The Establishment of an Overarching Intellectual Property Judicial System

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Abstract: The intellectual property ("IP") judicial system comprises two parts: IP judicial organization and IP judicial mechanism. China's IP judicial system reform should be carried along with the construction of specialized IP courts, aiming to establish a specialized IP judicial system. Such a system contains five elements. First, the nation-wide specialized IP courts are both courts of first instance and of appeal, which is a mode of "first instance + appeal". Meanwhile, a state-level high court or an IP circuit court of the Supreme People's Court ("the Supreme Court") should be established. Second, IP courts should not be set up everywhere, instead, they should be set up in 10-13 central cities, supplemented with detached tribunals. Third, the judicial mechanism in the IP courts should be "3-in-1", in which civil, administrative and criminal suits are heard by one court. Fourth, the manner of reasoning inherited from administrative authority principles of the civil law system should be avoided, and judicial organs should be given the authority to make substantial judgments on the validity of IP. Finally, in technical cases, a multi-identification mechanism for technical facts should be set up, by establishing systems such as technical investigators, expert consultation, expert juries, and judicial appraisal. Thus, an overarching IP judicial system will be formed, which will separate IP trials from others and strengthen the professional traits of IP trails. Such a judicial system is an optimized choice conforming to the construction of an innovative country and is sufficient for China to present a picture of "strong judicial protection" of IP to the world.

Keywords: intellectual property court, central court, nationwide unified court, "three-in-one" technical investigators

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Introduction

On August 31, 2014, the *Decision on the Establishment of Intellectual Property Courts in Beijing, Shanghai and Guangzhou* ("the *Decision*") was adopted at the 10th session of the Standing Committee of the 12th National People's Congress, and the pilot program for setting up specialized IP courts in Chinese mainland was released. On October 27, 2014, *Provisions on Jurisdiction in Cases of the Beijing, Shanghai and Guangzhou Intellectual Property Courts* ("the *Provisions*") was adopted at the 1628th session of the Judicial Committee of the Supreme Court. The *Provisions* was announced on October 31, 2014 and came into force on November 3, 2014. Under the unified arrangement of the Supreme Court, the Beijing Intellectual Property Court ("Beijing IP Court") was first established on November 6, 2014. Subsequently, on December 16 and 28, 2014, the Guangzhou Intellectual Property Court ("Guangzhou IP court") and the Shanghai Intellectual Property Court ("Shanghai IP Court") were established. This happened so quickly because China was well-prepared. Indeed, after more than 30 years of IP trial practice, the Chinese mainland has trained many outstanding IP judges and formed a mature trial mechanism for IP cases, which provided talent reserves and a good system foundation for the specialized IP pilot courts. Since the pilot coincided with the tide of judicial reforms, the construction of the IP courts, the judicial reform plans, the quota system, hands-on case handling by the head of the court, and flat management were all carried out in "one step". As for the external environment, the Supreme Court and local government departments actively supported the construction of the IP courts, providing broad space for the reform of the IP judicial system. For example, the Beijing IP court initially decided to have 100 employees, but in the following year (2015), it expanded to 150 employees because of the increase in cases.[①] According to the Supreme Court, this expansion was the second round of judge selections, and a "dynamic adjustment mechanism of the quota for judges" which will be adopted for the construction of IP courts in the future.[②]

However, people not only expect the internal trial reforms of these three courts, but also wonder the general plan for the IP judicial system reform that will be formed in three years thereafter. In the future construction of IP courts and the reform of the IP judicial system, there may be some questions that cannot be avoided according to the characteristics and rules of the trials of IP cases. For example, is it necessary to set up a state-level IP high court to unify the national IP judicial standards? And shall some IP administrative adjudications be conducted by "physical trial" or "chemical trial" (means a trial in which the court has the right to make a substantial judgment on the validity of the right), which is whether the court shall conduct substantive trials on administrative cases involving authorization and ownership determination issues and directly make a judgment on whether the right is valid? These questions are

① For details about the "one-step" establishment and original personnel posts of Beijing IP Court, see Su Chi, 2015, pp. 14-16.

② On September 9, 2015, the Supreme Court held a press conference on the construction of intellectual property courts. During the press conference, Wang Chuang, vice president of the intellectual property division of the Supreme Court said, "The Supreme People's Court is actively negotiating with relevant departments of the central government to study the establishment of a dynamic adjustment mechanism for the quota of judges in intellectual property courts. At present, the selection of the second batch of trial judges and judicial staff personnel of Beijing IP Court and Guangzhou IP Court is under way and will be completed in the near future." See Wang Chuang, 2015.

unavoidable in IP trials. The former is the core issue in the organization system of specialized IP courts, which can unify judgments and control the standards and measurements. The latter involves the IP system of handing cases over from administrative departments to judiciaries and some problems of choosing the proper law for IP trials. Because, after setting up IP courts in accordance with the *Decision*, the retrial procedure of patents, new plant varieties and trademarks, which is dominated by the administrative department, has not been simplified, and the problem of circular trials between administrative cases and civil cases has not been fundamentally solved (Yi, 2014a, p. 31). These problems, involved in the construction of IP courts, are actually problems about the direction of the entire IP judicial system and its reform. On August 29, 2017, three years after the establishment of pilot IP courts in Beijing, Shanghai and Gunagzhou, Zhou Qiang, president of the Supreme Court, reported to the Standing Committee of the National People's Congress about his work and put forward three suggestions in different aspects after summing up the achievements and pointing out the facing problems. The first was reform of the trial method, which is the division of complicated and simple cases of first instance. The second was to suggest the National People's Congress conducting special inspections of IP courts. The third was to improve the working system of the IP courts. Indeed, the third suggestion is about the IP judicial system, "To improve the working system of IP courts, I suggest that, from the strategic height of promoting the construction of a strong country in IP, science and technology we should study the establishment of an appeal mechanism for IP cases at the state level, to realize the specialization, centralization of jurisdictions, intensification of procedures and professionalization of personnel in the hearing of IP cases. We should summarize and popularize the experience of IP courts in Beijing, Shanghai and Guangzhou, set up more IP courts in good time, and further improve the specialized judicial system in accordance with the rules of IP judicial protection, to better meet the judicial requirements of science and technology innovation in specialized IP trials" (Zhou, 2017). In conclusion, there are two points: first, establish a state-level IP appeals court; second, in addition to Beijing, Shanghai and Guangzhou, continue to establish intermediate trans-regional specialized IP courts. I have mentioned these two points in my paper submitted on the meeting organized by the Commission of Politics and Law in 2015, one year after the IP court pilot. I have also made a brief discussion in a more ambitious article on IP reform published in 2017.① In fact, the direction of IP judicial reform is in response to the international trend of establishing specialized courts (Wu, 2018, p. 4). This is not the only factor to drive the reform of the judicial system, but also the key point of reform measures.

On February 28, 2018 the General Office of the Communist Party of China Central Committee and the General Office of the State Council jointly issued a document which emphasized reform and innovation in IP trials. It put forward "reform and improve the system of IP judicial protection mechanisms" and aimed to "improve the system of intellectual property litigation as the foundation and strengthen the construction of the IP court system as the emphasis". However, the construction of specialized IP courts is related to the IP judicial system reform, which needs to be solved through

① See Yi Jiming, *Reform of the Intellectual Property System in the Process of National Governance Modernization*, ZUEL Law Journal, 2017, vol. 1, pp. 190-192.

legislation by the National People's Congress and its standing committees. As for the category of "IP judicial system", in the past, except for the discussion of a few experts and scholars,① people talked more about "IP trial mechanisms" which discussed the IP trial business and its practical issues within a complete judicial system framework. With the establishment of IP courts, we can make relatively independent discussions on a series of professional issues about the IP judicial system and trial mechanisms from the perspective of "IP justice". I put forward the concept of "the overarching IP justice" here to emphasize that, in the future reform of the IP judicial system, it is necessary to discuss the construction of the IP judicial organization system and the reform of trial mechanisms from a more independent and professional perspective, aiming to build a relatively open, inclusive and independent IP judicial system. The construction of this system is contained in the following choices or questions: First, is the IP court a court of first instance, appeal or "first instance + appeal"? Second, shall IP courts be set up everywhere based on the intermediate courts in the country or be set up as several intermediate specialized courts centering on cities? Third, which mode of trial organization should be implemented, the "2-in-1" mode of civil trial and administrative trial, or the "3-in-1" mode of civil trial, administrative trial and criminal trial? Fourth, "physical trial" or "chemical trial" — does the court have the right to make a substantial judgment on the validity of the right? Finally, which is more helpful to identify the technical facts, consultant expert, technical investigator, or even technical judge, or have them all? My conception of an overarching IP judicial system is contained in the answers to these five questions.

First Instance, Appeals and the National Court of Appeals

The specialized IP courts overseas are set up as courts of first instance or courts of appeal, which vary by country. Some are set up as courts of first instance, such as Germany and Switzerland; some are set up as courts of appeal, such as the IP High Court of Japan;② most of them are set up as courts of first instance and appeal, such as the US, the UK, Russia, the EU and the China's Taiwan region; and some are initially set up as courts of first instance dealing with cases that do not accept administrative decisions, but later also deal with civil cases that do not accept the judgments of first instance and appeal, such as South Korea.③ However, those set up as courts of first instance and appeal may also vary in rating jurisdictions with the nature of the lawsuits, such as the United States Court of Appeals for the Federal Circuit which has the jurisdiction to hear first instance administrative cases and appeals of civil cases, but in the China's Taiwan region, the Intellectual Property Court has the jurisdiction to hear first instance administrative cases, first instance civil cases, appeals of civil cases and appeals of

① See Zhang Yurui, & Han Xiucheng, 2008. However, despite the title, Intellectual Property Judicial System, Zhang and Han still advocate "the overarching pattern of intellectual property trial". In addition, the content of their discussion is not limited to the intellectual property trial mechanism, but also involves the operation system and mechanism of the intellectual property administrative organ and court.

② See Tamura Yoshiyuki, Study on the Intellectual Property High Court in Japan, *Journal of Science,Technology and Law*, 2015, vol.3, p. 555.

③ The South Korean Patent Court set up in 1998 only hears cases against the decision of the Patent and Trademark Office. On November 12, 2015, the National Assembly of the Republic of Korea amended the *Civil Procedure Act and the Court Organization Act*. Since then, the Patent Court shall have exclusive jurisdiction over the second instance of infringement disputes related to patent, trademark and new plant variety nationwide, which shall come into force on January 1, 2016. See Mincheol Kim, 2015, pp. 1158-1164.

criminal cases.

According to relating provisions in the *Decision* (Article 2 & Article 3) and the *Provisions*, the Beijing IP Court, Shanghai IP Court and Guangzhou IP Court all have the jurisdiction to hear first instance cases and appeals. In general, first instance civil and administrative cases with professional features, such as cases of patents, new plant varieties, integrated circuit layout designs and know-how, are in the jurisdiction of IP courts, which forms a system of two trials in three levels. Appeals of civil and administrative cases, such as cases of copyright and trademark, are also in the jurisdiction of IP courts, which forms a system of two trials in four levels. According to the provisions in Paragraph 2, Article 2 of the *Decision* and Article 5 of the *Provisions*, the Beijing IP Court has jurisdiction over the following administrative cases of first instance:

(1) objection against a ruling or decision of a State Council department for licensing and confirmation of intellectual property rights in relation to patents, trademarks, new varieties of plants, integrated circuit layout designs etc.

(2) objection against a compulsory licensing decision of a State Council department in relation to patents, new varieties of plants, integrated circuit layout designs, or against a ruling on compulsory license fees or remunerations;

(3) objection against any other administrative act of a State Council department which involves licensing and confirmation of intellectual property rights.

Thus, the three courts adopt the mode of "first instance + appeal" in rating jurisdiction. However, it is not a simple single or multiple-choice question to choose the mode of first instance, appeal or "first instance + appeal". Behind the choice of "first instance + appeal" there are two vital thoughts: first, how to connect the IP courts with the Reexamination and Invalidation Department of the Patent Office, Trademark Office of National Intellectual Property Administration and The Ministry of agriculture new plant variety Review Committee; second is it necessary to establish a professional system of IP courts and set up a state-level IP high court?

From the present orientation of the Beijing IP Court, it can only be considered as a specialized court with a "small system". Similar to the Shanghai IP Court and Guangzhou IP Court, the Beijing IP Court can be deemed an intermediate court (branch) dispatched by the Beijing High Court, not under a special jurisdiction of a specialized IP high court (according to Article 4 of the *Decision* and Article 7 of the *Provisions*). Although communication among professional courts, high courts and supreme courts can be built, it is still impossible to establish a unified national IP trial standard based on a system. When hearing first instance administrative cases, the Beijing IP Court still cannot make substantial judgments, which makes the trial a "physical trial" but not a "chemical trial". Moreover, there is still the problem of "circular litigation" between administrative departments and judiciaries, and between judicial administrative cases and civil cases. Indeed, under the "small system" scheme, the present internal mechanism of determination and reexamination in IP administrative institutions will not change; the division and disposal methods of civil and administrative IP cases in the current judicial system will not change as well; therefore, the existing institutions were under little impact.

But the "small system" scheme has no room for development. Having been heard by "intermediate courts", IP cases will turn to the current system of common courts — the corresponding local provincial (including municipalities and autonomous regions) high courts.

In my advocacy for an overarching IP judicial system, the Reexamination and Invalidation Department of the Patent Office, Trademark Office of National Intellectual Property Administration and The Ministry of agriculture new plant variety Review Committee should be reformed judicially, their adjudications should be deemed first instance judgments, meanwhile, a state-level IP high court should be set up, which can be named as an IP Circuit Court of the Supreme Court, No.X Circuit Court, National IP High Court or Beijing IP High Court. In fact, it is a common understanding to set up a state-level specialized IP court. In the *Outline of the National Intellectual Property Strategy*("the *Outline*") promulgated by the State Council on June 5, 2008, it has been listed in the to do list of "improving the standard of IP law enforcement" that "investigations shall also be made into the proposed establishment of an IP appellate court." Still, there are differences over how to set up a state-level IP appeals court. According to Zhang Lingling, there are three models from which to choose; the mode of establishing a specialized circuit court, the mode of establishing an IP high court within the Beijing High Court, and the mode of establishing an independent national IP high court (Zhang, 2018, pp. 34-35). Scholars, such as Wu Handong and Li Mingde, advocate setting up a national IP high court (Wu, 2018, pp. 11-12 & Li, 2018, pp. 18-21). In my view, it is acceptable to establish an IP circuit court of the Supreme Court or a national intellectual property court. As Zhang Lingling said, the circuit court mode combines the current construction of circuit courts with the construction of the IP court system, which has little impact on the existing court system and can also realize a nation-wide appeal hearing mechanism (Zhang, 2018, p. 34).

The judicial reform of the Reexamination and Invalidation Department of the Patent Office, Trademark Office of National Intellectual Property Administration and The Ministry of agriculture new plant variety Review Committee is different from the pure judicial transformation of the German patent court. This reform can be called "quasi-judicature" as it takes into account the consistency of business and the inertia of the Chinese mainland's system, which is similar to the quasi-judicial system of the United States Patent and Trademark Office, and the corresponding judges are also called "administrative judges". The *Outline* proposed, "Procedures for determining and granting patent or trademark rights need to be reformed, and studies need to be conducted on transforming bodies that hear patent invalidation and trademark review and adjudication cases to quasi-judicial organs."[①] On December 12, 2018, to implement the tasks proposed in the *Outline*, the General Office of the State Council issued the *Notice on the Division of Tasks to Implement the Outline of the National Intellectual Property Strategy* ("the *Division of Tasks*"), which puts the above reform bill on Task 50.[①] The *Outline*

① Paragraph 2, Improving Intellectual Property Law Enforcement, V. Strategic Measures of the *Outline*. See Office of Inter-ministerial Joint Conference on the Implementation of National Intellectual Property Strategy, 2011, p. 17.

and the *Division of Tasks* show that although the scheme of this reform is not definite and has not been practiced, it is at least in preparation. The scheme of this reform has two major advantages: first, it reduces the coordination cost between administrative departments and judiciaries, which is in line with the development direction of IP litigation; the second, it brings the administrative reconsideration of IP into the judicial system, which effectively solves the problem of identifying technical and basic facts in IP cases and lays a foundation for the court of appeal to make substantial judgments. In fact, from the perspective of empirical analysis, of all the patent invalidity decisions made by the Reexamination and Invalidation Department of the Patent Office over the years, the rate of being sued and the rate of losing the lawsuit, on average, are both less than 20%.② Less than 4% of the decisions that involve lawsuits are actually revoked through judicial proceedings, which is a relatively small rate. Although there are many factors involved, to some extent, it still indicates that the invalidity decisions made by the Reexamination and Invalidation Department of the Patent Office have high fairness and certainty. After quasi-judicial rulings by the Reexamination and Invalidation Department of the Patent Office, Trademark Office of National Intellectual Property Administration and The Ministry of agriculture new plant variety Review Committee, specialized IP courts will conduct judicial reviews, which are in the exclusive jurisdiction of the Beijing IP court according to the current division of jurisdictions of the three courts — if the state-level IP appeal court wants cases to go to the lower courts.③ No appeal shall be made if there is no statutory grounds for appeal after hearings at these two levels; Where there are statutory grounds for appeal, the case may be appealed to the state-level IP high court (or the IP circuit court of the Supreme Court). The state-level IP high court is mainly concerned with law examination and generally does not conduct fact examination (including technical facts). According to Zhang Yurui and Han Xiucheng, this practice of "reducing trial grades" can play a role in "building a harmonious relationship between courts and administrative organs" (Zhang & Han, 2008, pp. 9-10).

My design, in contrast with the existing "small system", is to build a systematic "large system" of IP courts. This distribution of judicial resources is in line with China's innovation-driven development strategy and the goal of building an innovation-oriented country, and it is also a strong declaration of the Chinese mainland to strengthen the judicial protection of IP, which can help to stimulate global

① Paragraph 3, Improving the enforcement of intellectual property law, III. On Strategic Initiatives of the *Division of Tasks*. See Office of Inter-ministerial Joint Conference on the Implementation of National Intellectual Property Strategy, 2011, pp.28-29. And the interesting thing is, the above reform bill (cited in the body) in the *Outline* is divided into two sentences in Task 50 of the *Division of Tasks* as following, "50. The procedures of establishing and granting patent and trademark rights shall be reformed. Studies shall be carried out on the issue of hearing cases of invalid patent applications as well as on possibly turning the trademark accreditation authority into a quasi-judicial body." This may be interpreted as "turning the trademark accreditation authority into a quasi-judicial body" in the latter sentence is the specific interpretation of "reform" in the former sentence. However, I believe that this sentence of the Outline contains two main points: first, to reform and simplify the procedures for patent and trademark authorizations; the second, to turn the Reexamination and Invalidation Department of the Patent Office, Trademark Office of National Intellectual Property Administration into quasi-judicial bodies.

② The Intellectual Property Court of the First Intermediate Court in Beijing, *An Overview on the Classification of Trials of Intellectual Property*, 2008, p. 260..

③ I talk more about this in another paper. The decision made by the IP review organ may be appealed directly to the IP appeals court. The intention is that if the IP review organ is judicialized, it is equivalent to the court of first instance, and the court of second instance is the national IP appeals court. Under this design, IP appellate courts would see an increase in caseloads, which would be closer to the US system. This design also clarifies the relationship between the Supreme Court and the national IP high court (or the IP Circuit Court of the Supreme Court). See Yi Jiming, *Journal of Northwest University (Philosophy and Social Sciences Edition)*, 2018, pp. 59-61.

innovation resources to gather in China. Meanwhile, the combination of the IP administrative system and IP judicial system can eliminate the resistance to the reform. There is zero-sum game between the IP administrative institutions and the IP court system, but a "win-win" situation.

Be Established Everywhere or Be Established in Central Cities

After it was put forward in the third Plenary Session of the 18th CPC Central Committee that "we will explore ways to set up IP courts,"[①] "many local courts across the country were enthusiastic and said that local conditions were mature and they were ready to take the lead in pilot projects" (Yi, 2014b, p. 573). In the enthusiasm of local courts to actively set up pilot IP courts, there was more or less the simple impulse to increase resource allocations which would, through the establishment of IP courts in the region, expand in some aspects such as the allocation of personnel, the amount of funds, the number of officials, office space, or to alleviate the problem of the under-allocation of resources for local courts. If the pilot project of an IP court was carried out under the domination of this idea and then it was extended to the national court system, it is certain that this scheme of IP judicial system reform would eventually fail. Therefore, according to the current IP trial mechanism, based on the intermediate and high courts in various places, it is not advisable to separate the corresponding IP trials from others and set up specialized IP courts everywhere.

The establishment of IP courts should be in accordance with market principles, which is to be actively and steadily promoted in accordance with actual needs. Specialized IP courts should be set up in places with a large number of IP cases and convenient transportation. This method has been adopted in the past, such as the establishment of maritime courts, which are mainly based in the central cities along the coasts or rivers according to the actual needs. After setting up trans-regional IP courts in some central cities, some flexible space should be left for future arrangements. For example, with the development of science, technology and the economy, detached tribunals can be set up in places in the Midwest China. Over time, as the number of IP cases grows and traffic conditions improve, additional IP courts can be set up in places where conditions permit, including places where IP detached tribunals are established. This mode of "central court + detached tribunal" should be the focus of the construction of IP courts in the whole country.

Certainly, the construction of IP courts in the central court mode will create a new round of games among local governments. However, in fact, the current practice of setting up IP courts in intermediate courts around the country is of little practical significance. With the background of "widespread entrepreneurship and innovation", IP is still a kind of product of the social elite. At the beginning of the construction of specialized IP courts, I put forward a basic idea, "Considering the size of the Chinese mainland, it may be a reasonable layout to set up 10 to 13 specialized IP courts that are relatively centralized and beyond the limits of administrative divisions"(Yi, 2014a, pp. 30-31). About the number of central courts to be set up, Li Mingde is relatively conservative and thinks that after Beijing, Shanghai

① *Decision of the Central Committee of the Communist Party of China on Some Major Issues Concerning Comprehensively Deepening the Reform*, People's Publishing House, 2013, p. 15.

and Guangzhou, it would be enough to add three to five courts (Li, 2018, p. 18). From the *Decision* and the *Provisions*, the basic ideas of Li Mingde and mine are also the basic design ideas of legislators from the beginning. It is provided in paragraph 3, article 2 of the *Decision* that "IP courts have trans-regional jurisdiction over cases prescribed in the preceding paragraph. An IP court may have trans-regional jurisdiction over the province where it is located during the three years from its establishment."① In Article 2 of the *Provisions*, the trans-regional jurisdiction of Guangzhou IP court is clearly defined, which includes not only the jurisdiction of Guangzhou, but also other regions in Guangdong province; Further, in paragraph 2, Article 3 of the *Provisions*, the jurisdiction of other intermediate courts in Guangdong province is eliminated, "Other Intermediate People's Courts of Guangdong Province no longer accept lawsuits which fall under the descriptions in item (1) and item (3) of Article 1 of these *Provisions*."② The personnel allocation of the Guangzhou IP court in accordance with the *Decision* and the *Provisions* also illustrates the trans-regional jurisdiction of the court, "Civil and administrative lawsuits of first instance involving patents, new varieties of plants, integrated circuit layout designs, technical secrets and other cases with professional features are under the trans-regional jurisdiction of the Guangzhou IP court, and in three years after the establishment of the court, the trans-regional jurisdiction of the Guangzhou IP court shall be implemented within Guangdong province first." But unexpectedly, Shenzhen, which is in Guangdong province, anticipates being "independent". After the establishment of the Guangzhou IP court, the Shenzhen Intermediate People's Court maintained its original jurisdiction over IP cases, and the pilot project of the Guangzhou IP court to implement the trans-regional jurisdiction during the three years from its establishment was not completely accomplished.

In fact, at the beginning of the pilot of the establishment of the three IP courts in "Beijing, Shanghai and Guang", Shenzhen and Guangzhou have had a dispute: does "Guang" mean "Guangdong province" or "Guangzhou city?" If it is Guangdong province, the specific address of the IP court can be Shenzhen. Objectively, Shenzhen has a certain foundation to strive for: it has a lot of IP disputes, a mature innovation market, and a high degree of internationalization. But when the dispute was over and the law was settled, Shenzhen adopted an alternative method right after, so who should be punished? It is not a big problem to decide who to punish, compared with the following affairs. Once this bad example is set, will there be two IP center courts in Guangdong province when the trans-regional IP courts are set up across the countries. Then, will there be a dispute between Nanjing and Suzhou within Jiangsu province and therefore two IP central courts there as well? If there are two or more IP center courts in one province, how can we forbid other provinces to set up one IP central court within one province? In this way, is it a dead letter that an IP court may have trans-regional jurisdiction over the province where it is located during the three years from its establishment, which is provided in paragraph 3, Article 2 of the *Decision*. In this regard alone, the Supreme Court ought

① It is provided in paragraph 1, Article 3 of the *Decision* that "IP courts have jurisdiction over the first-instance IP civil or administrative cases with professional features involving patents, new varieties of plants, layout design of integrated circuit, know-how and so on."

② The cases referred to in item (1) and item (3) of Article 1 of the *Provisions* are civil and administrative lawsuits involving patents, new varieties of plants, integrated circuit layout design, technical secrets and computer software; and civil lawsuits involving recognition of a well-known trademark.

to have been rejected and it was indeed rejected, when it tried to persuade the Standing Committee of the National People's Congress to authorize the Supreme Court to set up IP courts elsewhere by adding "etc." after "Beijing, Shanghai and Guangzhou". It is a necessary restriction and supervision of the Supreme Court that the Standing Committee of the National People's Congress gives mandates case by case (Yi, 2014a, p. 28). At the same time, in accordance with Article 7 of the *Decision*, three years later, when the Supreme Court reports the implementation of the *Decision* to the Standing Committee of the National People's Congress, such a practice should be a necessary matter to explain or even to investigate the liability. Perhaps with this in mind, Wang Chuang, vice president of the IP division of the Supreme Court, did not talk about the fact that the IP cases of Shenzhen Intermediate People's Court were "independent" from the Guangzhou IP Court in the press conference on the working status of the IP courts held by the Supreme Court on September 9, 2015; and Wu Zhen, vice president of the Guangzhou IP Court, stated that, "Except Shenzhen, the jurisdiction of the Guangzhou IP Court on first instance IP cases covers all the cities in Guangdong province. As a result, the police officers need to go to all parts of the province to complete various preservations, injunctions and investigations, which consume a lot of energy of the case handling team" (Wu, 2015).

In addition to the Guangzhou IP Court, which is suspected of "illegal" on jurisdiction, the establishment of the Shanghai IP Court is not thoroughly complete as well: it is not an absolutely independent IP court. The Shanghai IP Court shares the same office with the Third Intermediate Court of Shanghai, and it does not quantify the judicial personnel separately (Ten IP judges should be elected at the first round). According to Wu Kailin, president of Shanghai IP Court, Shanghai adopts the mode of "independent trial and sharing administrative (Party affairs) office": the trial shall be independent in accordance with the law, the first and second IP courts shall be set up, and the next step is to set up a technical investigation office; and the Third Intermediate Court of Shanghai is responsible for the case-filing, implementation and comprehensive management. The setup, Wu Kailin said, "reflects the simplification, efficiency and delayering of an organization" (Wu, 2015). However, this does not really reflect the "simplification, efficiency and delayering" of the organization. Instead, it "shifts" relevant affairs to the Third Intermediate Court of Shanghai. Perhaps, sharing one administrative (Party affairs) office under two systems will create more operating costs. After careful analysis, we can even think that the so-called Shanghai IP court system is actually the establishment of the Third Intermediate Court of Shanghai on the basis of the original Shanghai Railway Transport Court; and within the Third Intermediate Court of Shanghai, two more IP courts have been added, and the next step is to add a "technical investigation office".[①] Although the Japanese IP High Court is a branch of the Tokyo High Court, it is clearly stated in Article 5 of the *Organization Law of the*

① Shanghai originally had two intermediate courts (the First Intermediate Court and the Second Intermediate Court). At the time of the system transformation of Shanghai Railway Transport Court and the establishment of Shanghai IP Court, the Third Intermediate Court of Shanghai was established on the basis of the Railway Transport Court. At present, the tablets of the Third Intermediate Court of Shanghai, Shanghai Railway Transport Court and Shanghai IP Court coexist.

② *Organization Law of Japanese IP High Court*, translated by Chen Xiaojun, is included as an appendix in Yi Tao, Intellectual Property High Court of Japan, *Journal of Science, Technology and Law*, 2015, pp. 127-128.

Japanese IP High Court[②] that the purpose of setting up the IP High Court Secretariat in the IP High Court is to maintain the independent operation of the specialized court. However, thinking from the original intention of setting up the independent court system of the IP center courts, if it is within the same municipality, this approach is reasonable. But if it is extended beyond the municipalities three years later, it may not be reasonable.

In addition, according to Liu Yinliang's empirical analysis, setting the pilot court in Shanghai may be the wrong choice. According to the statistics on each province's proportion of IP civil first instance cases around the country, Guangdong accounted for 27%, Zhejiang 18%, Beijing 10% (with the highest proportion of administrative cases in China), Jiangsu 10%, Shandong 6%, Hubei 5%, and Shanghai 4%. On this basis, the number of IP civil cases in Zhejiang and that in Jiangsu are far more than that in Shanghai, respectively, five times and 2.6 times. Therefore, according to market principles, IP courts in the Yangtze River Delta should be set in Zhejiang or Jiangsu, which can not only relieve the pressure of Shanghai in various aspects such as urban traffic, environment and resources, but also contribute to the balanced development of its surrounding areas. As a result, Liu Yinliang thinks that "the choice of setting up IP courts in Beijing and Guangzhou is understandable, but the choice of setting up IP courts in Shanghai is questionable" (Liu, 2015, p. 9).

In fact, during 2017 and 2018, the Supreme Court issued three official replies, in which it subsequently agreed to set up trans-regional IP courts within the corresponding intermediate courts in the following 14 cities: Nanjing, Suzhou, Wuhan, Chengdu, Hangzhou, Ningbo, Hefei, Fuzhou, Jinan, Qingdao, Xi'an, Tianjin (the Third Intermediate Court), Zhengzhou and Changsha.[①] At the same time, in December 2017, the Supreme Court gave an official reply to the Shenzhen Intermediate Court on the establishment of the Shenzhen IP Court and Shenzhen Financial Court in the Qianhai Cooperation Zone (Ning, 2017). "This seems to be a rush," Li Mingde said, in response to the Supreme Court's move (Li, 2018, p. 18). In my opinion, this seems to be that the Supreme Court is "asking" or "bargaining" in the way of making "existing facts" before it reports to the Standing Committee of the National People's Congress, or even in a new and wrong way, covering up the fact that the Shenzhen Intermediate Court illegally keeps its jurisdiction on IP cases that should be under the jurisdiction of the Guangzhou IP Court.[②] Therefore, considering the establishment of the three IP courts in Beijing, Shanghai and Guangzhou, someone said that the overarching IP protection pattern of 15+3 has been formed with the establishment of the three IP courts, which is absolutely unreasonable. The establishment of the three IP courts does not

① The two replies of the Supreme Court in 2017 are: Official Reply of the Supreme People's Court on Approving the Setup of Special Trial Institutions in the Intermediate People's Courts of Nanjing City, Suzhou City, Wuhan City, and Chengdu City and the Cross-Regional Jurisdiction over Some Intellectual Property Cases (No.2 [2017]) issued on January 4, 2017, and Official Reply of the Supreme People's Court on Approving the Setup of Special Trial Institutions in the Intermediate People's Courts of Hangzhou City, Ningbo City, Hefei City, Fuzhou City, Jinan City, and Qingdao City and the Cross-Regional Jurisdiction over Some Intellectual Property Cases (No.236 [2017]) issued on August 1, 2017.

② I have written to point out the violation of the Shenzhen Intermediate Court mentioned above at the meeting organized by the Central Political and Legal Commission one year after the implement of the pilot project of the three IP courts in Beijing, Shanghai and Guangzhou.

mean that the overarching IP protection pattern has been formed. It contains local governments' "simple impulse to increase resource allocations" and their gaming, which has caused some system distortions and even behaviors to "muddle" the Standing Committee of the National People's Congress by playing tricks.

"Two-in-one" or "Three-in-one"

From foreign experience, few countries or regions bring IP criminal cases into the jurisdiction of specialized IP courts. The IP Court of Taiwan can handle civil, administrative and criminal cases at the same time, which is certainly a "great breakthrough of judicial reform" (Zhang, 2015, p. 84) and the first "three-in-one" system of specialized IP courts. This mode was noticed earlier in the Chinese mainland and started to be implemented in IP trial organizations as a pilot project. It was stated in the *Outline* in 2008, "Studies need to be carried out on establishing special tribunals to handle civil, administrative or criminal cases involving intellectual property."① And it is also provided in Article 48 of the *Division of Tasks*.② In fact, based on local conditions, some local courts have adopted the "three-in-one" trial organization mode of civil, administrative and criminal cases as a pilot project; and other places, such as Beijing, have adopted the "two-in-one" mode of civil and administrative cases. Some places, such as Beijing, have also adopted the "two-in-one" mode of civil and administrative affairs. After the *Outline* was published, it was provided in the *Opinions on Several Issues Regarding the Implementation of the National IP Strategy (No.16 [2009])* issued by the Supreme Court on March 30, 2009 that, "In accordance with the *Outline*, studies shall be carried out on the establishment of specialized IP courts which shall anticipate hearing all IP-related cases, civil, administrative, and criminal…In recent years, some local courts have carried out the pilot work of accepting civil, administrative and criminal IP cases by a single court, and their experience should be summarized carefully." The message from the policy document is that, when the "three-in-one" mode was provided in the *Outline*, such pilot work had already begun in the court system. By tracing back the system, in the second round of IP law revision in order to join the WTO, China cancelled the procedure in which the decision of the Reexamination and Invalidation Department of the Patent Office, Trademark Office of National Intellectual Property Administration is final, and required that administrative decisions should be subject to judicial review. Then, the Supreme Court issued the *Reply of the Supreme People's Court on the Division of Duties for Patent and Trademarks Related Cases after the Revision of the Patent Law and the Trademark Law (No.177 [2002] , on May 21, 2002)*, which is in response to the *Request for the Division of Duties for Patent and Trademarks Related Cases (No.317 [2001])* put forward by the Beijing High Court: "From 2002, any administrative invalidation case

① Item D, Part V of the Outline. See Office of Inter-ministerial Joint Conference on the Implementation of National Intellectual Property Strategy, 2011, p. 17.
② Item D, Part III of the Division of Tasks. See Office of Inter-ministerial Joint Conference on the Implementation of National Intellectual Property Strategy, 2011, p. 28.

that has relating civil lawsuits shall be heard by the IP court; if there is no relating civil lawsuit, it shall be heard by the administrative court." This regulation can be regarded as the origin for courts in the Chinese mainland to implement the "two-in-one" mode of civil and administrative cases. However, after this, whether there is a rule of "civil dispute first" has been a constant issue (Zhang & Han, 2008, pp. 3-4). In fact, in 1996, the People's Court of Pudong District of Shanghai took the lead in carrying out the pilot work that civil, criminal and administrative IP cases are all heard by the IP court. Since 2004, the pilot work of the "three-in-one" IP trial mode has been carried out from bottom to top in courts across the country, which has formed some unique modes, such as the "Pudong Mode", "Wuhan Mode", and "Jiangsu Mode" (Sun, 2010, p. 60).

It was put forward in the *Third Five–Year Reform Outline for the People's Courts (2009–2013)* by the Supreme Court that, "We should establish and improve trial systems and working mechanisms that are in line with the characteristics of IP cases, and try to set up comprehensive courts for handling IP cases in municipalities and large and medium-sized cities with many IP cases." Meanwhile, in the annual promotion plan issued to implement the *Outline*, there have been pilot projects involving the "three-in-one" trial mode for years.① In addition, the leaders of the Supreme Court have been highlighting the need to promote the "three-in-one" pilot, and thought that, from the practice of the recent 10 years or more, the pilot "not only eliminates the disadvantages of 'three-in-separate' but also has unexpected positive effects," and "it provides valuable experience for the reform of the IP trial system and working mechanisms and lays a good foundation for further reform in a larger scope and deeper level" (Luo, 2014). By the end of 2014, five high courts, 94 intermediate courts and 104 grassroots courts had carried out relevant pilots.②

However, from the *Decision* and the *Provisions*, the three IP courts obviously adopted the "two-in-one" mode. But meaningfully, not long after the three IP courts adopted the "two-in-one" mode, in March 2015, in the *Several Opinions on Deepening the Reform of Systems and Mechanisms to Accelerate the Implementation of Innovation–driven Development Strategies* ("the *Opinions on the Reform of System and Mechanism*"), the CPC Central Committee and the State Council put forward that, "We should improve the IP trial mechanism, and promote the "three-in-one" trial mode of civil, criminal and administrative IP cases."① The *Judicial Protection of Intellectual Property Rights by Courts in China (2014)*, released in April of the same year, proposed to "continue to expand the scope of the three-in-

① In item 63 of the *Promotion Plan of the Implementation of National IP Strategy* in 2009, it was provided that, "we shall actively encourage local courts to conduct pilots of establishing special IP courts that accept civil, administrative and criminal IP cases." In item 74 of the *Promotion Plan of the Implementation of National IP Strategy* in 2011, it was provided that, "we shall improve the trial system and working mechanism for IP rights, actively conduct pilots of having IP courts directly hear civil, administrative and criminal IP cases, and adjust the standards of the jurisdiction level of IP cases." In item 42 of the *Promotion Plan of the Implementation of National IP Strategy* in 2012, it was provided that, "we shall further advance the pilot work of having IP courts directly hear civil, administrative and criminal IP cases, and establish a coordination mechanism for civil, criminal and administrative trials involving IP rights." In item 23 of the *Promotion Plan of the Implementation of National IP Strategy* in 2013, it was provided that, "We shall appropriately increase the number of grassroots courts with jurisdiction over general IP cases, increase the number of designated intermediate people's courts with jurisdictions over patent disputes of first instance, deepen the pilot work of having IP courts directly hear civil, administrative and criminal IP cases, and improve the trial coordination mechanism; and we shall improve the organization of IP organs in grassroots courts, and implement the project of famous brand court."

② Judicial Protection of Intellectual Property Rights by Courts in China. (2015, April 21). People's Court Daily, p. 2. & Song Jian, 2015. Compared with the statistics at the end of 2013, two more high courts, 15 more intermediate courts and 33 more grassroots courts adopted the "three-in-one" mode in 2014 across the country. For data to the end of 2013, see Judicial Protection of Intellectual Property Rights by Courts in China (2013).

one reform pilot".

Considering all these circumstances, it seemed to create "chaos". First, the three pilot IP courts implemented the "two-in-one" mode. Second, the "two-in-one" or "three-in-one" reform pilots are being carried out in large and medium-sized cities. Third, the Supreme Court is carrying out the "three-in-one" reform in the current general court system and trying to expand the scope of the pilot. However, behind the "chaos", there is "one reality" and "one direction". The "reality" is that, across the country, it is still dominated by the "three-in-separate" of civil, administrative and criminal cases; but the "direction" is that the reform will transform the "three-in-separate" into "two-in-one" and will eventually adopt the "three-in-one" mode.

Based on the current status, it does not interfere with each other for the general court system to carry out a "three-in-one" trial mode and for the specialized IP courts to carry out the current "two-in-one" mode and to then carry out the "three-in-one" mode at the next step. Because the three IP courts have been set up for a only short time and the criminal justice and policies are integrated, consistent and coherent, it is understandable that the specialized IP courts will temporarily adopt the "two-in-one" mode within three years.

Anyway, the "two-in-one" or "three-in-one" pilot reform of the IP trial organization mode has, to some extent, solved the problems of the separation of internal institutions within the same court and the inconsistency of trial standards. However, due to the decentralization of judicial organs throughout the country, civil, administrative and criminal cases are still heard separately in most places, and regional judicial conflicts or local protectionism are still relatively serious. From the current status of the "three-in-one" pilot, at present, there are mainly the following problems:

The administrative and criminal IP cases involving intellectual are few and the practical experiences are few as well, which affects the judge's transformation of thoughts. Although the number of IP cases is increasing rapidly, it is still a small number compared with other traditional cases, and the administrative and criminal cases account for an even smaller proportion in all the IP cases. For example, in 2016, local courts across the country received 136,534 civil cases of first instance, 7,186 administrative cases of first instance and 8,352 criminal cases of first instance, but the ratio of administrative IP cases and criminal IP cases to civil IP cases are only 5.3% and 6.1%.② These numbers show that the proportion of criminal, civil and administrative IP cases is unbalanced. Although the "three-in-one" mode was piloted in some places, there were hardly any criminal or administrative IP cases for quite a long time (Shen, 2009, pp. 55-56). The purposes of civil, administrative and criminal IP lawsuits are different, and there are great differences in the burden of proof, standards of proof, requirements of evidence. To implement the "three-in-one" mode, judges

① Several Opinions of the CPC Central Committee and the State Council on Deepening the Reform of Systems and Mechanismsto Accelerate the Implementation of Innovation-driven Development Strategies. Retrieved September 14, 2018 from http://www.gov.cn/xinwen/2015-03/23/content_2837629.htm.

② The status of intellectual property judicial protection in China's courts. People's Court Daily, (2017, April 27), p. 2.

need to switch their mind frequently. Under the circumstance of lacking experience in administrative and criminal cases, the problem that needs to be paid attention to in the next step of implementing the "three-in-one" mode is how to maintain the different concepts and principles in civil, criminal and administrative judicial proceedings, and accurately grasp and distinguish the three.

The "three-in-one" pilot projects are not evenly distributed, and there are regional imbalances and phenomenon of "separate in the upper while unified in the lower". The "three-in-one" pilot reforms are now mainly implemented in regions with good economies and a large number of IP cases. The experience of these pilot reforms may be a false proposition for regions with less developed economies and fewer intellectual IP disputes. This unbalanced development in regions restricts the integrated promotion of the "three-in-one" mode from top to bottom across the country (Hu, 2010, p. 40). Meanwhile, before the pilot of the "three-in-one" mode, the criminal IP cases of first instance were heard by grass-roots courts, while the civil IP first instance cases were mostly heard by the intermediate courts, which resulted in inconsistent judgment standards. At present, most of the courts under the "three-in-one" mode are courts of first instance, while most of the appeals courts are under the old "three-in-separate" mode. That leads to a lack of connection and a good coordination mechanism between the upper courts and the lower courts, and as a result, the comprehensive efficiency of the "three-in-one" mode is not fully developed.

In criminal cases related to civil cases, there are many disputes regarding the trial modes and the links between procedures. There are different opinions on whether to choose "civil prevails criminal" or "criminal prevails civil" in IP cases related to both civil and criminal cases. Some think that, in private prosecution, it has little impact on the obligee whether to choose "civil prevails criminal" or "criminal prevails civil" while in public prosecution, choosing "criminal prevails civil" can reduce the litigation burden of the obligee. Others argue that "civil prevails criminal" does not have a legal basis and is against cracking down on crimes. And they suggest the public security organs and the procuratorial organs setting up a concept of determining the ownership first, and especially intervening in the issues about the material requirements and procedures of ownership determination at an early stage. However, Sun Hailong said that whether it is "civil prevails criminal" or "criminal prevails civil", ownership determination should be made first, and other problems such as whether it constitutes an infringement should be concerned later. Wu Handong believed that we can try the trial mode of "civil prevails criminal", in which we first conduct a comprehensive review of the case through the civil procedure, and clarify the infringement relationship in the case through the evidence provided by both parties; and according to the trial situation, if the infringement is serious, the obligee shall decide to initiate private prosecution, or the procuratorial organs shall initiate public prosecution (He & Wei, 2010, p. 97). Thus it is clear that the procedural connection problem in criminal cases related to civil cases also involves the administrative disputes of ownership determination. At the same time, there are big differences among the three trial modes, which are the mode of separating civil cases and criminal cases, the mode of criminal cases attached with civil suits and the mode of mixing civil cases and criminal cases (Jiang & Yu, 2008, pp. 64-65). Shen

Qiang prefers the separation mode, and he thinks that, although the "three-in-one" mode has created conditions for system connections and coordination, the trials of these three types of cases have their own characteristics in litigation procedures and the use of evidence. For example, although it does not constitute a crime, it may still constitute an infringement or an administrative violation. In addition, considering the limitation of the application scope of the mode of criminal cases attached with civil suits, there is no need to use the word "attached" in the "three-in-one" mode (Shen, 2010, p. 84). And there are disputes on whether the loss caused by intellectual property infringement is "the material loss caused by criminals' destruction of property". Some people are still confused about whether the victim can file an incidental civil suit in a criminal case, and even think that the incidental civil suit is against cracking down on IP crimes quickly and effectively.

On the whole, the pilot reform of the IP trial mechanism within the court has accumulated experience for the establishment of the three IP courts to implement the "two-in-one" mode of civil and administrative cases, and also provides the basis for empirical research and system improvement to implement the "three-in-one" trial organization mode in IP courts.

"Physical Trial" or "Chemical Trial"—On Cases of Patent Ownership Determination

It is provided in Article 45 of China's *Patent Law* that, Where, as of the announcement of the granting of the patent by the patent administrative department of the State Council, any entity or individual considers that the granting of the said patent does not conform to the relevant provisions of this Law, it or he may request the Reexamination and Invalidation Department of the Patent Office to invalidate the patent right. And in Article 46 of the law, it is provided that, Where any party is dissatisfied with the decision of the Reexamination and Invalidation Department of the Patent Office on declaring a patent invalid or maintaining a patent, such party may, within three months as of receipt of the notification, bring a lawsuit to the people's court. This is the result of the second amendment of the *Patent Law*: the administrative decisions of patent authorization and ownership are included in judicial review, and the administrative decision is not the final decision. This amendment is not only a timely work for China's accession to the WTO, but also a complete establishment of the main channel of IP judicial protection in the Chinese mainland.[①] Thus, there are two procedures for determining patent ownership disputes between patentees and the public (including alleged

① In the Patent Law enacted in 1984, in view of the strong technical feature of patent cases and the weak judicial power of the court, it was only provided that, a lawsuit may be filed with the court if the invalidation decision of the invention patent is not satisfied; but for utility model and design patents, the decision of the Reexamination and Invalidation Department of the Patent Office is the final. However, according to paragraph 4, Article 41 of TRIPs, Parties to a proceeding shall have an opportunity for review by a judicial authority of final administrative decisions. To join the WTO, the Patent Law was amended in 2000 as following, invalidation decisions for all types of patent rights, including utility models and designs, shall be included in the scope of judicial review; and where the parties are not satisfied with the invalidation award, they may initiate administrative proceedings for patent invalidation. At the same time, in accordance with the provisions of the administrative procedure law, the Reexamination and Invalidation Department of the Patent Office shall participate in the proceedings as the defendant and the opposite party as the third party. In this way, according to the jurisdiction principle of the domicile of the defendant, the first instance of administrative cases of patent invalidation shall be under the jurisdiction of the First Intermediate People's Court of Beijing; and where the parties refuse to accept the first-instance judgment, they may appeal to the Beijing High Court. After the establishment of the Beijing IP Court, the administrative suits of patent invalidation was transferred to its exclusive jurisdiction.

infringers in infringement disputes), which are the invalid declaration of the Reexamination and Invalidation Department of the Patent Office and the following administrative litigation. Once the patent infringement suit is initiated, the accused infringer will often start the procedure of invalid declaration, and the subsequent first instance and second instance procedures of administrative litigation will be activated by the two parties. In many cases, only when the administrative suit is over, can it turn to the original patent infringement civil suit. This step leads to civil infringement suits and administrative ownership determination suits from patent infringement and ownership determination.

Furthermore, in this step, it may go back and forth between the decision of the Reexamination and Invalidation Department of the Patent Office and the judgment of the court. Because according to the traditional judicial concept of the continental law system, the authorization and ownership determination of patent (validity, revocation, invalid declaration, etc.) are under the authority of the administrative power, the court cannot make a judgment on the validity of the patent, and the substantial judgment should be made by the Reexamination and Invalidation Department of the Patent Office. According to Dr. Zhang Zhicheng, this is a conflict between the judicial endgame and authority system, which highlights "the structural obstacle in the approach of IP litigation" (Zhang, 2010, p. 159). Therefore, although the court can make a judgment to uphold the administrative decision of patent invalidation, if the judgment cancels or partially cancels the administrative decision of invalidation, it is often necessary to order the Reexamination and Invalidation Department of the Patent Office to make a new administrative decision of invalidation in the judgment, otherwise it is easy to be accused of "overreaching". As a result, between administrative decisions and the court's judgments and between civil infringement suits and administrative ownership determination suits, there are problems of repeated or circular lawsuits, long trial period and high cost of rights protection for the obligee, which also leads to a huge waste of administrative and judicial resources (Chen, 2014).

According to Huang Mingjie, the traditional continental law system is limited to litigation design of the administrative sanction, and it regards the dispute over the validity of the rights, which is supposed to be of private right, as the confrontation between one party and the administrative organ, which affects the structure of the two parties that are essentially the confrontation between the applicant (complainant) and the patent holder, and also affects the court's substantive ruling on the validity of the rights (such as declaring the patent invalid) (Huang, 2004). In adjudication laws, this is called litigation theory controversy on whether to choose a "physical trial" or a "chemical trial". Unfortunately, after the establishment of the IP Court of Taiwan , it did not conduct the "chemical trial" as some scholars suggested,[①] and the drawbacks

① During the construction of IP Court of Taiwan, some people took the "land adjacent suit" as an example to illustrate that the same principle should apply to the case of patent authorization: "Although the grant of the patent right is an administrative sanction of the Intellectual Property Office of the Ministry of Economic Affairs, if the court considers that the patent is invalid in the civil procedure (for example, it does not have patentability), the court should make a civil judgment to revoke the patent of the original patentee and declare the plaintiff losing the lawsuit at the same time." See Chen Yufeng, 2007, p. 59.

are still in the current situation and are still under review.[①]

Here, let's take a brief look at the US, Japan and Germany to see how they have solved this problem in their systems.

For a long time, in the patent infringement cases of the United States district courts, courts can hear the patent invalidation defense along with the infringement, which is a typical "chemical trial". In 1982, the Court of Appeals for the Federal Circuit ("CAFC") was established, since then, appeals against the administrative review decision of the United States Patent and Trademark Office and appeals against the judgments of the United States district courts should be filed in this court, which forms the CAFC's "monopoly" on patent appeals. This specialized and monopolistic patent judicial system, which directly links the administrative organs that are responsible for patent authorization and ownership determinations, the judiciary and the administrative organs that are responsible for law enforcement, greatly eliminates the disunity of the interpretation of patent law and the application of patent theory, makes the interpretation and application of relevant laws certain and standardized, and maintains the uniformity, stability and efficient operation of the patent system. That is why some scholars call it "the most significant system innovation in the IP field over the past quarter of a century" (Cai, 2015). And because of the higher costs and longer period of judicial operations in the US, the patent post review system, which is the patent ownership determination system in other words, had a major reform in 2010 through *America Invents Act* ("*AIA*"), and Post Grant Review ("PGR"), a new patent post review system, which provides that the public can file a patent review request to the United States Patent and Trademark Office within nine months after the patent is granted, and Inter Parties Review ("IPR"), which provides that the public can file a patent review request to the United States Patent and Trademark Office nine months after the patent is granted (but within 1 year after receiving the patent infringement indictment), have been established.[②] Compared with judicial procedures, IPR and PGR procedures are faster, more professional, and less costly. Therefore, IPR and PGR procedures have been favored by the industry since *AIA* was performed. The number of IPR and PGR requests has been growing rapidly and now reaches about 2,000 per year. It is thus clear that the "chemical trial" is the foundation in American courts, and new laws have been adopted to further simplify the review process, remove system barriers and encourage innovation.

Since 2003, Japan has reformed its mechanism of resolving IP disputes including patent disputes.

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① I have visited China's Taiwan region and communicated with several judges of the IP court many times, and they all said that the practice of "chemical trial" in Taiwan is not thorough, which needs to be reviewed and revised. In particular, I was invited by Liu Shangzhi and director Wang MinChuan to the School of Law of Chiao Tung University of Taiwan to give lectures in 2010. Since half of the judges in IP Court of Taiwan graduated from the School of Law of Chiao Tung University of Taiwan, I had an opportunity to meet and exchange views with judges Lai Yingzhao (then President of the Judicial Yuan), Li Dezao, Cai Huiru, Chen Guocheng, etc. During this time, I learned a lot about the operation of the IP Court of Taiwan. I would like to express my thanks to them all.

② IPR is a new mechanism introduced by *AIA* to determine patent validity, which is equivalent to a patent validity mini-suit chaired by the United States Patent and Trademark Office. The "concise but not simple" mini-suit began on September 16, 2012. Since its implementation to the beginning of March 2014, 924 retrial cases have been proposed, which is much more popular than people can imagine. IPR has a direct and profound impact on the patent litigation of the US According to Lex Machina, an authoritative patent litigation statistics corporation, in January 2014, only 322 patent suits were filed in the U.S. district courts, decreasing by 34.3% from 490 in the same period last year to the level of October 2011 when *AIA* came into effect. Therefore, many industry experts think congress should give the new IPR a little more time to fully demonstrate its impact on the US patent system. See Long Xiang, Do not Underestimate the Power of Inter Parties Review, China Intellectual Property News, April16, 2014.

Drawing on the experience of CAFC in coordinating the mechanism of resolving patent ownership determination disputes and the mechanism of resolving infringement disputes, the IP High Court was established in 2005 as a special branch of the Tokyo High Court. The patent ownership determination cases in Japan are first heard by the trial and appeals department of the Japan Patent Office ("JPO"). Appeals against the decisions of the JPO can be filed to the IP High Court. Those who refuse to accept the decision of the appeal may also appeal to the Supreme Court of Japan. According to Japan's system design of "the third instance as the final", decisions made by the trial and appeals department of the JPO are given quasi-judicial effect of "first instance", while in the traditional court system, the IP high court and the Supreme Court of Japan compose the system of "the second instance as the final". Patent infringement cases adopt the traditional system of "the third instance as the final", like common civil litigation cases. However, they are in the jurisdiction of different courts depending on the type of patent: for inventions, utility models, integrated circuit layout designs and other technical cases, the first instance is in the jurisdiction of the Tokyo and Osaka district courts, the second instance (complaint) is in the jurisdiction of the IP High Court, and the third instance (appeal) is in the jurisdiction of the Supreme Court. It is obvious that through the IP High Court, Japan has unified the jurisdiction of the patent ownership determination appeals and the infringement appeals.

However, regarding the problem of adopting "physical review" or "chemical review", Japan is limited by the traditional jurisprudence of the continental law system and has only made some incomplete reforms. It is provided in Article 104-3 (1) of Japan's *Patent Act* that, where, in litigation concerning the infringement of a patent right or an exclusive license, the said patent is recognized as one that should be invalidated by a trial for patent invalidation, the rights of the patentee or exclusive licensee may not be exercised against the adverse party. And it is provided in Article 104-3 (2) that, where the court considers that the materials used for an allegation or defense under the preceding paragraph are submitted for the purpose of unreasonably delaying the proceedings, the court may, upon a motion or ex officio, render a ruling to the effect that the allegation or the defense is to be dismissed.[①] This provision is just a helpless action taken by the court in the dispute of patent infringement and ownership determination. In fact, without the substantive trial on whether the right is valid, how can the judge determine that the accused infringer's request for declaring invalidation is "for the purpose of unduly delaying the trial?" But after the establishment of Japan's IP High Court, the judge has been given the jurisdiction on the validity of rights in each individual case. However, the court's judgment on the validity of patents is based on the individual case, which is only valid for the parties in the lawsuit, and the patent invalidity is only explained in the judgment reason, not reflected in the main text of the judgment. If a patent is to be declared invalid, to make the declaration enforceable, it must still be filed in the JPO for adjudication. This practice has been adopted by "the adjudication laws of the IP Court of Taiwan", but there are still ambiguities between practice and

① Du Ying. (Trans.). & Yi Jiming. (Proof.), 2009, p. 37. & The Translation Team of Patent Acts of Twelve Countries of Intellectual Property Academy of Renmin University of China. (Trans.), 2013, p. 262.

theory. For example, if the patent ownership is judged to be valid in a civil suit and the defendant is liable for damages, but the patent is invalidated in an administrative decision, can it be the basis for a civil retrial?

Germany adopts a typical mode of separation of powers in procedures of patent ownership determination and infringement and has made a complete judicial reform of the patent review procedure in the Patent Office (renamed Patent and Trademark Office in 1998). The reform of the patent review procedure is the system transformation that must be carried out because of the harsh criticism that administrative decisions must be subject to judicial review. In a judgment on June 13, 1959, the Federal Administrative Court of Germany pointed out that, the Patent Office was an administrative organ, not a court in the legal sense, and it does not conform to the principle of guarantee for legal relief in paragraph 4, Article 19 of the *Basic Law for the Federal Republic of Germany* to regard its decision as the irrevocable final judgment; and the administrative decision of the Patent Office must be subject to judicial review of the Federal Administrative Court (BVerwGE 8, 350). However, since the third instance is the final in the administrative litigation, if there is a suit after the administrative adjudication of the Patent Office, it will certainly lead to a long period of trial. Therefore, Germany enacted the *Sixth Act to Amend and Transfer Rules in Intellectual Property* in March 1961 and it took effect in July (BGBI. I 1961 S. 274.), which was completely independent of the German Patent Office's commission of protest and invalidation, and set up the Federal Patent Court on this basis, replacing the patent ownership determination function of the former commission of protest and invalidation of the German Patent Office. Since then, patent ownership determination cases are all first heard by this court, and other courts that hear patent infringement cannot determine the validity of the patent. In this way, the patent right is regarded as a private right, which confirms the status of the two parties in litigation. As for the prosecutions against the European Patent Office or the German Patent and Trademark Office, or the invalid actions against the German patent or the German part of the European patent, the Federal Supreme Court is responsible for the second instance. The Federal Patent Court of Germany hears patent ownership determination cases jointly by technical judges and ordinary judges, which help to solve the technical and legal problems of patent invalidation cases and makes it more convenient and capable to conduct a "chemical trial". Patent invalidation cases are under the system of "the third instance as the final". The district court of each state with a patent division shall be responsible for the first instance; those that refuse to accept the judgment of first instance may appeal to the district court of appeals, and the appellate judgment of a patent infringement case can still be appealed to the German Supreme Court. Thus, in Germany, the Federal Patent Court adopted a thorough and "necessary" "chemical trial". And appeals to the Federal Patent Court, appeals from other courts, and disputes of infringement and ownership determination are all heard by the Federal Supreme Court, which reaches the unification of the jurisdiction on the final instance.

In my proposition of establishing an overarching IP judicial system, Within the Reexamination and Invalidation Department of the Patent Office, a judicial reform should be made to establish a

quasi-judicial system similar to that of the United States Patent and Trademark Office. In addintion, we should highlight the "chemical trial", in which the patent validity is directly tried and judged by the court. Indeed, civil judges generally lack the background of science and engineering in the corresponding field. If they directly make judgments on the validity of patents, it is easy to increase the misjudgment rate. For example, in 2007, among administrative cases of invalidity heard in civil procedures, the rate of cases where the Reexamination and Invalidation Department of the Patent Office lost the first instance reached 21%, which illustrates the problem from one side.① However, with the judicial reform of the Reexamination and Invalidation Department of the Patent Office, the following court judgment has the pre-foundation to combine the "fact examination" with "law examination". And supplemented by the system of technical appraisal, expert consultation, expert witness and so on, the accuracy and fairness of the judgment can be ensured to the maximum extent.

Objectively, the patent invalidity procedure is a mixture of civil and administrative procedures, and the subsequent judicial review procedure cannot be completely restricted to mechanically copying administrative or civil procedures. Through the three procedures of examination such as the administrative authorization adjudication by the Patent Office, quasi-judicial adjudication of ownership determination and judicial litigation, the fairness of the patent system can be guaranteed. The prominent characteristics of the knowledge society are rapid change of technology and information and rapid accumulation and diffusion of innovative resources, thus, the patent system should keep pace with the times. So we cannot continue with the traditional legal theories and national characteristics, continue the back and forth through the separation of powers in disputes of ownership determinations and infringements, or endlessly discuss whether to adopt the so-called judicial and administrative "dual-track" protections. Instead we need to find the crux of the problem, resolve the problem according to the characteristics of IP disputes and make fundamental changes complying with the international trends of judicial protections. From this point of view, in the choice of "physical trial" or "chemical trial", "chemical trial" is the only choice in line with the era of innovation.

Consultation Experts, Technical Investigators and Technical Judges

The three pilot IP courts have all set up "technical investigation offices", among which the Guangzhou IP Court was the first. In the *Provisions of the Guangzhou IP Court on Main Duties, Internal Organizations and Personnel Posts issued by the Office of Government Set–up Committee of Guangdong Province*, the "technical investigation office" is set up as a division-level office, and its duty is to "investigate the technical facts involved in the case, collect and analyze technical data, and provide technical opinions". The Guangzhou IP Court has also formulated corresponding measures for the appointment of technical investigators and rules for litigation participation. In Article 12 of its

① Intellectual Property Court of the First Intermediate Court in Beijing, 2008, p. 260.

Provisional Measures for the Appointment and Administration of Technical Investigators, provisions are made on the allocation, duties, grades, conditions and methods of appointments, practice assessments, appointments, dismissal rules of technical investigators, etc. And in Article 14, provisions are made on the duties of technical investigators, types of cases they participate in, personnel assignments, notifications, withdrawals, participation in litigation activities, giving opinions on technical reviews, items listed in the judgment, etc.

On September 9, 2015, the Supreme Court held a press conference on the establishment and operation of specialized IP courts. At that time, the Beijing IP Court and the Shanghai IP Court had not set up a technical investigation office, but the Supreme Court indicated that it had been designed in the organization of these two courts (Wang, 2015). In fact, in the *Interim Provisions on Several Issues concerning the Participation of the Technical Investigators of Intellectual Property Courts in Legal Proceedings* issued by the Supreme Court on December 31, 2014, provisions had been made on the scope of the involvement of technical investigators in cases, job duties of technical investigators, the role of technical review opinions, etc. Meanwhile, the Supreme Court had for the first time appointed a technical investigator in the patent infringement appeal of "*Lilai Company v. Changzhou Huasheng Pharma Co., Ltd*." This technical investigator is named "Ge Yongqi", siting with the court clerk.① Thus, establishing posts of technical investigators in the IP courts has become a mainstream mode, which was promoted by the Supreme Court and the specialized IP courts. Soon, the Beijing IP Court and the Shanghai IP Court set up technical investigation offices in succession, appointed technical investigators, and issued relevant rules for technical investigators to participate in litigation.② Indeed, the courts have been troubled by technical problems in IP cases. It is true that the judicial authentication system itself can partially solve the problem of technical authentication in IP cases, and this judicial assistance system is also one of the contents highlighted in the *Outline of the Judicial Protection of Intellectual Property in China (2016–2020)*.③ Actually, during the formulation of the *Patent Law* of China in 1984, it was noticed that the administrative decisions of the Reexamination and Invalidation Department of the Patent Office should be subject to judicial review. At that time, the drafting team went to Germany to investigate its Federal Patent Court, hoping that China's courts could bring administrative decisions on invention patents into the scope of judicial review. But as China's IP courts were in the early stage of preparation, China's court leaders were unsure of the technical issues involved, which led to the rule regarding the administrative decisions of

① The Supreme Court brought in the technical investigators. Retrieved September 14, 2018 from http://www.chinatrial.net.cn/news/5902.html.

② Technical investigation office of Beijing IP Court was established today (attached with the list of the first group of technical investigators). Retrieved September 14, 2018 from http://chinaiprlaw.cn/index.php?id=2851. Shanghai IP Court employed 11 technical investigators that focus on technical disputes. Retrieved September 14, 2018 from http://news.sohu.com/20160317/n440697623.shtml.

③ In item 6, V. Key measures of the *Outline of the Judicial Protection of Intellectual Property in China (2016–2020)*, the Supreme Court provides that, "We should specify the methods in which technical investigators, technical consulting experts, technical appraisers and other judicial auxiliaries participate in technical fact investigation, fully pool technical investigation forces and resources, establish an organic and coordinated technical fact investigation and ascertainment system." See the *Outline of the Judicial Protection of Intellectual Property in China (2016–2020)*, retrieved September 14, 2018 from http://www.sohu.com/a/168415453_523492.

the Reexamination and Invalidation Department of the Patent Office as being final, and this rule was revised in 2000 before China's accession to the WTO. At the beginning of the establishment of China's patent system, the leaders of the Supreme Court believed that the traditional judicial authentication system was not enough to solve the numerous technical problems in patent cases, so the courts were not willing to take this "technical work". Then, in the process of generally accepting judicial review, how can ordinary judges (not technical judges) without a relevant technical background handle the technical problems in IP cases with professional features? How should the court improve the design of personnel allocations and judicial procedures? Different countries or regions have adopted different solutions due to their different histories, system restrictions and judicial concepts. Generally, in addition to judicial authentication, there are four main ways as follow.

The first, the mode of technical judge, in which special technical judges are directly selected to participate in the hearing of cases with professional features. Germany follows this mode. According to the *Patents Act* of German, the Federal Patent Court consists of a president, a chief judge and other judges, including ordinary law judges and technical judges with professional technical backgrounds. Legal judges (or "ordinary judges") must have the qualifications stipulated in the *German Judiciary Act*, and technical judges must be experts (technical members) in the technical sector and also have the qualifications of judges.① Generally, technical judges have passed the national or university graduation examination for a technical or science major in domestic universities and colleges of technology, agriculture or mining, and then have engaged in professional activities in science or technology for at least five years. Because of the high requirements for both technical and legal knowledge, technical judges are usually selected from the senior technical investigators of the German Patent and Trademark Office. Technical judges have the same rights and obligations as legal judges.②

The second, the mode of technical investigator, in which there are full-time technical investigators in the court to participate in the proceedings and assist the judges to hear the cases with professional features. Japan, South Korea and China's Taiwan region adopt this model. In 2003, Japan revised the *Code of Civil Procedures*, setting up a new special committee to overcome problems such as difficulties in selecting experts and rigid forms of opinion statements. The tenure of office of the special committee is 2 years, which is concurrently held by university professors or researchers with profound professional knowledge.③ According to Article 92 (2) of the code, special committees are appointed by the Supreme Court. The court may invite special committee members to participate in the proceedings in the process of collating, investigating and identifying the relevant dispute focus

① Paragraph 2, Article 65 & Paragraph 2, Article 26 of the *Patent Act* of German.

② It should be pointed out that the technical judge system is only set up in the Federal Patent Court. The court of the last instance of IP invalidity cases, the Federal Court of Justice, has no technical judge, and IP invalidity cases are all heard by legal judges. Ordinary courts usually entrust appraisers to deal with technical problems in patent cases, which generally cost 20,000-30,000 euros, and the hearing may take 3-6 years, while in the patent court, it may only take one or one and a half for a IP invalidity case. See Guo Shoukang & Li Jian, 2008, p. 60.

③ At present, there are about 200 special committee members of Japan IP High Court, among which university professors account for 63.5%, researchers in public institutions account for 12.5%, researchers in private enterprises account for 7. 5%, and lawyers account for 5%. See Yi Tao, 2015, p. 114.

and evidence. After the chief judge has sought the consent of the parties, the special committee members may question the witnesses, the parties and the expert witnesses. Meanwhile, the parties may also question the special committee members. In addition, in IP litigation, in order to more accurately understand technology-related disputes, the special committee members must participate in technical briefings in the debate preparation process (Yi, 2015, p. 115). However, it is necessary to seek the opinions of both parties before hiring a special committee member. If the parties do not agree to the appointment but the trial really needs it, the procedure of court investigator will be initiated (Zhang, 2012, p. 124). The "court investigator" in the Japan IP High Court is a person who conducts technical investigations on the cases relating to invention patents and utility model patents, which is the so-called "technical investigator". Japan's *Code of Civil Procedures (revised)* has expanded the powers of the court investigator. According to Article 92 (8) of the code, in an IP lawsuit, the investigator may participate in the proceedings and question the parties and may present opinions for reference to the judge. Therefore, the system of technical investigator is a new system that exists in parallel with the system of a special committee on the basis of the special committee. Special committee members are different from investigators, as the former are part-time while the latter are full-time, but they all use their professional knowledge to participate in court proceedings. A technical investigator is a person with knowledge of technology and patent law who participates in the trial in principle. A special committee member is a person who has knowledge of science and technology. And when a new technical investigator has difficulty in understanding various new technologies in the most advanced field of science and technology, special committee members may participate in the proceedings as needed.① The system of technical investigator complies with the characteristics of IP trials and has been "highly appraised" in practice (Zhang, 2012, p. 128), which has also become an important reference for South Korea and China's Taiwan region. For example, in China's Taiwan region, according to Article 15 of the *Intellectual Property Court Organization Act*, a technical investigation office is set up with technical investigators, and its duties are defined. And the *Intellectual Property Case Adjudication Act* further clarifies the rules for its duties and participation in litigation. The technical investigator is not a surveyor in the procedure law, but only an assistant to the judge, providing technical professional opinions for the judge's reference. The report of the technical investigator will not be made public.

The third, the mode of consultant expert, in which the court employs part-time consultants to provide advice to judges in specific fields or in specific cases. This is a system that is often adopted in traditional litigation activities. The above-mentioned system of special committees in Japan's civil litigation, the expert participation system of Russian IP courts and China's expert consultation system

① 司法制度改革推進本部知的財産訴訟検討会第13回（2003. 11. 10）配布資料(1): "知的財産訴訟における専門的知見の導入について（15.11.10）"[The 13th Intellectual Property Litigation Review Meeting of the Head of The Judicial System Reform Promotion Division (2003. 11. 10) Handout (1): Introduction of Expertise in Intellectual Property Litigation (15.11.10)]Retrieved September 14, 2018 from http://www.kantei.go.jp/jp/singi/sihou/kentoukai/titeki/dai13/13siryou1.pdf.

are typical examples. The special committee members of the Intellectual Property High Court of Japan are mostly university professors and researchers engaged in the most advanced scientific and technological research in various professional and technical fields, including electrics, mechanics, chemistry, intelligence and communication, biology, etc. In Russia, "IP courts do not have technical judges but introduce another participant into the proceedings, the expert necessary to the hearing of the case. The court seeks independent assistance from persons with expertise in a particular field, and the expert has the right to inquire of the court about the case. The expert's participation is completely through forms of oral Q & A and consultation. The consultant experts only uses their expertise to provide advice on the professional issues involved in the trial and they are not members of the collegial bench" (Shi, 2015, p. 137). In the mode of consultant expert, Russia is special in that, according to the *Order of the President of the Intellectual Property Court (No. CII–18/7)* in 2013, it has established a scientific advisory committee to interpret, consult and provide professional opinions on theoretical and practical issues including but not limited to science and technology (Shi, 2015, pp. 137-139). And the expert consultation system implemented by the Chinese mainland's courts in the hearing of IP cases has been praised as that, "It has both the function of providing expertise and assisting the trial, while clearing the doubt of interfering with independent trials" (Chen & Huang, 2003, p. 122). At present, there are 64 consultant experts in the IP Court of Taiwan, and there are also 100 consultant experts in the internal website of the "Judicial Yuan" in China's Taiwan region.

The fourth, the mode of litigant, in which technical issues, as the factual issues of a case, shall be solved by the parties themselves. The US follows this mode. In practice, the parties or "interested persons" in the case can help the judge to recognize the technical issues in the case through methods such as expert witnesses and "amicus curiae". For technical problems in IP cases, both parties often seek expert witnesses to provide expert testimony and accept questioning. The "amicus curiae" system originated from ancient Roman law and was later adopted by the UK and the US, which has become an important part of the American court system. Through this system, in the process of hearing a case, a third party provides the court with the relevant facts or opinions on the application of law in order to influence the court's judgment (Zhang, 2004, p. 173). The third party, the so-called "amicus curiae", mainly includes two categories: one is the federal or state government and the other is private, social organizations or interest groups. There are two ways for them to intervene in the litigation: one is to submit a letter stating their claims, facts and reasons, and the other is to directly participate in court debate and cross-examination (Zhang, 2004, p. 175). Although "amici curiae" are not traditional litigants, their appearance requires the permission of the tribunal, the appointment of the court and the consent of both parties. Even if the parties do not agree, "amici curiae may be allowed to appear in court as long as they can prove that they have special interests in the case, or if the court senses that an existing lawyer needs help" (Xiao & Li, 2011, p. 123). Thus, although some amici curiae involved in the case, such as federal or state governments, public interest groups and experts, say they do so for the common good, with its own values and "interests" (including those potential interests that do not have a direct interest in the judgment of the case but may be influenced

by fact finding and its process in the future) in a broad sense, we still classify them as a mode of litigant. Judges may decide whether to invoke amici curiae in their judgments, depending on the circumstances of the case.

Frankly speaking, the "litigant model" is a typical adversary system theory, while the "mode of technical investigator" and the "mode of consultant expert" are based on the judicial cognition of an authority system where the courts take the initiative to design relevant systems to eliminate and deal with technical issues in IP cases. However, according to the traditional litigation concept, the technical issues in the case are part of the facts of the case. IP infringement litigation should adopt the adversary system and leave the issues of technical fact to the parties. If the court takes the initiative to intervene in the investigation according to its authority system. In other words the court helps the parties who have not provided evidence and factual claims to judge the facts, and thus forms the basis of the court's judgment. This practice violates the traditional litigation principle of "the one who advocates should adduce evidence" and the derived principle of "those who neglect to adduce evidence should bear the risk of losing." At the beginning of the preparation of establishing specialized IP courts, if China directly learns from the "technical judge mode" of Germany to reform the Reexamination and Invalidation Department of the Patent Office, Trademark Office of National Intellectual Property Administration and The Ministry of agriculture new plant variety Review Committee, and forms a collegial bench mode of technical judge and ordinary judge, it will be a better system design. Especially after nearly 20 years of the implementation of the Juris Master education under a multidisciplinary background, the Chinese mainland has a large number of judges with technical background and other legal talents with judicial qualifications (such as examiners, patent agents, lawyers, etc.), from which it is enough to select a group of excellent technical judges. In this respect, China has certain advantages over Japan.① However, the reform is systematic and path dependent. In the future reform and optimization of the IP trial mechanism, the expert consultation mode will continue to exist as a normal judicial mode, while the technical investigator mode will gradually become the dominant mode. At the same time, referring to the system of people's jurors that has been established in China, the IP court can completely reform this system and set up supporting systems in terms of selection conditions, standards, treatment and code of conduct to form an IP juror trial system based on expert jurors. From this point of view, the Germany mode of technical judge has a broader social basis and larger implementation space in China.② Therefore, the current practice of

① In the discussion of whether to establish a IP high court in Japan, there was also a view that Japan should follow Germany's lead and introduce technical judges. However, at that time, IP judges in Japan were basically those without a science and engineering background, and their attitude towards the training of pure IP judges was rather negative. Moreover, as there is a particularly important rotation system in the Japanese judge training model, in which judges are transferred between the courts in various major cities every three years or so, it is unlikely that a judge can work in the IP department of the court for a long time. In fact, in the field of the legal professional education under a multidisciplinary background, especially the education of Juris Master, China followed the US earlier before our neighbor in the south followed the step. In 1995, the Academic Degree Committee of the State Council of China established a Juris Master education program, and Japan and South Korea successively followed this step in 2004 and 2009. See Yi Tao, 2015, p. 133. & Yi Jiming, 2011, pp. 37-41.

② Scholars in China's Taiwan region believe that the Chinese mainland's jurors have the same status as judges in the court, "Therefore, in the process of selecting jurors, if taking use of the jurors' profession according to the type of case, an integrating function of German technical judges and the technical investigators of Taiwan can be developed, which can play a role in the court." See Zhu Jiahui, Huang Zimin, Wu Yazhen & Chen Zhicheng, 2008, p. 201.

our courts, in which people's jurors or expert assistants with technical backgrounds are introduced in the proceedings to find out technical facts by means such as expert consultation and judicial expertise, has its own characteristics and significance, although it has its own limitations (Wu, 2015, p. 11). These traditional practices, when used and modified properly, can form a system that helps to identify technical facts. Do not deny the rest for the sake of one thing, otherwise the gains may not be worth the losses in the end.

However, as a proposal of an overarching IP judicial system, I do not reject but even advocate that IP courts should set up technical investigation offices and appoint technical investigators. Moreover, China, as a civil law country, has the system foundation and profound social background for adopting an authority doctrine litigation mode and taking an active attitude when encountering technical problems. In addition, the system of technical investigator does not interfere with the parties providing expert testimony and expert opinions. Early in 2008, it was provided in the *Outline* that, in view of the features of IP cases, "Rules of proceedings governing judicial identification, expert witnesses, and technical investigations, etc., shall be put in place or improved."① I have to highlight that "expert witness" has been written in the cited sentence of the *Outline*. The Beijing IP Court will introduce the system of "amicus curiae" and establish an expert consultation committee for IP trials in next step. However, in system innovation, we need to study deeply to build up the corresponding theoretical foundation and should summarize the experiences in the pilot and draw lessons from the practices of Japan, South Korea, China's Taiwan region to highlight China's IP system reforms (Qiang, 2014, p. 86). For example, the IP Court of Taiwan adopted the technical investigator system, but the system design is deficient. Its technical investigator does not accept inquiries from the parties, its written report is not open to the public, and it is not reflected in the judgment whether the judge accepts the opinion of the investigator, but only internalized into the process of the judge's discretional evaluation of evidence (Fu & Zhang, 2009, p. 64). This approach does help to prevent the transfer of judicial power and ensure the independence of the judge's judicial authority, but neither party can know what the investigator has whispered to the judge and whether the judge has been influenced, therefore it is criticized by both parties.②

① Item D, Part V of the *Outline*. & Item D, Part III of the *Division of Tasks*. See Office of Inter-ministerial Joint Conference on the Implementation of National Intellectual Property Strategy, 2011, p. 17 & p. 28.

② In the face of such criticism, judicial and legislative improvements have been made in China's Taiwan region. It was required in the civil judgment of the Supreme Court of Taiwan (Tai Shang Zi No.1804) in 2012 that, according to Article 8 of *Intellectual Property Case Adjudication Act*, the judge should appropriately provide the relevant professional knowledge to the parties so that the parties can have the opportunity to debate; or the judge should provide his legal opinions and disclose conviction in an appropriate and timely manner. In 2011, Article 8 of *Intellectual Property Case Adjudication Act* was amended as a provision of "Providing the parties with proper special professional knowledge before the trial." In paragraph 1 of this article, it is provided that, "Before any special professional knowledge already known to the court is adopted as a grounds for judgment, parties shall be accorded an opportunity to present their arguments regarding such knowledge." And in paragraph 2 of this article, it is provided that, "The Presiding Judge or Commissioned Judge shall direct the parties to issues concerning the legal relations of the disputed matters, and shall, whenever appropriate, provide his legal opinions and disclose convictions." Such improvement and amendment of law, which is required in practice, shows that the system of technical investigator still has many deficiencies to be improved.

Conclusion

To promote the establishment of an overarching IP judicial system, China should rely on the ongoing construction of specialized IP courts. In the establishment of specialized IP courts, I propose the following. First, IP courts are supposed to accept both first instance cases and appeal cases. Meanwhile, the judicial reform of the Reexamination and Invalidation Department of the Patent Office, Trademark Office of National Intellectual Property Administration and The Ministry of agriculture new plant variety Review Committee should be conducted, their administrative decisions should be regarded as judgments of first instance and appeals against their decisions can be filed with the Beijing IP Court. Second, the construction of the specialized IP courts should begin with and base on establishing central IP courts, as there is no need to establish IP courts everywhere, and at the same time, a state-level specialized IP court should be set up to unify the judicial standards of IP trials. Third, China should bring criminal IP cases into the jurisdictions of the specialized IP courts and conduct the "three-in-one" trial mode in specialized IP courts. Fourth, for issues of the validity of patents, trademarks and new varieties of plants, the court should directly conduct a "chemical trial", not limited to a "physical trial", which is conducive to the one-off solution of disputes. Fifth, China should set up technical investigation offices and technical investigators in specialized IP courts and adopt the mode of technical investigator, without excluding the mode of expert consultation, the mode of litigant and the traditional means of judicial identification, to establish a diversified system of technical fact identification.

To establish the overarching IP judicial system, we should take into account the judicial system reforms that have been carried out and implemented while at the same time being careful with the "degree" of our reforms and keep a balance in issues such as centralization and pluralism (TAMURAi, 2015, p. 564-571) in the hearing of IP cases, the number and tenure of technical investigators, and the dual administrative and judicial system of judging the validity of rights. For example, considering the establishment of the state-level specialized IP court, we can set up a specialized circuit court based on the current system of the circuit court of the Supreme People's Court, while not necessarily following the example of Japan's IP High Court to derive a specialized high court from the Beijing High Court.[①] For another example, in the allocation of technical investigators, due to the rapid development of technology, the tenure of technical investigators should be limited and certain mobility should

① Since January 2015, the Supreme Court has set up the first and second circuit courts in Shenzhen and Shenyang respectively. The first circuit court accepts civil and commercial suits, administrative suits, criminal appeals, civil and commercial cases concerning Hong Kong, Macao and Taiwan and judicial assistance cases that should be heard by the Supreme People's Court in Guangdong, Guangxi and Hainan. In addition, it solves the cases of correspondence and visitation from the three provinces on the spot. Accordingly, the second circuit court accepted the corresponding cases in the three northeastern provinces of Liaoning, Jilin and Heilongjiang. But IP cases are under the jurisdiction of the Supreme Court, not the first or second circuit. Nearly two years later, the Supreme Court sought ways to set up a nationwide regional circuit court system. On November 1, 2016, at the 29th meeting of the leading group for comprehensively deepening reform of the CPC central committee, it was approved that, on the basis of the establishment of the first and second circuit courts in Shenzhen and Shenyang, the Supreme Court shall set up circuit courts in Chongqing, Xi'an, Nanjing and Zhengzhou to exercise cross-regional jurisdiction, thus forming the six regional circuit courts that cover the whole country.

be maintained (such as setting up floating posts). The technical opinion of the investigator, which is essentially a technical analysis of the case facts, can neither be used as evidence nor substitute for the judge's determination of relevant facts, and can only be used as a reference for the judge in identifying technical facts (Song, Wang & Wu, 2015, p. 34). The judicial judgment on the validity of IP rights should be confirmed by the IP administrative departments and administrative review organs to further determine the absoluteness of rights and their effect on everyone. In particular, the establishment of an overarching IP judicial system is systematic, and the corresponding top-level design of the system should combine China's characteristics and international experience (Xu, 2015, pp. 12-14). In this regard, the implementation of the "chemical trial" in the court is the core of the foundational reform, or "internal structural reform". External structural reform should focus on two aspects, first is to set up the basic structure of the IP court system in the mode of "central court + state-level court", and second is to conduct quasi-judicial reform on the Reexamination and Invalidation Department of the Patent Office, Trademark Office of National Intellectual Property Administration and The Ministry of agriculture new plant variety Review Committee, etc. Other reforms and constructions are reforms of the trial mechanisms based on the above internal and external reforms or issues of the trial rules, which are much easier.

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