) (en banc).

<sup>19</sup> *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996), citing to *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995), *aff'd*, 517 U.S. 370, 116 S. Ct. 1384, 134 L. Ed. 2d 577 (1996).

<sup>20</sup> *ibid*.

was the standpoint of Silom Medical that the alleged claim 1 of the Thai Patent No. 18749 was not a product nor process claim, but rather a product-by-process claim, which once again was the legal doctrine not existed under the Thai patent law, nor occurred under court cases in Thailand; therefore, the necessity of proposing the acknowledgement of foreign legal doctrines became an inevitable path in order for the case to be proceeded justifiably.

In the actual proceedings of the case, both the IP and IT Court and the Supreme Court did allow the presentations of foreign legal doctrines through an American professor of law from the University of Southern California, School of Law (USC Law School) – Professor Roman Melnik, and the acknowledgement of those presented foreign legal doctrines has been shown through the holdings and reasonings of the courts. Indeed, the proposition for foreign legal doctrines to be heard by the IP and IT Court was of course opposed to by the plaintiff, Novartis AG, especially through the explanation of a foreign expert since the plaintiff was of the view that the Thai Patent Act as a Thai law should be implemented, enforced, and interpreted only within the ambit resources of Thailand and if the legal doctrines from other countries were to be presented, it should be the attorney or the Thai expert to perform the task, not a foreigner presenting foreign laws or legal doctrines. It was, actually, fair enough for the plaintiff to raise such contention since the narrower the scope of the law and the scarcer the resources, the lighter the burden on the plaintiff and the harder the arguments to be made for the defendant.

To begin with, without legal doctrines such as claim construction that holds all intrinsic evidence, i.e., claims, specification, and prosecution history to be important tools, claim 1 of Thai Patent No. 18749 could have been determined to be a product claim, instead of a product-by-process claim. Irrespective of all the disputing points on acknowledgement of foreign legal doctrines, the IP and IT Court decided to listen to them through an appropriate expert who really possesses the knowledge on them and to consider whether to take or utilize them or not on a case by case basis through the prudent contemplation of the Court. The result of which has been demonstrated in the holdings of the case, e.g., the IP and IT Court on the account of deciding on validity wrote in its decision that subsequent to the hearings of expert testimonies including a testimony of Professor Roman Melnik<sup>21</sup> and the Supreme Court on the same account mentioned the same foreign expert that he has submitted

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<sup>21</sup> See คำพิพากษาศาลทรัพย์สินทางปัญญาและการค้าระหว่างประเทศที่ ทบ. 81-82/2555 หน้า 21 [Intellectual Property and International Trade Court TP 81-82/2555 at p. 21].



an affidavit and deposition as well as testified in regard to U.S. Patent No. 5,399,578 so on and so forth.<sup>22</sup> The aftermath of all the legal doctrines provided will be revealing itself thereafter in the ensuing parts of this chapter.

For another case, the MacroPhar case, the facet on acknowledgement of foreign legal doctrines was quite straightforward and almost not problematic since Judge Vichai Ariyanuntaka, the trial judge to the case, was of the opinion that patent law is a technically and technologically sophisticated field of law; therefore, all sorts of knowledge existed or can be found around the world should be observed in order for the parties to the dispute to be able to deliver strong and proper arguments and for the court to be able to appropriately and justifiably hold legal principles and decide the case for the betterment of the legal realm, the improvement of the patent law, and the development of judicial processes. Accordingly, Judge Ariyanuntaka allowed that foreign legal doctrines related to each of the matters contended, e.g., burden of proof for invalidity to be of clear and convincing standard, be presented with no constraint as to whether it is stipulated in the Thai patent law or whether it has been discussed, held, or decided by the Thai courts prior to the MacroPhar case or not. With this liberal perspective on acknowledgement of foreign legal doctrines, both parties as well as the Court have been able to expand the contending grounds to include legal doctrines from various sources, such as the U.S. and Europe as will also be demonstrated in the later parts of this chapter.

Indeed, the acknowledgement of foreign legal doctrines in the MacroPhar case was equally important as compared to the Silom case, but the essential legal doctrines to the case differed due to the dissimilarities of the nature of the two cases. The defendant, MacroPhar made a product which was almost identical to the invention claimed under Thai Patent No. 17791 owned by GD Searle/Pfizer, the plaintiff. Therefore, whether prosecution history existed or not did not really matter that much since the reading of the claims, particularly claim 1 of said patent conceivably together with the specification or the detailed description was quite adequate to determine the scope of the claims. Nonetheless, the foreign legal doctrine on literal infringement was still crucial and those others on anticipation, obviousness, analogous art, and burden of proof were determinably critical. The faith of a patent lies indispensably on that it has not been anticipated by or deemed to be obvious under existing prior arts or analogous arts. In order to prove the invention

<sup>22</sup> See คำพิพากษาศาลฎีกาที่ 9832-9833/2560 หน้า 57 [Supreme Court 9832-9833/2560 at p. 57].

anticipated or obvious, the burden of proof to the standard that satisfies the court must be had. As a consequence of all the aforesaid reasons, with appropriate acknowledgement of proper patent foreign legal doctrines, the decision could be said to have been made with adequately equipped tools.

## 2.2 Understanding foreign legal doctrines and the developments in patent cases

Once the presentation of foreign legal doctrines has been made, the decision of the court may be to acknowledge them all, some of them or none at all; to set some conditions on the acknowledgement; or to take no explicit action. If the decision is positive on the acknowledgement, whether fully or partially, the next stage would be to understand the presented legal doctrines so as to bridge them with the Thai context as well as to match them with the aspects of the cases inasmuch as they would not be in conflict with the Thai laws, particularly the Thai Patent Act and not in discordance with the Thai legal principles, specifically ones related to patent law. Subsequent to the substantiation of proper understanding of the foreign legal doctrines, the developments of those doctrines in line with the factual matters of the cases and in conformity with the Thai laws, particularly patent law may be had in order to implement said doctrines onto the cases and to establish the precedent for later cases to follow on with *stare decisis*. The rest of this part, therefore, are illustrations of the foreign legal doctrines on patents and examples of how they have been acknowledged and understood in the selected cases of the research leading to this article.

### 2.2.1 Claim construction

It has been long known that patent claims are “statements ... of the metes and bounds of the patented invention,”<sup>23</sup> the determination of the meaning and scope of which called claim construction, is of central importance in patent law.<sup>24</sup> Claim construction is usually the central issue in patent litigation,<sup>25</sup> where in patent

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<sup>23</sup> Eifion Phillips, ‘Phillips v. AWH Corp.: Reemphasizing Context in Patent Claim Construction’ (2006) 31 Del. J. Corp. L. 957, 959, quoting Robert C. Kahrl, Patent Claim Construction § 1.01, at 1-3 (2001).

<sup>24</sup> *ibid.*

<sup>25</sup> *ibid* 960, citing as an example to John F. Duffy, ‘On Improving the Legal Process of Claim Interpretation: Administrative Alternatives’ (2000) 2 Wash. U. J.L. & Pol'y 109, 109 (stating that the “proper interpretation [of claims] is frequently the central issue in infringement litigation”).



infringement suit, a showing that the alleged infringer is making, using, selling, offering for sale, or importing an invention covered by a claim is required,<sup>26</sup> whereas in challenge of invalidity, the validity of a patent claim relies wholly on whether the claimed invention is both novel and non-obvious relative to the prior art.<sup>27</sup> It is a fundamental principle that “the construction of a claim is the same whether validity or infringement is to be considered. This was on the footing that no patentee should be entitled to the luxury of an ‘elastic’ claim which has a narrow meaning in the former case but a wide meaning in the latter.”<sup>28</sup> Therefore, “it is desirable to try infringement and validity issues together, where at all possible” because if they are tried separately “it is all too easy for the patentee to argue for a narrow interpretation of his claim when defending it but an expansive interpretation when asserting infringement.”<sup>29</sup>

In the U.S., the Supreme Court in *Markman v. Westview Instruments* held that “the construction of a patent, including the terms of art within its claim, is exclusively within the province of the court,”<sup>30</sup> which indeed is not a problem in Thailand since there is no jury system in the country; therefore, of course there is no other resort than the court to oversee the issue of claim construction. In claim construction, intrinsic evidence plays a crucial and initial role as stipulated by the Federal Circuit in *Vitronics* that “[i]n most situations, an analysis of intrinsic evidence alone will resolve any ambiguity in a disputed claim term. In such circumstances, it is improper to rely on extrinsic evidence.”<sup>31</sup> As for the Federal Circuit, the respective order of intrinsic evidence to be considered is firstly, “the claims themselves, both

<sup>26</sup> *ibid* 959 – 60, citing to 35 U.S.C. § 271(a) (2000).

<sup>27</sup> *ibid* 959, citing to 35 U.S.C. §§ 102-103 (2000).

<sup>28</sup> Terrell on the Law of Patents, 19th Ed. (Sweet & Maxwell 2022) at Chapter 9, Section 4, 9-43; See also, Terrell on the Law of Patents, 9-44. Jacob J made a graphical point of claim construction in the Court of Appeal in *European Central Bank v Document Security Systems*, [2008] EWCA Civ at [5] that Professor Mario Franzosi analogized a patentee to an Angora cat that “[w]hen validity is challenged, the patentee says his patent is very small: the cat with its fur smoothed down, cuddly and sleepy. But when the patentee goes on the attack, the fur bristles, the cat is twice the size with teeth bared and eyes ablaze.”

<sup>29</sup> *ibid* 9-43.

<sup>30</sup> Eifion Phillips, ‘Phillips v. AWH Corp.: Reemphasizing Context in Patent Claim Construction’ (2006) 31 Del. J. Corp. L. 957, 961, quoting *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372, 116 S. Ct. 1384, 1387, 134 L. Ed. 2d 577 (1996).

<sup>31</sup> *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996).

asserted and nonasserted, to define the scope of the patented invention.”<sup>32</sup> Secondly, the specification is to be reviewed “to determine whether the inventor has used any terms in a manner inconsistent with their ordinary meaning.”<sup>33</sup> “The specification acts as a dictionary when it expressly defines terms used in the claims or when it defines terms by implication,” wherefore the Federal Circuit has repeatedly stated that “[c]laims must be read in view of the specification, of which they are a part.”<sup>34</sup> Thirdly, “the court may also consider the prosecution history of the patent, if in evidence.”<sup>35</sup>

Subsequent to considering intrinsic evidence, if the court is discretionarily of the view that it needed an aid to come to a correct conclusion as to the “true meaning of the language employed” in the patent, it may receive extrinsic evidence for that purpose<sup>36</sup> since said evidence consists of “all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises,” such evidence may be conducive “to explain scientific principles, the meaning of technical terms, and terms of art that appear in the patent and prosecution history,” and may also demonstrate “the state of the prior art at the time of the invention.”<sup>37</sup> The extrinsic evidence is serviceable “to show what was then old, to distinguish what was new, and to aid the court in the construction of the patent.”<sup>38</sup> It is, however, to be utilized for the understanding of the court on the patent, “not for the purpose of varying or contradicting the terms of the claims.”<sup>39</sup>

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<sup>32</sup> *ibid* 1582, citing to *Bell Communications Research, Inc. v. Vitalink Communications Corp.*, 55 F.3d 615, 620, 34 USPQ2d 1816, 1819 (Fed.Cir.1995).

<sup>33</sup> *ibid*.

<sup>34</sup> *Ibid*, citing to *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995), *aff'd*, 517 U.S. 370, 116 S. Ct. 1384, 134 L. Ed. 2d 577 (1996).

<sup>35</sup> *Ibid*, citing to *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 980 (Fed. Cir. 1995), *aff'd*, 517 U.S. 370, 116 S. Ct. 1384, 134 L. Ed. 2d 577 (1996); *Graham v. John Deere*, 383 U.S. 1, 33, 86 S.Ct. 684, 701-02, 15 L.Ed.2d 545, 148 U.S.P.Q. 459, 473 (1966).

<sup>36</sup> *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 980 – 81 (Fed. Cir. 1995), *aff'd*, 517 U.S. 370, 116 S. Ct. 1384, 134 L. Ed. 2d 577 (1996) (citations omitted).

<sup>37</sup> *ibid* 980.

<sup>38</sup> *Ibid*, quoting *Brown v. Piper*, 91 U.S. 37, 41, 23 L.Ed. 200 (1875).

<sup>39</sup> *ibid* 981 referring to *U.S. Indus. Chems., Inc.*, 315 U.S. at 678, 62 S.Ct. at 844, 53 USPQ at 10; *Catalin Corp. of Am. v. Catalazuli Mfg. Co.*, 79 F.2d 593, 594, 27 USPQ 371, 373 (2d Cir.1935) (Learned Hand, J.) (“If the doctrine of the ‘integration’ of a written instrument has any basis at all, surely it should apply to such a document ... [as the patent].”) (citation omitted).



In the two Thai cases, i.e., Silom and MacroPhar cases, the IP and IT Court did establish claim construction, the former due largely to the explanation in the expert testimony of Professor Roman Melnik and the latter owed considerably to the broad perspective of Judge Vichai Ariyanuntaka in conducting the hearings and administering judicial processes in court. In comparison, claim construction of the MacroPhar case was pretty much clear and unequivocal, whereas the Silom case was perplexed and quite ambiguous. In the MacroPhar case, the Thai Patent No. 17791 with chosen counterpart European patent EP 1049467, the claim construction of which could almost be done with only reading the claims themselves. Demonstrably, the IP and IT Court set out claim construction of claim 1 of the Thai Patent No. 17791 as consisting of 4 elements as inset emphasized numbers below.

1. (1) A pharmaceutical composition comprising one or more discrete solid orally deliverable dose units, (2) each comprising particulate celecoxib in an amount of 10 mg to 1000 mg in (3) intimate mixture with one or more pharmaceutically acceptable excipients, and (4) having a distribution of celecoxib particle sizes such that D90 of the particles is less than 200  $\mu\text{m}$ , preferably less than 100  $\mu\text{m}$ , more preferably less than 40  $\mu\text{m}$ , and most preferably less than 25  $\mu\text{m}$ , in the longest dimension of said particles.<sup>40</sup>

Bluntly speaking, the claim construction was just as the stipulation of claim 1 and in addition, there were no arguments as to the structure of the claim not to be an outright product claim. The disputes, which would be continually discussed in the following parts of this chapter, were more on literal infringement as well as anticipation and obviousness. But it was different for the Silom case where claim 1 of the Thai Patent No. 18749 with counterpart U.S. Patent No. 6,294,197 read

1. A compressed solid dosage form comprising
  - a) an active agent containing an effective amount of valsartan or a pharmaceutically acceptable salt thereof; and,
  - b) at least one pharmaceutically acceptable additive

wherein the active agent is present in an amount of more than 35% by weight based on the total weight of the compressed solid dosage form.

<sup>40</sup> See คำพิพากษาศาลทรัพย์สินทางปัญญาและการค้าระหว่างประเทศที่ ทป. 195/2560 หน้า 20 [Intellectual Property and International Trade Court TP 195/2560 at p. 20].

This claim 1 of the Thai Patent No. 18749 seemed to be seen simply as a genuine product claim, but the hidden perplexity lied in the term “solid dosage form” since this term had a comprehensive meaning and there were abundant references to unveil that the claim was not a straightforward product claim, towards which the claim construction required more than just the claims themselves; and in this Silom case, the resources used for claim construction covered both intrinsic and extrinsic evidence, where in terms of the former the claims, the specification or the detailed description, and the prosecution history were all employed together with the latter involving the expert testimony so as for the Court to come up with the correct claim construction. The specification or detailed description specified, among others, that “the process is carried out in the absence of water, i.e., it is a dry compression method.<sup>41</sup>

But to ensure that this claim 1 read in view of the specification or detailed description was correct, the prosecution history from the U.S. was taken into consideration, of which a passage in response to the examiner’s non-final rejection as per claim 1 being obvious under Muller et al in view of Makino et al stated that

[f]urthermore, the production of the tablets in Makino *requires water* [emphasis added]. ... In stark contrast, contrary to conventional procedures, the production of the tablet core in the instant invention *does not involve the use of water* [emphasis added]. ... [T]herefore[,] the combination of Muller and Makino cannot render Applicant’s invention *prima facie* obvious. *Additionally, claims which recite that the coprimate is formed by compression in the absence of water have been included in the instant invention* [emphasis added].<sup>42</sup>

Finally, the whole set of claim construction of claim 1 was explained by an expert, Professor Roman Melnik, through expert testimony in order to elucidate the utilization of intrinsic evidence consisting of the claims, the specification and the prosecution history and of extrinsic evidence comprising, *inter alia*, expert testimony to eventually come to a claim construction of the Thai Patent No. 18749 to be a product-by-process patent as illustrated by the holding of the IP and IT Court that the

<sup>41</sup> See ลิขิบัตรไทยหมายเลขที่ 18749 หน้า 6 บรรทัดที่ 32 ถึง หน้า 7 บรรทัดที่ 9 [Thai Patent No. 18749, p. 6 line 32 – p. 7 line 9].

<sup>42</sup> See U.S. Patent No. 6,294,197, Public Patent Application Information Retrieval, Image File Wrapper, 07-31-2000/REM/Applicant Arguments/Remarks Made in an Amendment, p. 12 (emphasis added).



detailed description together with the prosecution history of said Thai Patent No. 18749 evinced the claimed invention to be a product obtained only from the process of dry granulation,<sup>43</sup> according to which the Supreme Court held that since the claim construction concluded by the IP and IT Court was not contended by either party; therefore, the claimed invention as a product obtained only from the process of dry granulation was affirmed.<sup>44</sup>

### 2.2.2 Claim differentiation

The Federal Circuit in *Seachange v. C-COR* pointed out that “the common sense notion that different words or phrases used in separate claims are presumed to indicate that the claims have different meanings and scope” is the foundational principle of the doctrine of claim differentiation.<sup>45</sup> The Court indicated that even though the doctrine is of highest strength “where the limitation sought to be ‘read into’ an independent claim already appears in a dependent claim,<sup>46</sup> there is still a presumption that two independent claims have different scope when different words or phrases are used in those claims.”<sup>47</sup> Notwithstanding, the doctrine is not a hard and fast rule of construction, it “only creates a presumption that each claim in a patent has a different scope.<sup>48</sup> Claims cannot be broadened beyond their correct scope through claim differentiation,<sup>49</sup> and when “the patentee chose several words in drafting a particular limitation of one claim, but fewer (though similar) words in drafting the corresponding limitation in another, [this] does not mandate different interpretations of the two limitations, since ‘defining a state of affairs with multiple terms should help, rather than hinder, understanding.’”<sup>50</sup>

<sup>43</sup> See คำพิพากษาศาลทรัพย์สินทางปัญญาและการค้าระหว่างประเทศที่ ทป. 81-82/2555 หน้า 24 [Intellectual Property and International Trade Court TP 81-82/2555 at p. 24].

<sup>44</sup> See คำพิพากษาศาลฎีกាដ้วย 9832-9833/2560 หน้า 55 [Supreme Court 9832-9833/2560 at p. 55].

<sup>45</sup> *Seachange Int'l, Inc. v. C-COR, Inc.*, 413 F.3d 1361, 1368 (Fed. Cir. 2005), quoting *Karlin Tech. Inc. v. Surgical Dynamics, Inc.*, 177 F.3d 968, 971 – 72 (Fed.Cir.1999).

<sup>46</sup> *Ibid* 1369 – 70, quoting *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 910 (Fed.Cir.2004).

<sup>47</sup> *Ibid* 1369, citing to *Kraft Foods, Inc. v. Int'l Trading Co.*, 203 F.3d 1362, 1365 – 69 (Fed.Cir.2000); citing also to *Tandon Corp. v. U.S. Int'l Trade Comm'n*, 831 F.2d 1017, 1023 (Fed.Cir.1987).

<sup>48</sup> *Kraft Foods, Inc. v. Int'l Trading Co.*, 203 F.3d 1362, 1368 (Fed. Cir. 2000), quoting *Comark Commc'ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1186 (Fed. Cir. 1998).

<sup>49</sup> *Ibid*, citing to *Multiform Desiccants Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1480, 45 USPQ2d 1429, 1434 (Fed.Cir.1998).

<sup>50</sup> *Ibid*, quoting *Bell & Howell Doc. Management Prods. Co. v. Altek Sys.*, 132 F.3d 701, 707, 45 USPQ2d 1033, 1039 (Fed.Cir.1997).

Furthermore, when the claims are presumed to differ in scope, it “does not mean that every limitation must be distinguished from its counterpart in another claim, but only that at least one limitation must differ.”<sup>51</sup> The Federal Circuit in *Curtiss-Wright* noted that on the one hand “[d]ifferent claims with different words can, of course, define different subject matter within the ambit of the invention,”<sup>52</sup> but on the other hand, “claim drafters can also use different terms to define the exact same subject matter,” of which the Federal Circuit “has acknowledged that two claims with different terminology can define the exact same subject matter,”<sup>53</sup> and in such context, the Federal Circuit has cautioned that “[c]laim differentiation is a guide, not a rigid rule.”<sup>54</sup>

The issue of claim differentiation was not a matter at all in the MacroPhar case; notwithstanding, it was raised during the hearings in the Silom case, where the argument of the defendant, Silom Medical was that claim 1 of the Thai Patent No. 18749 was a product-by-process claim, but the plaintiff, Novartis AG contended that said claim was a clear product claim. In so contending that said claim 1 was a product claim, Novartis AG pointed to two independent claims, i.e., claims 1 and 25 (for the understanding of which claim 18 has to be shown), which read as follows:

1. A compressed solid dosage form comprising
  - a) an active agent containing an effective amount of valsartan or a pharmaceutically acceptable salt thereof; and,
  - b) at least one pharmaceutically acceptable additive

wherein the active agent is present in an amount of more than 35% by weight based on the total weight of the compressed solid dosage form.

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<sup>51</sup> Ibid, citing to *Mantech Env'tl. Corp. v. Hudson Env'tl. Servs.*, 152 F.3d 1368, 1376, 47 USPQ2d 1732, 1739 (Fed.Cir.1998).

<sup>52</sup> *Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1380 (Fed. Cir. 2006).

<sup>53</sup> ibid 1380–81, citing to *Tandon Corp. v. U.S. Int'l Trade Comm'n*, 831 F.2d 1017, 1023 (Fed.Cir.1987); referring to *Hormone Research Found. v. Genentech, Inc.*, 904 F.2d 1558, 1567 n. 15 (Fed.Cir.1990) (“It is not unusual that separate claims may define the invention using different terminology, especially where (as here) independent claims are involved.”).

<sup>54</sup> ibid 1381, citing to *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1538 (Fed.Cir.1991).



25. A compressed solid dosage form produced according to the process as defined in claim 18.<sup>55</sup>

The argument was that if claim 1 was a product-by-process claim, then under the doctrine of claim differentiation, claim 25, which to Novartis AG was a product-by-process claim, would not differ from claim 1, which would be contrary to the doctrine of claim differentiation. But since throughout the patent as well as upon scrutiny of prosecution history, there had only been one possible process to produce the compressed solid dosage form; accordingly, it was inevitable that claim construction of claim 1 was to be considered as a product-by-process claim, and under claim differentiation, it would have to be taken as the Federal Circuit cautioned that “claim differentiation is a guide, not a rigid rule”<sup>56</sup> since “claim drafters can also use different terms to define the exact same subject matter,” pertaining to which “two claims with different terminology can define the exact same subject matter.”<sup>57</sup> When the description provides a clear meaning for the language of the claim, it trumps the doctrine of claim differentiation since even though “the doctrine of claim differentiation may at times be controlling, construction of claims is not based solely upon the language of other claims; the doctrine cannot alter a definition that is otherwise clear from the claim language, description, and prosecution history.”<sup>58</sup> Therefore, in the Silom case, claim differentiation did not render claim 1 to be a product claim just because claim 25 was structured to be a product-by-process claim

<sup>55</sup> See ลิขิปต์ไทยหมายเลขที่ 18749 [Thai Patent No. 18749]; See also U.S. Patent No. 6,294,197. Claim 18 read

18. A process of forming a compressed solid dosage form containing more than 35% by weight of valsartan or a pharmaceutically acceptable salt thereof and at least one pharmaceutically acceptable additive wherein the process comprises the steps of:

- i) blending the valsartan and at least one pharmaceutically acceptable additive to form a mixture;
- ii) subjecting the mixture to compression to form a coprimate;
- iii) converting the coprimate into a granulate; and,
- iv) compressing the granulate to form the compressed solid dosage form.

<sup>56</sup> *Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1381 (Fed. Cir. 2006), citing to *Lairam Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1538 (Fed.Cir.1991).

<sup>57</sup> *Ibid* 1380–81, citing to *Tandon Corp. v. U.S. Int'l Trade Comm'n*, 831 F.2d 1017, 1023 (Fed.Cir.1987); referring to *Hormone Research Found. v. Genentech, Inc.*, 904 F.2d 1558, 1567 n. 15 (Fed.Cir.1990) “(internal quotation marks omitted).”

<sup>58</sup> *O.I. Corp. v. Tekmar Co.*, 115 F.3d 1576, 1582 (Fed. Cir. 1997) (citation omitted).

since the claim language, description and prosecution history clearly demonstrated that claim 1 was a product-by-process claim.

### 2.2.3 Prosecution history disclaimer

The Federal Circuit in *Biogen v. GlaxoSmithKline* pointed out that “the prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.”<sup>59</sup> The Court further addressed that in the latter circumstance, it has recognized that “a ‘clear and unmistakable’ disavowal during prosecution overcomes the ‘heavy presumption’ that claim terms carry their full ordinary and customary meaning.”<sup>60</sup> Hence, when the patentee “unequivocally and unambiguously disavows a certain meaning to obtain a patent, the doctrine of prosecution history disclaimer narrows the meaning of the claim consistent with the scope of the claim surrendered.”<sup>61</sup> In the patent system, prosecution history disclaimer plays an important role to “promote[] the public notice function of the intrinsic evidence and [to] protect[] the public's reliance on definitive statements made during prosecution,”<sup>62</sup> where said statements can take the form of either amendment or argument.<sup>63</sup> For this matter, the prosecution history of a patent in its entirety “captures the public record of the patentee's representations concerning the scope and meaning of the claims,”<sup>64</sup> which said representations can be relied upon by competitors “when determining a course of lawful conduct, such as launching a

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<sup>59</sup> *Biogen Idec, Inc. v. GlaxoSmithKline LLC*, 713 F.3d 1090, 1094 – 95 (Fed. Cir. 2013), quoting *Phillips v. AWH Corp.*, 415 F.3d 1303, 1317 (Fed. Cir. 2005).

<sup>60</sup> *ibid* 1095, citing to *Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323, 1326 (Fed.Cir.2003); referring also to *Epistar Corp. v. Int'l Trade Comm'n*, 566 F.3d 1321, 1334 (Fed.Cir.2009) (“A heavy presumption exists that claim terms carry their full ordinary and customary meaning, *unless it can be shown the patentee expressly relinquished claim scope.*” (emphasis added)).

<sup>61</sup> *Ibid*, citing to *Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1324 (Fed. Cir. 2003).

<sup>62</sup> *Ibid*, citing to *Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1324 (Fed. Cir. 2003).

<sup>63</sup> *ibid* 1095, citing to *Elkay Mfg. Co. v. Ebco Mfg. Co.*, 192 F.3d 973, 979 (Fed.Cir.1999); referring also to *Computer Docking Station Corp. v. Dell, Inc.*, 519 F.3d 1366, 1374 (Fed.Cir.2008) (“Statements made during prosecution may also affect the scope of the claims.”).

<sup>64</sup> *ibid* 1095, citing to *Seachange Int'l, Inc. v. C-COR Inc.*, 413 F.3d 1361, 1372 (Fed.Cir.2005) (quoting *Hockerson-Halberstadt, Inc. v. Avia Grp. Int'l, Inc.*, 222 F.3d 951, 957 (Fed.Cir.2000)); referring also to *Elkay*, 192 F.3d at 979 (“[I]t is the totality of the prosecution history that must be assessed, not the individual segments of the presentation made to the [PTO] by the applicant....”).



new product or designing-around a patented invention,”<sup>65</sup> and furthermore, it “provides evidence of how the [PTO] and the inventor understood the patent.”<sup>66</sup>

Taking prosecution history disclaimer into consideration of the Thai context, in the Silom case, Professor Roman Melnik in providing claim construction of claim 1 pointed to a document from the prosecution history of U.S. Patent No. 6,294,197 (the ‘197 patent),<sup>67</sup> a counterpart patent to the Thai Patent No. 18749 and pointed out that the examiner at one time rejected claim 1 of the ‘197 patent under prior art Makino; notwithstanding, Novartis AG asserted that Makino discussed wet granulation process, whereas Novartis’ process is limited to dry granulation and another time when the examiner considered Ku, Novartis contented similarly that Ku is a document indicating general wet granulation; accordingly, the examiner explained that “The [t]he differences between the product in the reference of Ku and instant product were discussed, the attorney pointed out that instant compound is known to be administered in granular form in a  $\in$  capsule, but agreed that the method of making instant product is different,” pertaining to which “[t]he examiner suggested reciting the claims as ‘product by process’ claims and recite the critical steps in the process. The patentability of the claims will be determined after careful review of the amendments and arguments.”<sup>68</sup>

In this respect, the Federal Circuit in *Innova v. Safari* stated that “[i]t is well settled [ ] that it is the applicant, not the examiner, who must give up or disclaim subject matter that would otherwise fall within the scope of the claims.”<sup>69</sup> In line with said holding, there has been an evidential statement in response to the examiner’s non-final rejection that the applicant touched upon Makino et al stating that “the production of the tablets in Makino *requires water* [emphasis added]. ... In stark contrast, contrary to conventional procedures, the production of the tablet core in the instant invention *does not involve the use of water* [emphasis added].”<sup>70</sup>

<sup>65</sup> ibid 1095, citing to *Seachange Int'l, Inc. v. C-COR Inc.*, 413 F.3d 1361, 1372 (Fed.Cir.2005).

<sup>66</sup> ibid 1095, quoting *Edwards Lifesciences LLC v. Cook Inc.*, 582 F.3d 1322, 1327 (Fed.Cir.2009) (quoting *Phillips*, 415 F.3d at 1317) (alteration in original).

<sup>67</sup> See U.S. Patent No. 6,294,197, Public Patent Application Information Retrieval, Image File Wrapper, 12-11-2000/EXIN/Examiner Interview Summary Record (PTOL – 413), pp. 1 – 3.

<sup>68</sup> ibid 3.

<sup>69</sup> *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1124 (Fed. Cir. 2004).

<sup>70</sup> See U.S. Patent No. 6,294,197, Public Patent Application Information Retrieval, Image File Wrapper, 07-31-2000/REM/Applicant Arguments/Remarks Made in an Amendment, p. 12 (emphasis added).

Here, the statement of the applicant is in accordance with the holding of the Federal Circuit in *Omega v. Raytek* that “where the patentee has unequivocally disavowed a certain meaning to obtain his patent, the doctrine of prosecution disclaimer attaches and narrows the ordinary meaning of the claim congruent with the scope of the surrender.”<sup>71</sup> The Court there also stated that “[t]he doctrine of prosecution disclaimer is well established in Supreme Court precedent, precluding patentees from recapturing through claim interpretation specific meanings disclaimed during prosecution,”<sup>72</sup> and in *Standard Oil v. American Cyanamid*, it stipulated that “the prosecution history (or file wrapper) limits the interpretation of claims so as to exclude any interpretation that may have been disclaimed or disavowed during prosecution in order to obtain claim allowance.”<sup>73</sup> As a matter of said legal doctrine of prosecution history disclaimer Novartis AG, was therefore, not allowed by the IP and IT Court to pursue claim 1 of the Thai Patent No. 18749 as a product claim, but such claim was unambiguously deemed to be a product-by-process claim.

#### 2.2.4 Prosecution history estoppel

The Supreme Court in *Festo v. Shoketsu* stated that that case required the Court to once again address the relation between two patent law concepts, i.e., the doctrine of equivalents and the rule of prosecution history estoppel,<sup>74</sup> referring to itself that the same concepts were considered in *Warner-Jenkinson v. Hilton Davis Chemical*<sup>75</sup> some years ago, pointing out that in that case it was reaffirmed that

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<sup>71</sup> *Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1324 (Fed. Cir. 2003).

<sup>72</sup> *ibid* 1323 referring to *Scriber-Schroth Co. v. Cleveland Trust Co.*, 311 U.S. 211, 220-21, 61 S.Ct. 235, 85 L.Ed. 132 (1940) (“It is a rule of patent construction consistently observed that a claim in a patent as allowed must be read and interpreted with reference to claims that have been cancelled or rejected, and the claims allowed cannot by construction be read to cover what was thus eliminated from the patent.”); *Crawford v. Heysinger*, 123 U.S. 589, 602-04, 8 S.Ct. 399, 31 L.Ed. 269 (1887); *Goodyear Dental Vulcanite Co. v. Davis*, 102 U.S. 222, 227, 26 L.Ed. 149 (1880); cf. *Graham v. John Deere Co.*, 383 U.S. 1, 33, 86 S.Ct. 684, 15 L.Ed.2d 545 (1966) (ruling, in addressing the invalidity of the patents in suit, that “claims that have been narrowed in order to obtain the issuance of a patent by distinguishing the prior art cannot be sustained to cover that which was previously by limitation eliminated from the patent”).

<sup>73</sup> *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 452 (Fed. Cir. 1985).

<sup>74</sup> *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 726, 122 S.Ct. 1831, 1835, 152 L.Ed.2d 944 (2002).

<sup>75</sup> *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 117 S.Ct. 1040, 137 L.Ed.2d 146 (1997).



“a patent protects its holder against efforts of copyists to evade liability for infringement by making only insubstantial changes to a patented invention,”<sup>76</sup> but concurrently, the Court appreciated that “by extending protection beyond the literal terms in a patent, the doctrine of equivalents can create substantial uncertainty about where the patent monopoly ends.”<sup>77</sup> The Supreme Court remarked that competitors may not be able to determine “what is a permitted alternative to a patented invention and what is an infringing equivalent” if the range of equivalents is unclear; therefore, in *Warner-Jenkinson*, the Court took a step to reduce such uncertainty acknowledging that “competitors may rely on the prosecution history, the public record of the patent proceedings,”<sup>78</sup> where in some cases, “the Patent and Trademark Office (PTO) may have rejected an earlier version of the patent application on the ground that a claim does not meet a statutory requirement for patentability.”<sup>79</sup>

The prosecution history estops the patentee from arguing in a later stage that “the subject matter covered by the original, broader claim was nothing more than an equivalent,” when in an earlier stage he responded to the rejection by narrowing his claims,” pertaining to this principle “[c]ompetitors may rely on the estoppel to ensure that their own devices will not be found to infringe by equivalence.”<sup>80</sup> In an infringement analysis, doctrine of prosecution history estoppel is applied in order to prevent a patentee from “using the doctrine of equivalents to recapture subject matter surrendered from the literal scope of a claim during prosecution,”<sup>81</sup> said doctrine can occur in two ways, “either (1) by making a narrowing amendment to the claim (‘amendment-based estoppel’) or (2) by surrendering claim scope through argument to the patent examiner (‘argument-based estoppel’).”<sup>82</sup> The Federal Circuit in *Conoco v. Energy* stipulated that “the prosecution history must evince a clear and unmistakable surrender of subject matter” in order to invoke

<sup>76</sup> *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 726 – 27, 122 S. Ct. 1831, 1835, 152 L. Ed. 2d 944 (2002).

<sup>77</sup> *ibid* 727, citing to *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 29, 117 S. Ct. 1040, 1049, 137 L. Ed. 2d 146 (1997).

<sup>78</sup> *ibid*.

<sup>79</sup> *Ibid*, citing to 35 U.S.C. § 132 (1994 ed., Supp. V).

<sup>80</sup> *ibid*.

<sup>81</sup> *Amgen Inc. v. Coherus BioSciences Inc.*, 931 F.3d 1154, 1159 (Fed. Cir. 2019), quoting *Trading Techs. Int'l, Inc. v. Open E Cry, LLC*, 728 F.3d 1309, 1322 (Fed. Cir. 2013).

<sup>82</sup> *Ibid*, quoting *Conoco, Inc. v. Energy & Env'tl. Int'l, L.C.*, 460 F.3d 1349, 1363 (Fed. Cir. 2006).

argument-based estoppel,<sup>83</sup> and “clear assertions made during prosecution in support of patentability, whether or not actually required to secure allowance of the claim, may also create an estoppel ... [t]he relevant inquiry is whether a competitor would reasonably believe that the applicant had surrendered the relevant subject matter.”<sup>84</sup>

Prosecution history estoppel was not obviously dealt with in the two cases in the Thai courts. The only incident where it can be said that prosecution history estoppel was taken into consideration was the matter of fact in the Silom case that the Thai Supreme Court held that the Thai Patent No. 18749 was rendered obvious under several prior arts in combination, especially the disclosure of U.S. Patent No. 5,399,578 indicating wet granulation process for the production of valsartan, which if one linked this to what was testified by Professor Roman Melnik when an inquiry was made to him by the attorney of the plaintiff whether prosecution history estoppel exists in Thailand, to which his answer was that under the Thai Patent Act Section 36bis paragraph 2, there occurs the so-called doctrine of equivalents, pertaining to which theoretically prosecution history estoppel which is the doctrine created to limit the possibility for the patentee to claim subject matters relinquished during prosecution through the application of the doctrine of equivalents should be had, one would infer that the Thai Supreme Court was of the view that when Novartis AG, the plaintiff in the Silom case asserted that its invention did not involve the use of water, in other words, was not a wet granulation process during prosecution, then later on tried to recapture said process into the claimed invention through the doctrine of equivalents, this was on the one hand not permitted under the doctrine of prosecution history estoppel, on the other hand, was to aver that the wet granulation process was equivalent to the dry granulation process, which in itself renounced novelty and non-obviousness since if the invention was equivalent to a prior art, said invention would be declared invalid as decided on the Thai Patent No. 18749 by the Thai Supreme Court in the Silom case.<sup>85</sup>

<sup>83</sup> Ibid, quoting *Conoco, Inc. v. Energy & Env'l. Int'l, L.C.*, 460 F.3d 1349, 1364 (Fed. Cir. 2006) (quoting *Deering Precision Instruments, L.L.C. v. Vector Distribution Sys., Inc.*, 347 F.3d 1314, 1326 (Fed. Cir. 2003)).

<sup>84</sup> Ibid 1159 – 60, quoting *PODS, Inc. v. Porta Stor, Inc.*, 484 F.3d 1359, 1367 (Fed. Cir. 2007) (“internal quotation marks omitted”); See also *Southwall Techs., Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1583 (Fed. Cir. 1995); *Conoco, Inc. v. Energy & Env't Int'l, L.C.*, 460 F.3d 1349, 1364 (Fed. Cir. 2006); *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1457 (Fed. Cir. 1998); *Insituform Techs., Inc. v. Cat Contracting, Inc.*, 99 F.3d 1098, 1107–08, 40 USPQ2d 1602, 1608 (Fed.Cir.1996).

<sup>85</sup> See คำพิพากษาศาลฎีกาที่ 9832-9833/2560 หน้า 87 – 88 [Supreme Court 9832-9833/2560 at pp. 87 – 88].



### 2.2.5 Literal Infringement

Many patent practitioners have been pursuing patent infringement cases, particularly ones asserting literal infringement on the accused device with uncritical perspectives to simply view that there is nothing sophisticated in proving literal infringement because their thought has been that if the accused device resembles the patented invention in any way, a case of literal infringement is well established. It may be plainly said that literal infringement can be found straightforwardly by the level of similarities between the patented product and the alleged infringing device, but this is observationally incorrect since the very starting point of any infringement suit be it literal infringement or infringement by doctrine of equivalents depends almost wholly on whether claims have been correctly construed, in other words, whether claim construction has been properly and accurately made out as the Federal Circuit in *Southwall Technologies* addressed that a literal infringement analysis requires two separate steps: in the first step, the asserted claims must be interpreted by the court as a matter of law to determine their meaning and scope;<sup>86</sup> and in the second step “the trier of fact determines whether the claims as thus construed read on the accused product.”<sup>87</sup> Literal infringement is established upon the proof that every limitation or all elements of the claims is/are found in an accused product, exactly.<sup>88</sup> The literal infringement test “focuses upon the claims of a patent to determine whether the accused product or method was element-by-element read into any claim.”<sup>89</sup> “Infringement, both literal and under the doctrine of equivalents, is an issue of fact.”<sup>90</sup>

<sup>86</sup> *Southwall Techs., Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1575 (Fed. Cir. 1995), citing to *Markman v. Westview Instruments Inc.*, 52 F.3d 967, 979 (Fed.Cir.1995) (in banc); *Senmed, Inc. v. Richard-Allan Med. Indus., Inc.*, 888 F.2d 815, 818, 12 USPQ2d 1508, 1511 (Fed.Cir.1989).

<sup>87</sup> Ibid, citing to *Senmed, Inc. v. Richard-Allan Med. Indus., Inc.*, 888 F.2d 815, 818, 12 USPQ2d 1508, 1511 (Fed.Cir.1989).

<sup>88</sup> Ibid, citing to *Becton Dickinson & Co. v. C.R. Bard, Inc.*, 922 F.2d 792, 796, 17 USPQ2d 1097, 1099 (Fed.Cir.1990).

<sup>89</sup> Chung-Lun Shen, ‘Patent Infringement and Reasonable Allowance of New Technologies in Claim Construction’ (2015) 25 DePaul Journal of Art, Technology & Intellectual Property Law 293, 295, citing to F. Scott Kieff et al., *Principles of Patent Law – Cases and Materials*, 819 (5th ed. 2011); Alexander Harguth & Steven Carlson, *Patents in Germany and Europe – Procurement, Enforcement and Defense – An International Handbook* 186 (2011) at 182-83; Douglas Clark, *Patent Litigation in China* 122-25 (2011).

<sup>90</sup> *Southwall Techs., Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1575 (Fed. Cir. 1995), citing to *SSIH Equip. S.A. v. United States Int'l Trade Comm'n*, 718 F.2d 365, 376, 218 USPQ 678, 688 (Fed.Cir.1983).

It can be said that usually “if accused matter falls clearly within the claim, infringement is made out and that is the end of it”<sup>91</sup> even though an invalidity challenge can be raised against the patentee, it is another aspect to be discussed. One interesting contention against literal infringement was brought up in *Tate Access Floors v. Interface Architectural Resources*, where Interface argued that irrespective of the proper claim construction, “its panels [the accused infringing product] cannot literally infringe because they merely practice the prior art, or that which would have been obvious in light of the prior art.”<sup>92</sup> The Federal Circuit, however, found that this contention lacks merit since it was viewed by the Court that there is no “practicing the prior art” defense to literal infringement as it was unequivocally made clear in *Baxter*.<sup>93</sup> In that case, Spectramed, the defendant, argued that “its accused devices could not infringe because they were constructed using only the teachings contained in the prior art,” to which the Federal Circuit pointed out that Spectramed's argument that in order to establish literal infringement, Baxter “must prove by a preponderance of the evidence that Spectramed's accused devices embody all the limitations in the asserted claims, and in addition, Spectramed's accused devices must not be an adoption of the combined teachings of the prior art” was an incorrect statement of the law governing patent infringement.<sup>94</sup>

The Federal Circuit was indeed well aware of the crucial role that prior art plays in being part of the defense to literal infringement by way of invalidity of the patent being proven stipulating that even though the differing burden of proof for infringement and validity are indeed important, “[t]he discussion in *Baxter* cited above makes clear that literal infringement is determined by construing the claims and comparing them to the accused device, not by comparing the accused device to the prior art.”<sup>95</sup> The Federal Circuit explicated that the law requires patent challengers to prove invalidity by clear and convincing evidence, but “accused infringers are not free

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<sup>91</sup> *Graver Tank & Mfg. Co. v. Linde Air Prod. Co.*, 339 U.S. 605, 607, 70 S. Ct. 854, 855, 94 L. Ed. 1097 (1950).

<sup>92</sup> *Tate Access Floors, Inc. v. Interface Architectural Res., Inc.*, 279 F.3d 1357, 1365 (Fed. Cir. 2002).

<sup>93</sup> Ibid, citing to *Baxter Healthcare Corp. v. Spectramed, Inc.*, 49 F.3d 1575, 1583, 34 USPQ2d 1120, 1126 (Fed.Cir.1995).

<sup>94</sup> ibid 1366, citing to *Baxter Healthcare Corp. v. Spectramed, Inc.*, 49 F.3d 1575, 1583, 34 USPQ2d 1120, 1126 (Fed.Cir.1995).

<sup>95</sup> Ibid, citing to *Baxter Healthcare Corp. v. Spectramed, Inc.*, 49 F.3d 1575, 1583, 34 USPQ2d 1120, 1126 (Fed.Cir.1995) (“internal quotation marks omitted”).



to flout the requirement of proving invalidity by clear and convincing evidence by asserting a ‘practicing prior art’ defense to literal infringement under the less stringent preponderance of the evidence standard.”<sup>96</sup>

In the actuality of the MacroPhar case, the defendant in fact contended in the argument against literal infringement that it was practicing prior art, but since on the determination of the settlement of issues, the IP and IT Court made a separation of the infringement and the validity issues, ordering that the aspect of patent validity was to be antecedently tried, then subsequently the matter of infringement would follow – should the patent be found to be ineligible granted, in other words, invalid, the patent would be invalidated and the trial for infringement would be unnecessary, where eventually Judge Vichai Ariyanuntaka made a final judgment finding Thai Patent No. 17791 of GD Searle/Pfizer invalid;<sup>97</sup> accordingly, the contention of MacroPhar on a “practicing prior art” was not addressed.

In another case, the Silom case, the IP and IT Court concluded on claim construction subsequent to considering all the related components as to that the patented invention covered the use of active ingredient valsartan for treatment of hypertension or high blood pressure existed prior to the application date of Novartis AG, but the invention and production of a drug comprising valsartan and other active ingredients together with additives in the form of compressed tablet with production process of dry granulation resulting in a small tablet with the disintegrant property comparable to that of a capsule had never occurred; accordingly, the claimed invention under the Thai Patent No. 18749 is a product obtained – by – a process of dry granulation, which was contrarily to the pharmaceutical compositions of the defendant’s drug which only involved the production through wet granulation process as submitted to the Thai Food and Drug Administration (Thai FDA); consequently, the defendant’s drug did not fall within the claims of the plaintiff’s invention,<sup>98</sup> of which said fact did not conform with the doctrine of literal infringement that all the elements/limitations of the claims of the patented invention must be found in the

<sup>96</sup> *ibid* 1367.

<sup>97</sup> See คำพิพากษาศาลทรัพย์สินทางปัญญาและการค้าระหว่างประเทศที่ ทป. 195/2560 หน้า 8, 9, 37 [Intellectual Property and International Trade Court TP 195/2560 at pp. 8, 9, 37]; See also Specialized Court of Appeals 828/2562 at p. 45. The Specialized Court of Appeals affirmed the judgment of the IP and IT Court on this matter and on all other aspects of the case.

<sup>98</sup> See คำพิพากษาศาลทรัพย์สินทางปัญญาและการค้าระหว่างประเทศที่ ทป. 81-82/2555 หน้า 24 [Intellectual Property and International Trade Court TP 81-82/2555 at p. 24].

accused product; therefore, the accused product was not found to literally infringe the patented invention.

#### 2.2.6 Doctrine of equivalents

It has been reiterated every now and then by courts in the U.S. and addressed many times in the research leading to this article that patent infringement is determined by a two-step inquiry – in the first step “the claim must be properly construed to determine its scope and meaning,” and in the second step the properly construed claim “must be compared to the accused device or process,”<sup>99</sup> of which infringement may occur either literally or under the doctrine of equivalents, the determination of which is a question of fact.<sup>100</sup> When a claim to a device was not found to literally infringe, it may infringe under the doctrine of equivalents,<sup>101</sup> where any differences between the claimed invention and the accused product must be insubstantial in order to find infringement under the doctrine of equivalents.<sup>102</sup> A proof of infringement under the doctrine of equivalents can be done by “showing on a limitation by limitation basis that the accused product performs substantially the same function in substantially the same way with substantially the same result as each claim limitation of the patented product.”<sup>103</sup>

In an infringement lawsuit, if only a “[g]eneralized testimony as to the overall similarity between the claims and the accused infringer's product or process [is provided] [this] will not suffice,”<sup>104</sup> “[a] plaintiff must provide ‘particularized testimony and linking argument to show the equivalents’ are insubstantially different.”<sup>105</sup> This is to “assure that the fact-finder does not, ‘under the guise of applying the doctrine of equivalents, erase a plethora of meaningful structural and functional limitations of the

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<sup>99</sup> *Freight Tracking Techs., LLC v. Virginia Int'l Terminals, LLC*, No. 2:13CV708, 2015 WL 12672086, at \*3 (E.D. Va. Aug. 7, 2015), *aff'd*, 653 F. App'x 759 (Fed. Cir. 2016), citing to *Gentry Gallery, Inc. v. Berkline Corp.*, 134 F.3d 1473, 1476 (Fed. Cir. 1998).

<sup>100</sup> *Ibid*, citing to *Bai v. L & L Wings, Inc.*, 160 F.3d 1350, 1353 (Fed. Cir. 1998).

<sup>101</sup> *Ibid*, quoting *Gemalto S.A. v. HTC Corp.*, 754 F.3d 1364, 1373 (Fed. Cir. 2014).

<sup>102</sup> *Ibid*, quoting *Alcohol Monitoring Sys., Inc. v. Actsoft, Inc.*, 414 Fed.Appx. 294, 300 (Fed. Cir. 2011).

<sup>103</sup> *Ibid*, quoting *Alcohol Monitoring Sys., Inc. v. Actsoft, Inc.*, 414 F. App'x 294, 300 (Fed. Cir. 2011) (citing *Crown Packaging Tech., Inc. v. Rexam Beverage Can Co.*, 559 F.3d 1308, 1312 (Fed.Cir.2009).

<sup>104</sup> *Gemalto S.A. v. HTC Corp.*, 754 F.3d 1364, 1374 (Fed. Cir. 2014), quoting *Texas Instruments, Inc. v. Cypress Semiconductor Corp.*, 90 F.3d 1558, 1566 (Fed.Cir.1996).

<sup>105</sup> *Ibid*, quoting *AquaTex Indus., Inc. v. Techniche Solutions*, 479 F.3d 1320, 1329 (Fed.Cir.2007); *accord Texas Instruments, Inc. v. Cypress Semiconductor Corp.*, 90 F.3d 1558, 1566 (Fed.Cir.1996).



claim on which the public is entitled to rely in avoiding infringement.”<sup>106</sup> The Supreme Court has made it importantly clear that “the doctrine of equivalents must be applied in a rigorous and precise manner,” and further held that “each element contained in a patent claim is deemed material in defining the scope of the patented invention, and thus the doctrine of equivalents must be applied to individual elements of the claim, not the invention as a whole.”<sup>107</sup> It is to be cautioned to the courts that in addressing the doctrine of equivalents, they should not shortcut said inquiry by “identifying a ‘binary’ choice in which an element is either present or ‘not present,’”<sup>108</sup> and in addition to that, it is to be kept in mind that “concept of equivalency cannot embrace a structure that is specifically excluded from the scope of the claims,”<sup>109</sup> and, furthermore, the Federal Circuit has made it clear that “[t]he evidence and argument on the doctrine of equivalents cannot merely be subsumed in plaintiff’s case of literal infringement.”<sup>110</sup>

There is also a rule that, under the doctrine of equivalents, a patentee should not be able to obtain “coverage which he could not lawfully have obtained from the PTO by literal claims”<sup>111</sup> because it exists to prevent fraud on a patent,<sup>112</sup> “not to give a patentee something which he could not lawfully have obtained from the PTO had he tried,” and hence, because “prior art always limits what an inventor could have claimed, it limits the range of permissible equivalents of a claim.”<sup>113</sup> The Federal Circuit thought that it could be difficult to answer a question as to whether

<sup>106</sup> Ibid, quoting *Texas Instruments, Inc. v. Cypress Semiconductor Corp.*, 90 F.3d 1558, 1566 (Fed.Cir.1996) (quoting *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 935 (Fed.Cir.1987) (en banc)).

<sup>107</sup> *Freight Tracking Techs., LLC v. Virginia Int'l Terminals, LLC*, No. 2:13CV708, 2015 WL 12672086, at \*3 (E.D. Va. Aug. 7, 2015), *aff'd*, 653 F. App'x 759 (Fed. Cir. 2016), quoting *N5 Techs. LLC v. Cap. One N.A.*, 56 F. Supp. 3d 755, 760 (E.D. Va. 2014) (quoting *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 29 (1997)).

<sup>108</sup> Ibid, quoting *Epos Technologies Ltd. v. Pegasus Technologies Ltd.*, 766 F.3d 1338, 1348 (Fed. Cir. 2014).

<sup>109</sup> Ibid, quoting *Augme Technologies, Inc. v. Yahoo! Inc.*, 755 F.3d 1326, 1335 (Fed. Cir. 2014).

<sup>110</sup> Ibid, quoting *Texas Instruments Inc. v. Cypress Semiconductor Corp.*, 90 F.3d 1558, 1567 (Fed. Cir. 1996) (quoting *Lear Siegler, Inc. v. Sealy Mattress Co. of Michigan*, 873 F.2d 1422, 1425 (Fed. Cir. 1989)).

<sup>111</sup> *Wilson Sporting Goods Co. v. David Geoffrey & Assocs.*, 904 F.2d 677, 684 (Fed. Cir. 1990), disapproved of by *Cardinal Chem. Co. v. Morton Int'l, Inc.*, 508 U.S. 83, 113 S. Ct. 1967, 124 L. Ed. 2d 1 (1993).

<sup>112</sup> Ibid, citing to *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 608, 70 S.Ct. 854, 856, 94 L.Ed. 1097 (1950).

<sup>113</sup> *ibid*.

prior art restricts the range of equivalents of what is literally claimed; accordingly, in order to bring simplicity to the analysis and to keep the issue within amicable realm, the Court opined that “it may be helpful to conceptualize the limitation on the scope of equivalents by visualizing a *hypothetical* patent claim, sufficient in scope to *literally* cover the accused product,” wherefore, the appropriately relevant question would be “whether that hypothetical claim could have been allowed by the PTO over the prior art,” to which, if the answer is no,” then it would be improper to permit the patentee to obtain that coverage in an infringement suit under the doctrine of equivalents,” but, “[i]f the hypothetical claim could have been allowed, then *prior art* is not a bar to infringement under the doctrine of equivalents.”<sup>114</sup> The Thai Patent Act actually embedded the compeer of the doctrine of equivalents into its provision of Section 36bis paragraph 2 stipulating that: “The scope of the protected invention shall include the characteristics of the invention which, although not specifically indicated in the claims, have the same qualifications, functions and effects as those indicated in the claims according to the point of view of a person having ordinary skill in the art or other technologies related to the invention.”<sup>115</sup>

In the reality of the two cases in Thai courts, i.e., Silom and MacroPhar cases, there were no application or even mention of the doctrine of equivalents, but presumably, had the doctrine of *Wilson Sporting Goods* been practically applied to the Silom case, the hypothetical claim of claim 1 of the Thai Patent No. 18749 of Novartis AG that would have literally covered the accused product of Silom, would have been entailing a claim that would have encompassed the prior art of the U.S. Patent No. 5,399,578, which could not have been allowed by the Intellectual Property Department or the Thai PTO, thus, speculatively when Novartis AG many times argued for claim 1 of the Thai Patent No. 18749 to have a claim construction covering the accused product, which was nearly identically similar to the claims and specification of the prior art U.S. Patent No. 5,399,578, the Thai Supreme Court, consequently, invalidated the Thai Patent No. 18749 in its entirety. Nonetheless, in another case, the MacroPhar case, needless to speak of infringement under the doctrine of equivalents because had the Thai Patent No. 17791 not been invalidated, there would have likely been a high chance that the IP and IT Court and perhaps the Specialized Court of

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<sup>114</sup> *ibid.*

<sup>115</sup> พระราชบัญญัติสิทธิบัตร พ.ศ. 2522 แก้ไขเพิ่มเติม พ.ศ. 2535 และ พ.ศ. 2542 มาตรา 36 ทวี [Thai Patent Act, Section 36bis].



Appeals as well would have found the product of MacroPhar literally infringed due to the almost identical similarity of the elements/limitations of the claims of the invention as compared to the accused product.

### 2.2.7 Anticipation

In regard to a test for novelty, in other words, a test as to whether the patented invention is new or whether the claimed invention has been anticipated, the MacroPhar case obviously illustrated the acknowledgement of foreign legal doctrines by the court through the explanations of the trial judge, Vichai Ariyanuntaka. On account of anticipation, Judge Ariyanuntaka first and foremost indicated that he was in agreement with the parties that in the determination of novelty of an invention, in order for a prior art to destroy novelty of the disputed invention, there must be a disclosure of all the elements of the invention in one single prior art, not spreading around within many pieces of art or work, which have been found and thereafter combined, in other words, all the features of the claims to be clearly and sufficiently determined by a person having ordinary skill in the art, must enable that person to understand and utilize the disclosure so as to be able to practice the invention in accordance with the claims, this means that, in order for the disclosure of the elements of the claims to be destructive to novelty of an invention, said disclosure must reveal all the elements or all the limitations as appeared in the claims, without missing any element or limitation, the said principle is called the “All-Elements Rule” or the “All-Limitations Rule.”<sup>116</sup>

The IP and IT Court pointed out in the MacroPhar case that the plaintiff referred to the U.S. MPEP on 2121.01 with the heading “Use of Prior Art in Rejections Where Operability is in Question,”<sup>117</sup> specifying that other than that a single prior art must disclose all elements of the claims in a complete manner, said disclosure must be explicit, that is the disclosure must be sufficient to enable a person of ordinary skill in the art to be able to practice the invention using general knowledge without undue experimentation, of which the plaintiff indicated that said principle is called “Enabling Disclosures” or “Operability.”<sup>118</sup> Judge Ariyanuntaka pointed out that the

<sup>116</sup> See คำพิพากษาศาลทรัพย์สินทางปัญญาและการค้าระหว่างประเทศที่ ทป. 195/2560 หน้า 15 – 16 [Intellectual Property and International Trade Court TP 195/2560 at pp. 15 – 16].

<sup>117</sup> See United States Patent and Trademark Office: USPTO’s Manual of Patent Examining Procedure (MPEP), 9th Edition (2015) at 2121.01.

<sup>118</sup> See คำพิพากษาศาลทรัพย์สินทางปัญญาและการค้าระหว่างประเทศที่ ทป. 195/2560 หน้า 16 [Intellectual Property and International Trade Court TP 195/2560 at p. 16].

defendant also referred to the principles in line with that of the plaintiff, that is novelty is to be tested by the determination whether the claimed invention is anticipated by the prior art or not and to be able to do this, claims must be construed in order to determine the scope of the claims, then there must be a person of ordinary skill to compare the elements of the claims with the said prior art reference on a one on one basis, where such reference may be in a documentation form, such as a book, a treatise, an article or a patent by employing an indicated checklist, of which the rule is that all claim elements must appear in that single reference which has been chosen to be the closest prior art.<sup>119</sup>

The Court stipulated that the defendant emphasized that the single prior art reference may explicitly disclose the elements of the claims or make an inherent disclosure without referring to the elements, and even in the explicit disclosure, said single reference needs not explain all the elements in a literally verbatim manner since the test of anticipation is not an "*ipsissimis verbis*" test, explicating further that the single reference is said to encompass the inherent characteristic, if said characteristic is a natural result occurring from the limitations explicitly explicated by the reference, that is to say that under this principle, the reading of the single reference by a person having ordinary skill in the art will lead said person to inevitably encounter the inherent characteristic because such characteristic is a natural result which befalls ineluctably once an operation in line with the explication of that single prior art has been performed.<sup>120</sup> The defendant made a remark that although an anticipation must be found by a single reference disclosing all the elements of the claims, the readings of other references to aid the understanding of the single prior art used as an anticipation reference is not prohibited; notwithstanding, such readings must be to find explanation, not to fill in the missing element(s) of the claims, where in case an element or some elements is/are missing from the single prior art reference, an anticipation is not outright barred, said single reference may still be considered to attest anticipation, if the missing element(s) is/are within the knowledge of a skilled artisan.<sup>121</sup>

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<sup>119</sup> ibid 17 – 18.

<sup>120</sup> ibid 18 – 19.

<sup>121</sup> ibid 19.



### 2.2.8 Obviousness

The principles on determination of inventive step or non-obviousness have been delineatedly articulated by the trial judge in the MacroPhar case, i.e., Judge Vichai Ariyanuntaka pointed to Section 7 of the Thai Patent Act which stipulates that an invention involves an inventive step is one that is not obvious to a person having ordinary skill in the art to which it pertains,<sup>122</sup> of which firstly the term “inventive step” or “non-obvious” must be technically interpreted under the point of view of a hypothetical person called “a person having ordinary skill in the art,” said hypothetical person is mentioned several times in the Thai patent law.<sup>123</sup> Judge Ariyanuntaka exemplified the references to said person in the European Patent Office (EPO) through cases from the Boards of Appeal and the Enlarged Board of Appeal explaining the definition, description and qualification of a said person having ordinary skill in the art as per the EPO.<sup>124</sup>

Indeed, what the IP and IT Court did on account of establishing a proper hypothetical person, the so-called person having ordinary skill in the art and “determine the level of skill of the hypothetical person of ordinary skill and what that person would have been able to do when in possession of the prior art, the scope and contents of which the court has also determined”<sup>125</sup> was to follow the footsteps of cases such as *Kimberley-Clark v. Johnson & Johnson*<sup>126</sup> and *Standard Oil v.*

<sup>122</sup> พระราชบัญญัติสิทธิบัตร พ.ศ. 2522 แก้ไขเพิ่มเติม พ.ศ. 2535 และ พ.ศ. 2542 มาตรา 7 [Thai Patent Act, Section 7].

<sup>123</sup> See คำพิพากษาศาลทรัพย์สินทางปัญญาและการค้าระหว่างประเทศที่ ทป. 195/2560 หน้า 23 – 24 [Intellectual Property and International Trade Court TP 195/2560 at pp. 23 – 24]; See also พระราชบัญญัติสิทธิบัตร พ.ศ. 2522 แก้ไขเพิ่มเติม พ.ศ. 2535 และ พ.ศ. 2542 มาตรา 7, 17, 36 ทวิ [Thai Patent Act, Sections 7, 17, 36bis].

<sup>124</sup> ibid 24 – 27, citing to T 4/98, T 143/94, T 426/88, T 774/89, T 817/95, T 176/84, T 195/84, T 560/89, T 32/81, T 164/92, T 986/96, T 60/89, T 694/92, and T 373/94 (Judge Vichai Ariyanuntaka wrote the statements referencing the cases in English).

<sup>125</sup> *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 454 (Fed. Cir. 1985); See also *Kimberly-Clark Co. v. Johnson & Johnson*, 745 F.2d 1437, 1449–1454, 223 USPQ 603, 610–614 (Fed.Cir.1984).

<sup>126</sup> *Kimberly-Clark Corp. v. Johnson & Johnson*, 745 F.2d 1437, 1454 (Fed. Cir. 1984) (“What controls the patentability of the fruits of the inventor’s labors are the statutory conditions of novelty, utility, and unobviousness “to a person having ordinary skill in the art to which said subject matter pertains” as stated in § 103. It should be clear that that hypothetical person is not the inventor, but an imaginary being possessing “ordinary skill in the art” created by Congress to provide a *standard of patentability*, a descendant of the “ordinary mechanic acquainted with the business” of *Hotchkiss v. Greenwood*.”); See also *Hotchkiss v. Greenwood*, 52 U.S. 248, 13 L. Ed. 683 (1850) (“The test was, that, if no more ingenuity and skill was necessary to construct the new knob than was possessed by an ordinary mechanic acquainted with the business, the patent was void; and this was a proper question for the jury.”).

*American Cyanamid*.<sup>127</sup> Once an appropriate hypothetical person having ordinary skill in the art was determined by the court, the next step as explained by Judge Ariyanuntaka would be to conceptualize the approach of said hypothetical person towards the prior art as to what this person would have been able to attain without hindsight at the date of the application and downward in order to figure out whether the claimed invention would have been obvious to said person or not.<sup>128</sup> The Judge set out that a test for obviousness differs from that of anticipation, the key factor to which, is whether the claimed invention would have been obvious to a hypothetical person or a group of hypothetical persons skilled in the art who were thought to have had the ability to cite, search or research with access to all the most modernized states of the arts from any sources possible at the date to which the difficulty or non-obviousness would have to be determined, where all the prior art references found may be combined without the restriction of having to utilize just a single prior art reference, of which Judge Ariyanuntaka remarked that this methodology is called by some schools of thoughts as “a mosaic approach.”<sup>129</sup> Putting all the aforesaid principles together to build up a doctrine of obviousness, Judge Ariyanuntaka held Thai Patent No. 17791 obvious to the hypothetical person skilled in the art as specified in the case and invalidated the said patent entirely, pertaining to which the Specialized Court of Appeals affirmed the judgment of the Thai IP and IT Court and the writ of certiorari was denied by the Thai Supreme Court.

#### 2.2.9 Clear and convincing burden of proof

It was stipulated by the IP and IT Court in the MacroPhar case that when a defendant challenged validity of the alleged infringing patent the burden of proof falls on the defendant as provided by the Thai Civil Procedure Code Section 84/1 in conjunction with the Establishment of the Intellectual Property and International

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<sup>127</sup> *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 454 (Fed. Cir. 1985) (“The issue of obviousness is determined entirely with reference to a *hypothetical* “person having ordinary skill in the art.” It is only that hypothetical person who is presumed to be aware of all the pertinent prior art. The actual inventor’s skill is irrelevant to the inquiry, and this is for a very important reason. The statutory emphasis is on a person of *ordinary skill*.”).

<sup>128</sup> See คำพิพากษาศาลทรัพย์สินทางปัญญาและการค้าระหว่างประเทศที่ ทป. 195/2560 หน้า 35 [Intellectual Property and International Trade Court TP 195/2560 at p. 35].

<sup>129</sup> See คำพิพากษาศาลทรัพย์สินทางปัญญาและการค้าระหว่างประเทศที่ ทป. 195/2560 หน้า 35, citing to ASM Assembly Automation Ltd v Aurigin Technology Pte Ltd and others [2009] SGHC 206, citing to Technograph v Mills & Rockely, [1972] RPC [Intellectual Property and International Trade Court TP 195/2560 at p. 35].



Trade Court and the Procedure of the Intellectual Property and International Trade Court Act B.E. 2539 (1996) Section 26.<sup>130</sup> Judge Vichai Ariyanuntaka noted that the Thai Civil Procedure Code does not particularly specify the standard of proof for civil cases as that stipulated in the Criminal Procedure Code for criminal cases under Section 227 to be a standard of “beyond reasonable doubt,” nonetheless, the Thai Supreme Court in its decision 899/2487 held in line with English laws for the standard of burden of proof for general civil cases to be “balance of probabilities” or as per the U.S. Rules of Evidence of “preponderance of evidence.”<sup>131</sup>

Regarding civil cases that a party alleged that a patent granted by the state is ineligible or invalid petitioning the court to null and void said document of rights, Judge Ariyanuntaka was of the view that the standard of burden of proof must be higher than the general civil cases since the issuance of a patent causes the state to engage in a procedure called patent prosecution for years in order to examine for novelty and inventive step of a patent application; therefore, the inquisition to destroy novelty or inventive step must be of a standard of burden of proof higher than general civil cases, but lower than criminal cases, said standard of burden of proof is of “clear and convincing evidence” as confirmed by the U.S. Supreme Court in *Microsoft Corp. v. i4i Limited Partnership*<sup>132</sup> that the principle as continually held by the U.S. Court of Appeals for the Federal Circuit, a specialized court of the United States, that a patent is presumed to be valid, the party challenging the validity of a patent should bear the burden of proof and the standard of burden of proof of which is the clear and convincing evidence.<sup>133</sup>

<sup>130</sup> See ประมวลกฎหมายวิธีพิจารณาความแพ่ง มาตรา 84/1 [Thai Civil Procedure Code, Section 84/1]; พระราชบัญญัติจัดตั้งศาลทรัพย์สินทางปัญญาและการค้าระหว่างประเทศและวิธีพิจารณาคดีทรัพย์สินทางปัญญาและการค้าระหว่างประเทศ พ.ศ. 2539 มาตรา 26 [The Establishment of the Intellectual Property and International Trade Court and the Procedure of the Intellectual Property and International Trade Court Act B.E. 2539 (1996) [hereinafter “the Thai IP and IT Court Act”], Section 26].

<sup>131</sup> See คำพิพากษาศาลทรัพย์สินทางปัญญาและการค้าระหว่างประเทศที่ ทป. 195/2560 หน้า 7 [Intellectual Property and International Trade Court TP 195/2560 at p. 7].

<sup>132</sup> *Microsoft Corp. v. i4i Limited Partnership* 564 U.S. 91 (2010) [as cited by the Thai IP and IT Court]; *Microsoft Corp. v. i4i Ltd. P'ship*, 564 U.S. 91, 131 S. Ct. 2238, 180 L. Ed. 2d 131 (2011) [as cited by the research leading to this article].

<sup>133</sup> See คำพิพากษาศาลทรัพย์สินทางปัญญาและการค้าระหว่างประเทศที่ ทป. 195/2560 หน้า 7 – 8, citing to *Microsoft Corp. v. i4i Limited Partnership* 564 U.S. 91 (2010) [Intellectual Property and International Trade Court TP 195/2560 at pp. 7 – 8].

The Judge clarified that the reason for the IP and IT Court to make an analogy to the standard of burden of proof of the U.S. system is because in the system tried by jurors or the jury trial, the courts must instruct the jurors to listen to the hearings carefully and to observe that the standard of burden of proof must be one that clearly proves the evidence for the understanding of the jury, said rules of evidence are, therefore, greatly useful for a system without a jury trial, but provides judicial discretion to the judges to deliver justifiable decisions under a proper standard of burden of proof – the Court hereby held the standard of burden of proof for invalidity of the disputed patent in the MacroPhar case to be of clear and convincing evidence as well.<sup>134</sup>

#### 2.2.10 Analogous arts

In the Silom case, the IP and IT Court had to make a determination of claim construction through all the intrinsic evidence, i.e., the claims, the specification and the prosecution history as well as to employ the extrinsic evidence, in particular the expert testimonies in order to correctly construed the claims, specifically claim 1 of the Thai Patent No. 18749, said claim construed under the specification read to be:

A solid oral dosage form comprising

- a) an active agent containing an effective amount of valsartan or a pharmaceutically acceptable salt thereof and
- b) pharmaceutically acceptable additives suitable for the preparation of solid oral dosage forms by compression methods

preferably wherein the active agent is present in an amount of more than 35% by weight, preferably more than 50% by weight based on the total weight of the solid oral dosage form. In particular, the amount of active agent may be present in an amount of from 45 to 65% by weight, e.g. 57 to 62% by weight.<sup>135</sup>

In spite of said claim 1 construed through the claim itself and the specification, the claim construction could still not have been correctly determined until the prosecution history was considered to confine the compression methods to

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<sup>134</sup> ibid.

<sup>135</sup> See U.S. Patent No. 6,294,197 at p. 2, column 1, lines 41 – 55. This patent is a counterpart patent to the Thai Patent No. 18749.



only cover a dry compression method<sup>136</sup> (dry granulation process) so as to render this claim to be a product-by-process claim confirmed finally by the expert witnesses.<sup>137</sup> In regard to the claim construction of the Thai Patent No. 18749 as aforesaid, U.S. Patent No. 5,399,578 was deemed to be the main analogous art or the closest prior art for the consideration of inventive step or non-obviousness since said patent disclosed various formulations of valsartan with some examples in the specification such as examples 92 and 93 illustrating details of some formulations with similarities to a certain extent to the Thai Patent No. 18749.<sup>138</sup>

In the MacroPhar case, the claim construction as determined by the IP and IT Court through the intrinsic evidence which initially began with the claims and ultimately was almost the only intrinsic evidence needed since the main claim, claim 1 of the Thai Patent No. 17791 was quite straightforwardly written; accordingly, construction of said claim was only the separation of the elements as numbered below:

(1) A pharmaceutical composition comprising one or more discrete solid orally deliverable dose units, (2) each comprising particulate celecoxib in an amount of 10 mg to 1000 mg (3) in an intimate mixture with one or more pharmaceutically acceptable excipients, and (4) having a distribution of celecoxib particle sizes such that D90 of the particles is less than 200 µm, preferably less than 100 µm, more preferably less than 40 µm, and most preferably less than 25 µm, in the longest dimension of said particles.<sup>139</sup>

With respect to the aforementioned embodiment, the European Patent No. WO 95/15316 was taken as the main analogous art or the closest prior art for the determination of inventive step or non-obviousness because this patent clearly disclosed the first and the third elements of the embodiment, stipulated the overlapping range of the amount of the active ingredient of the second element, and

<sup>136</sup> ibid p. 4, column 5, lines 43 – 44.

<sup>137</sup> See คำพิพากษาศาลทรัพย์สินทางปัญญาและการค้าระหว่างประเทศที่ ทป. 81-82/2555 หน้า 24 [Intellectual Property and International Trade Court TP 81-82/2555 at p. 24].

<sup>138</sup> See U.S. Patent No. 5,399,578, p. 33, column 62, lines 64 – 68 to column 63, lines 1 – 52.

<sup>139</sup> See สิทธิบัตรไทยหมายเลขที่ 17791 [Thai Patent No. 17791]; See also European Patent No. EP 1049467; See also คำพิพากษาศาลทรัพย์สินทางปัญญาและการค้าระหว่างประเทศที่ ทป. 195/2560 หน้า 20 [Intellectual Property and International Trade Court TP 195/2560 at p. 20].

embedded an inherent disclosure of the particle size of the fourth element of claim 1 of the Thai Patent No. 17791.

### 3. Epilogue

Intellectual property cases, need not be patent cases, have demonstrated themselves to be highly international, especially when the principles, doctrines, and rules shaping them are subsumed within the stipulations of international agreements, where the statutes of said agreements have been brought into laws and bylaws of the national states, for some they have been taken with the readiness of the countries, but for many they have been pushed in under the situations where the countries were unprepared, underprepared, or not well prepared. The differences in levels of developments in the field of intellectual property litigations, particularly in patent lawsuits, whether infringements, invalidations, or others of countries around the world are vastly diverse – many with abundant legal doctrines evolving from time to time, more with almost none to cling to.

It has been shown throughout the research leading to this article that there can be means to leverage the impediment situations of those countries with unready progress or unequipped advancement to furtherance the improvement of their legal doctrines, particularly ones related to patents. Amongst the legal doctrines chosen to be studied in the research, it could be seen that more than half of them were quite truly foreign to Thailand since they have almost never been touched upon in this country. Take it for example, although every patent litigation begins with reading into what the claims said, claim construction as such or the steps to determine infringement or validity starting with construing the claims through all the intrinsic evidence, specifically the prosecution history can apparently be said to have never been done, even though specification or detailed description of a patent has occasionally been appertained to. When the doctrine of claim construction has not been well developed, what follows from there is not likely to be progressive, for example, doctrines of claim differentiation, prosecution history disclaimer and estoppel may not have really been fruitfully discussed or if they could be considered, the contemplation might not be deliberately propounded in an appropriate manner.

The aforesaid situations may partly occur because cases coming to courts on patent issues have not been of a high number, in other words, numbers of litigations on patents have been very low, which on the one hand seems to be positive in that



perhaps people in the field are not litigious, but on the other hand, it may well be because the realm of patents is still in its infancy that many doctrines well established in countries such as the U.S., Europe, and Japan have rarely come to the courtrooms in Thailand. The doctrines of analogous arts or closest prior art as a tool for determination of obviousness, or the standard of burden of proof of clear and convincing evidence which is in between beyond reasonable doubt and preponderance of evidence are yet to be profoundly learned in order for the betterment of practical implementation in real situations of cases to be had. It is, however, inspiring to a certain extent to see throughout the research leading to this article that there have been a number of legal doctrines understood and applied to a level that demonstrated the foundational knowledge possessed by related parties, especially the illustration of erudition and wisdom of the courts vis-à-vis known legal doctrines such as anticipation and obviousness, absence only some in-depth case law principles such as the application of a single prior art reference or the combination of prior arts in a mosaic approach.

Notwithstanding, it could be seen on the other side of the coin that there are legal doctrines studied here that were written into the Thai statutes such as literal infringement and infringement by doctrine of equivalents, although there remain various principles of the two doctrines to be immensely developed, at least the doctrine of literal infringement is missing not much, but a few such as the all elements rule and some conceptual structures of the doctrine of equivalents to be apprehended. Regarding the ultimate recommendation that the research leading to this article desires to propose, the statement made by Elaine Mak in her article can be analogously applied in that comparatively speaking, with all the potentials and restraints, patent legal doctrines originating at the international level or in other legal systems can help the Thai interested parties, particularly the courts to achieve a better understanding and to guide them in the application of said legal doctrines in line with their national laws and principles. Implementing such approach, the acknowledgement of foreign legal doctrines concerning patents will enable the concerned parties, specifically the Thai courts to improve the quality of their judicial decision-making and to assist them to be capable of delivering judiciously well-grounded and verifiable decisions and judgments in patent cases.<sup>140</sup>

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<sup>140</sup> Elaine Mak (n 6) 65.

The next recommended action that should be taken may be to set up a guideline for the application of foreign legal doctrines in patent cases. This can apparently be useful for all concerned parties not only for the courts but also for all interested practitioners in any fields of practices related to patents. Perhaps, an initiation of a research to seek for a compilation of all those foreign legal doctrines on patents that have not yet been introduced into the legal realm in Thailand or have not yet been properly discussed to an extent that they can be appropriately utilized, especially in the courtrooms, should be done so as to have all these doctrines ready for the time in need. From that step, afterwards, a guideline on how to implement them can be established. Once the foreign legal doctrines will have been applied in real practices, followed constantly by some continuous adjustments to be in line with the Thai legal principles as well as to serve the actual dispositions of the patent domain in Thailand, the country should be in a position to ultimately develop its own legal doctrines on patents – the final products of which will be the Thai patent legal doctrines as sensible and practicable as the foreign ones.