WHEN EXISTING LEGAL SYSTEM MEETS NEW INTELLECTUAL PROPERTY RIGHTS: CHALLENGES AND COUNTERMEASURES

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INTRODUCTION

As the world enters the era of knowledge economy, the importance of intellectual property rights is further enhanced, and the relationship between intellectual property rights and economic development is closer than ever before. As the "core asset" of high-tech enterprises, intellectual property has replaced tangible assets as the main form of social wealth. From the perspective of global trade, the value content of intellectual property rights has occupied an absolutely dominant position in the total market value. Some scholars even believe that intellectual property is the first property right.[i]At present, a new round of scientific and technological revolution and industrial reform are booming, scientific and technological innovation has entered an unprecedented intensive and active period, and new technologies, new products and new business models continue to expand legal boundaries. Traditional rights have derived many new specific rights issues in the new era. New economic and social relations promote the increasing number of new intellectual property rights, which requires the addition of new members in the power family.

DEFINITION OF NEW INTELLECTUAL PROPERTY RIGHTS

Intellectual property can be divided into broad and narrow senses. Intellectual property in a narrow sense only refers to absolute rights such as copyright, trademark right and patent right. Intellectual property in a broad sense includes not only intellectual property in a narrow sense (exclusive right), but also legal interests protected by the Anti-Unfair Competition Law (intellectual property legal interests).[ii] This paper adopts the concept of broad intellectual

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property rights. The legal interests protected by the anti-unfair competition law belong to intellectual property rights, which not only has the basis of international law, but also conforms to China's judicial practice. Both the world intellectual property organization system and the international conventions in the world trade organization system list the prohibition of unfair competition as the object of intellectual property protection. The authoritative work in the field of International Intellectual Property Law: "international intellectual property law in the process of world economic integration" also clearly points out that: "traditional intellectual property law also includes rules against unfair competition."[iii] From the perspective of historical development, some interests originally protected by the anti-unfair competition law are gradually characterized as legal rights, or expand the existing intellectual property rights to new protection fields or objects. Therefore, anti-unfair competition law is sometimes called the incubator of new (narrow) intellectual property rights.

Topic on new rights is hotly debated in the domestic jurisprudence and departmental law circles recently. The main purpose is to respond to the rights demands of social subjects from the theoretical level. However, the academic community has not yet reached a consensus on what is a new right. Some scholars put forward formal standards with time and space as the core and substantive standards with subject, object, content and scene as the core to judge the "new" rights.[iv] Using the conceptual tool of new rights, using the expression of "new intellectual property rights" and referring to the above standards, this paper defines new intellectual property rights as new intellectual property rights that have not been clearly stipulated in the agreement on trade related intellectual property rights but have been clearly recognized in other regional and bilateral free trade agreements. The new intellectual property rights in the international documents being proposed by the WIPO, as well as the new intellectual property rights being hotly discussed and widely recognized by the international community. In traditional society, the emergence of a new type of rights often requires a long process of accumulation and recognition of social concepts. However, due to the natural fit between new technology and intellectual property rights, many new types of intellectual property rights have been rapidly produced.[v]

New intellectual property is not a real concept in the sense of legal category. What it represents is actually a series of intellectual property rights of different types and properties.[vi] Because of its complex scope, general research is of little significance. This paper intends to choose the

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protection of artificial intelligence products and the new business model of the Internet as the breakthrough for the study of new intellectual property rights. The reason for choosing these is mainly because they are the objects that the industry puts forward urgent protection needs and the state pays special attention to although the two are specific, the problems they reflect are general, that is, how the new intellectual property rights are generated, how the law should respond, and what mechanism path China should take to make the intellectual property objects conducive to the development of China's advantageous industries entering the international protection system.

GENERATION MECHANISM OF NEW INTELLECTUAL PROPERTY RIGHTS

Property right is not something with real essence, but a human system that exists to achieve a variety of purposes. When technological change increases the value of a resource, property appears with it. Therefore, in many cases, the emergence of new property rights is not the result of any rational design, but the product of the right struggle in the legislature and the court about who should obtain the benefits of technological change. Intellectual property rights as property rights, especially the creative fruit rights: copyright and patent rights, are also born based on the scientific and technological revolution and changed from the scientific and technological revolution. Its system construction is a process of interaction and mutual innovation between legal system innovation and scientific and technological innovation.[vii]

Copyright is the life of the cultural industry and has been greatly affected by the development of technology. The emergence of copyright system is mainly due to the invention of printing. Before that, the works can only be copied by hand. Therefore, the author has no interest demand to seek protection, and naturally will not give birth to the corresponding legal system. In fact, in the early stage of copyright, after the Anna Act was passed, copyright only refers to the right of reproduction. After the mid-19th century, due to the invention of mechanical instruments, music can also be performed through these mechanical instruments. In this way, some countries began to grant authors the right of mechanical performance. Since then, with the emergence of photography technology, film technology and radio technology, countries have also added new copyright items accordingly. As the most important international convention in the field of

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copyright protection—Berne Convention for the Protection of Literary and Artistic Works (hereinafter referred to as "Berne Convention"), it has been revised in many diplomatic conferences held by the Berne Union since its conclusion in 1886. Each revision is basically to meet the challenges brought by the development of new technology.[viii]

Patent is an important embodiment of scientific and technological achievements. With the development of science and technology, new types of inventions and creations continue to appear, which need to be escorted by patent system to promote the development of related industries. In the early stage, due to the limitation of technical conditions, patent applications were generally limited to the mechanical, electronic or chemical fields. With the development of biotechnology, plants, animals, microorganisms and genes have gradually entered the scope of patentability. After the mid-20th century, with the development of computer technology, some countries not only bring software into the scope of copyright law, but also into the scope of patent law. In recent ten years, many enterprises have flocked to business method patent applications. As the world's largest scientific and technological power, the protection object of the United States Patent Law includes "any man-made thing in the sun," which expands the patent system to the whole business world.[ix]

The above cases are all cases in which the existing types of intellectual property rights continue to expand their own power and protect the object with the development of technology. When the new object produced by technological innovation cannot be integrated with the theoretical presupposition of existing rights, or the interests of all parties cannot be properly settled through adjustment within the framework of existing rights, it can only be solved by creating new types of intellectual property rights. Some scholars describe this phenomenon as the "second enclosure movement" of intellectual property expansion caused by new technology.[x] For example, with the emergence of recording technology, performers want to enjoy exclusive rights to performances recorded in recorded products. The international community initially intended to include it by amending the Berne Convention, but the international institutions representing the interests of the authors did not agree. The reason is that the reward is certain. If the performer also participates in sharing this "cake," the cake originally enjoyed by the author alone will now be shared with others, so the share that the author can share will inevitably be reduced. Finally, after compromise, the parties introduced the "neighboring

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right," which is different from the "copyright," and formulated an international convention independent of the Berne Convention—the Rome Convention, to protect the performers integrated circuit technology is one of the main achievements affecting the development of contemporary science and technology, its layout design is neither a graphic work in copyright law nor a design in patent law. Therefore, both Chinese legislation and international conventions provide for an independent intellectual property right—layout design right.[xi]

Due to different national conditions, different industrial policies, different influence of different interest groups, and different forms of expression of new intellectual property rights generated by the same technological innovation in various countries. As a new achievement of bioengineering technology, new plant varieties are highly valued by legislators in various countries. However, there are three different ways to protect the intellectual property rights of new plant varieties in various countries. Through the formulation of special laws to protect new plant varieties, this is the plant variety right as a new type of independent intellectual property rights. Protecting new plant varieties within the scope of patent law is the new power of patent right. Some countries also provide protection in the form of both variety right and patent right. Another example is the database. In order to promote the investment in its internal database and eliminate the huge imbalance in the investment level of the database between the EU and the United States, the EU stipulates a new type of intellectual property independent of Copyright: sui generis rights for the database.[xii] Facing the pressure of EU database directive, the United States quickly responded: Congress drafted the Anti-Piracy Act on database investment and intellectual property rights. However, due to the serious doubts raised by relevant interest groups about the necessity and appropriateness of introducing special rights, the bill was not passed in the end.

Different from the past, with the wide application of the Internet and artificial intelligence, the speed of innovation and invention has been significantly accelerated, and the speed of corresponding intellectual property creation has been continuously improved. If China wants to remain invincible in the fierce international competition, it must do a good job in the strategic layout of industrial development on the one hand, and strengthen the institutional innovation in the field of intellectual property on the other hand.

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EXISTING INTELLECTUAL PROPERTY LEGISLATIONS AND REGULATIONS

Neither the Convention on the establishment of the WIPO managed by the world intellectual property organization nor the agreement on trade related intellectual property rights managed by the WTO defines intellectual property rights, but lists the protection objects belonging to intellectual property rights. However, there are differences in the way of enumeration. The former takes the form of non-exhaustive enumeration and is accompanied by an exhaustive clause: "all other rights derived from intellectual activities in the field of industry, science, literature or art."[xiii] The latter defines intellectual property rights as "all categories of intellectual property rights on the subject of sections 1 to 7 of Part II."[xiv] As for "all categories of intellectual property rights on the subject of sections 1 to 7," whether it only refers to "all categories of intellectual property rights appearing in the titles of sections 1 to 7," or does it also include "all types of intellectual property rights appearing in the provisions of sections 1 to 7," has inconsistent views. However, the WTO Appellate Body adopted the latter interpretation.

Article 27 of the agreement on trade related aspects of intellectual property rights stipulates that "a patent shall be granted to any invention in all technical fields." It does not define what an "invention" is, but specifies the conditions that an invention should meet in order to obtain a patent, thus leaving considerable freedom for members to define what should be considered an invention. However, due to the limitation of "technical field," pure business methods cannot be patented. In this regard, the United States has promoted the Standing Committee on Patent Law of the WIPO to remove this restriction in the draft substantive Patent Law Treaty and expand the "technical field" to "activity field." At that time, China's attitude towards the patentability of business methods was relatively conservative. Together with the European Union and other delegations, China strongly opposed the proposal of the United States, which led to the standstill of the formulation of the Patent Law Treaty. As for the protection of copyright works, the TRIPS Agreement does not explicitly provide for it, but adopts an inclusive legislative model, requiring members to abide by the provisions of the Berne Convention. Therefore, what constitutes works that can be copyrighted under the TRIPS Agreement depends on the provisions of the Berne Convention. Article 2 (1) of the Berne Convention adopts the following structure for the definition of works: first, it defines the main

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points of the concept of "literary and artistic works," and then makes a non-exhaustive enumeration of these works (which uses the word "such as" to clearly indicate the non-exhaustive enumeration). In the Berne Convention, the term literary and artistic works includes all achievements in the field of literature, science and art, regardless of their form or mode of expression. The term "science" here is only used to indicate that the concept of literary and artistic works must not be interpreted in a narrow sense. Therefore, the definition of work in the Berne Convention is open.

As far as Chinese law is concerned, Article 123 of the Civil Code stipulates that "intellectual property rights are the exclusive rights enjoyed by the obligee according to law with respect to the following objects: (1) works; (2) inventions, utility models and designs; (3) trademarks; (4) geographical indications; (5) business secrets; (6) layout design of integrated circuits; (7) new varieties of plants; (8) other objects prescribed by law." The intellectual property clause describes the characteristics of intellectual property as "exclusive rights." In fact, the third review of the draft once stipulated intellectual property rights as "exclusive and dominant rights." However, some people believe that "exclusive and dominant rights" fail to reveal the essential attribute of intellectual property. The reason is that ownership is the most typical exclusive right and dominant right. Defining intellectual property by defining ownership is easy for people to understand intellectual property in the way of understanding ownership, so it is difficult to grasp the essence and characteristics of intellectual property. In addition, domination means that the obligee occupies, uses, gains or disposes of specific movable or immovable property through physical force according to his own will. The object of intellectual property is knowledge without physical form, which cannot be possessed by physical force, nor can it be disposed like tangible things. The exclusivity of intellectual property is the exclusivity created by the law, which is different from the exclusivity based on the natural attribute of ownership. Therefore, the text finally adopted revised "exclusive and dominant rights" to "exclusive rights."[xv]

The draft for comments once stipulated the bottom clause in Item (8) as "other intellectual achievements stipulated by laws and administrative regulations." However, it is suggested that the scope of "intellectual achievements" is too narrow to cover industrial and commercial marks such as trademarks and trade names. Finally, Article 8 has been changed accordingly,

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and the revised provisions are more open, thus leaving more space for the development of new intellectual property rights. In addition, from the perspective of the separate intellectual property law, there is a large interpretation space for both the definition of works in the copyright law and the requirements for inventions and utility models in the patent law.

To sum up, as far as the existing international intellectual property conventions and China's current laws are concerned, whether adding new types of intellectual property rights or incorporating new objects into the existing types of intellectual property rights, despite some challenges, there are no insurmountable legal obstacles. What is worth further studying is which legislative model is better.

CHALLENGES AND COUNTERMEASURES OF NEW INTELLECTUAL PROPERTY RIGHTS TO THE EXISTING LEGAL SYSTEM

The development of artificial intelligence technology is changing the mode of people's production and distribution of goods and services. It will also change people's existing ways of work, life and communication, and bring an unprecedented challenge to the existing ethical standards and legal rules. As far as intellectual property law is concerned, it is facing the common challenge with other laws: whether artificial intelligence should be given the qualification of legal subject, but also the unique problem of the department law itself: the qualitative problem of artificial intelligence products in intellectual property law. Although Saudi Arabia has granted the robot “Sophia” citizenship, this is an individual phenomenon after all. Moreover, from the perspective of technological development level, we will only be in the so-called “weak artificial intelligence era” for a long time in the future. Abiotic intelligence has not replaced or surpassed human intelligence and will not shake the foundation of the civil subject system.[xvi] Therefore, this paper discusses the possible path of intellectual property protection of innovation achievements related to artificial intelligence on the premise that artificial intelligence has not become a legal subject.

This paper holds that whether to recognize the artificial intelligence products as the object of copyright protection and who to empower is not only a legal issue, but also an industrial policy

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issue. In the final analysis, the legal arrangement of artificial intelligence products is to reasonably distribute the benefits arising from the commercial utilization of generated content and contribute to the benign development of artificial intelligence industry. If the products of artificial intelligence are not protected and empowered to the owner of artificial intelligence, no subject is willing to invest and develop artificial intelligence, and the development of industry is impossible.[xvii] "A world monopolized by artificial intelligence without copyright or even property rights is an unbearable weight for industry, market, economy, society and even the fate of mankind itself."[xviii]

The innovation of traditional business model is mainly reflected in the change and redesign of business operation mode. It belongs to the category of human abstract ideas and has not yet formed a substantive integration with technological innovation, so it cannot be protected by patent law. Different from the traditional business model, "new business model" refers to a business method that uses the Internet, big data, cloud computing and other technical means to integrate transaction subjects, change transaction methods or subvert transaction structure in highly vertical segments, improve transaction efficiency and quality, and solve user needs or produce better user experience. For example, Didi taxi order matching, JD logistics data analysis and other models are the representatives of such new business models, which improve the resource allocation and circulation efficiency and greatly promote the development of social economy. China's innovation subjects have a strong demand for the protection of business model innovation.

In terms of the form of intellectual property protection, the copyright law only protects the expression of works rather than ideas. Therefore, the copyright protection cannot extend to the algorithms and processing processes used in computer software, which are exactly the core of business model innovation. Trademark law can only protect the names and marks of business models. Once the new business model is put into application, competitors can implement the idea by cracking or designing similar schemes, and the protection of trade secrets has little effect. Therefore, the scheme that can protect the business model is to apply the anti-unfair competition law, the patent law or formulate special legislation.

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In the case of unfair competition disputes between Qihoo, Qizhi and Tencent, the Supreme People's court held that the legitimate rights and interests of Tencent seeking commercial interests by using the business model of the combination of free platform and advertising or value-added services are protected in the "dispute case of unfair competition over the illegal capture and use of microblog user information," the Beijing Intellectual Property Court also held that the network platform can claim the rights and interests of user information collected and used commercially or of commercial value based on its own business activities with the consent of users.[xix] Indeed, since the anti-unfair competition law is a means of relief after the event, the intensity and density of protection are obviously insufficient. The competition among enterprises today is not the competition between products, but the competition between business models. In order to better stimulate enterprise innovation, it is a better choice to adopt patent law to protect the new business model.

When the State Intellectual Property Office revised the patent examination guide in 2017, the following content was added: "if the claims involving the business model include both business rules and methods and technical features, the possibility of obtaining the patent right shall not be excluded in accordance with Article 25 of the patent law." This opens the door to the patent protection of the new business model. However, excluding the application of Article 25 of the patent law does not mean excluding the application of paragraph 2 of Article 2 of the Patent Law: "an invention is a new technical solution for a product, method or its improvement." Therefore, for a patent application involving a business model, if the technical problem is not solved by technical means, the scheme to obtain the technical effect in line with the natural law still does not belong to the object of patent protection. This means that China still emphasizes the "technical field" for the object of patent protection. However, under the current Internet plus mode, the Internet and various fields are deeply integrated, and the boundaries between technical and non-technical characteristics are becoming increasingly blurred. "Many traditional cases involving the commercial field are no longer suitable for directly excluding the possibility of obtaining patent rights from the protected object, but should continue to review to determine whether its contribution to the existing technology is sufficient to obtain the consideration exchange of patent protection."[xx]

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The new business model poses some challenges to the existing patent law system. First of all, since business model patents are based on cross industry and cross technology inventions, how to determine "ordinary technicians in the same technology field" in terms of creativity judgment criteria. For example, whether the business model of sharing cars will affect the creative judgment of sharing bicycles depends entirely on the definition of the technical field. Secondly, when conducting the creativity review, whether it is required to be creative in the adopted technical field or in the field of business methods. If only the former is highlighted, the standard of creativity may be too high and most business models cannot be patented. If only the latter is highlighted, it may lead to the proliferation of business method patents or the monopoly of business model, which is not conducive to economic development.[xxi] In addition, the new business model has fast update speed, short iteration cycle and strong timeliness of patent protection requirements. In response to these challenges, some scholars suggest that special legislation should be made on the business model or the definition of utility model should be modified to allow the business model to apply for the patent right of utility model.[xxii]

In order to encourage the development of Internet industry and e-commerce industry, the United States relaxed the examination standards for business method patent applications.[xxiii] Although the relevant policies were adjusted due to the proliferation of lawsuits, it is undeniable that the expansion of business method patents has effectively stimulated the development of the U.S. economy, which also fully shows that the intellectual property policy needs to adapt to the industrial development. Around 2000, the number of applications for business methods by domestic applicants in China was less than that by foreign applicants. However, since 2010, the domestic application volume has shown a straight-line upward trend. At present, in terms of the total amount, it has greatly exceeded the application volume of foreign applicants.[xxiv] This is also in line with the actual situation that China's Internet industry occupies a leading position in the world. Therefore, it is in China's national interest to relax the patent licensing standards for new Internet business models.

According to the report of 2019 Technology Trends—Exploring Artificial Intelligence released by the WIPO, China and the United States are in a leading position in the field of global artificial intelligence. Therefore, providing intellectual property protection for AI products is

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conducive to further stimulate and promote the investment and development of China's AI industry.

CONCLUSION

Strengthening intellectual property protection includes strengthening intellectual property law enforcement and introducing the system of tort punishment and compensation. It also includes adding new types of intellectual property rights and responding to new objects and new interest demands generated by technological innovation. In the past development of the intellectual property system, China failed to participate in the formulation of rules, but accepted them passively. Facing the new opportunities of the international pattern change and the rise of the scientific and technological revolution, China should take the dominant position of the Internet plus industry and the new intellectual property rights of the AI industry as a breakthrough, and put forward China's proposals and plans on the platform of the world intellectual property organization, and promote the establishment of an inclusive, balanced and effective international rules on intellectual property rights.

ENDNOTES

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[iv] See Yao Jianzong, 'On Emerging Rights'(2010) 2 Legal System and Social Development, pp 6-9.
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[vi] See Yao Jianzong and Fang Fang, 'Several Issues in the Study of Emerging Rights' (2015) 3 Journal of Suzhou University (Philosophy and Social Sciences), p 52.
[vii] See Wu Handong, 'The Development Trend of International Intellectual Property System and the Development Path of China's Intellectual Property System' (2009) 6 Legal System and Social Sevelopment, p 148.
[viii] See Sam Ricketson, *The Berne Convention for the Protection of Literary and Artistic Works: 1886-1986* (Deventer: Kluwer 1987), p 81.
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[xi] See Guo He, 'Legal Protection of Intellectual Property Rights of Semiconductor Integrated Circuits' (2004) 1 Journal of Renmin University of China, p 107.
[xii] Directive on the Legal Protection of Databases.
[xiii] Article 2 of the Convention Establishing the World Intellectual Property Organization.
[xiv] Article 1 (2) of the TRIPS Agreement.
[xv] See Huang Wei, *Interpretation of the General Provisions of the Civil Code of the People's Republic of China* (Law Press 2020), p 326.
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[xvii] See Sun Shan, 'Dilemma and Way Out of Copyright Law Protection of Artificial Intelligence Generated Content' (2018) 11 Intellectual Property, p 64.
[xviii] See Yi Jiming, 'Is Artificial Intelligence Creating A Work'(2017) 5 Legal Science, p 144.
[xix] Beijing Intellectual Property (2016) Jing 73 Min Zhong No. 588 Civil Verdict.
[xx] See Zhou Hubin, Zhang Xianfeng, Dai Lei, 'Introduction to the Revision of the Guide to Patent Examination' (2017) 2 Patent Agency, p 4.
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[xxii] See Yan Wenfeng, Sudan, 'On the Challenge of New Business Forms to the Patent System'(2018) 5 Intellectual Property, p 87.
[xxiii] See Matthew G. Wells, 'Internet Business Method Patent Policy' (2001) Vol.87 No.4 Virginia Law Review, p 770.
[xxiv] See Yang Yanchao (n 21).

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