

Justification and System Arrangement of Virtual Property Rights

— Comments on Article No. 127 of General Provisions of the Civil Law

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Abstract: In the process of formulating the General Provisions of the Civil Law of P. R. China, the attribute of virtual property rights has changed from real rights to non-real rights. Article No. 127 thereof does not clarify the nature of virtual property rights after all, and the place where virtual property is put in the “Civil Rights” chapter of General Provisions of the Civil Law makes the concept even more complex and confusing. The “relationships paradigm” protection of virtual property does not have a definite classification criterion, nor stands opposite to the “rights paradigm.” There are two different ways to justify the “theory of virtual property as a real right” under the “rights paradigm” protection, namely, essentialism and consequentialism. The former resulted from utilizing features in a demonstration and identifying disposal rights with real rights, while the latter resulted from adherence to the dichotomy system of property rights comprising real rights and creditor’s rights. From the perspective of larceny in Criminal Law and virtual property insurance in The Social Insurance Law, the attribute of virtual property rights is irrelevant to creditor’s rights. The attribute of virtual property rights shall be defined as virtual property rights so that it can be included in the system of civil rights. The uniqueness of virtual property is enough to become an object of emerging civil rights; intangible property rights as a superordinate theoretical concept cannot reflect the essence of virtual property rights. The legislative frame of virtual property rights shall be comprised of the subject, object, exercise, publication and change of the rights.

Keywords: virtual property; theory of virtual property as a real right; theory of virtual property as a creditor’s right; intangible property rights; virtual property rights

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The provisions on virtual property in Article No. 127 of the General Provisions of the Civil Law of China (The provisions on the protection of data or network virtual properties shall be abided by.) has been praised by scholars for “adapting to the demands of the ‘Internet +’ development,”^① “adapting to the demands of the Internet and big data development,”^② and displaying “creativity and distinct features.”^③ But the provision on virtual property in the General Provisions of the Civil Law is too simple and lacks operability, and only a leading norm is used to protect virtual property according to the “laws with relevant provisions.” Since relevant legal provisions are not in place at present, virtual property protection stays in the current conditions. Meanwhile, such simple provisions in the General Provisions of the Civil Law keep the nature of virtual property a pending issue. In the process of formulating the General Provisions of the Civil Law, the attribute of virtual property rights has been given definitions varying from real rights to non-real rights, making it difficult to determine its nature. Article No. 104 in the General Provisions of the Civil Law (first draft) deliberated by the Standing Committee of the National People’s Congress in June 2016 stipulates that property “includes real estate (immovable property) and movable property. In case other laws also stipulate certain rights to be the objects of real rights, those provisions shall be followed.” But since there are debates on the attributes of virtual property rights, which are defined as a real right, among the theory and practice fields in the process of seeking opinions,^④ “virtual property” has been segregated from that article in the second and third deliberations and the formal draft, and defined separately in such a way, “Where any laws provide for the protection of data and network virtual property, such laws shall apply.” Although this article stipulates the protection of virtual property, the legal nature thereof is described vaguely, making the nature of virtual property complex and confusing. Does the legislative body believe that virtual property rights are not real rights, or that real rights theory is not perfected enough to define virtual property rights, and therefore an evasive legislative technique was used to treat its nature? As China does not have a tradition of publishing legislative reasons, we are unable to ascertain the answer. In addition, the ordinal position of virtual property in the General Provisions of the Civil Law also makes its nature elusive. Virtual property is defined in the “Civil Rights” chapter of the General Provisions of the Civil Law and listed behind the provisions related to personal and property rights. Article No. 126 is a miscellaneous provision, reading, “The civil subjects enjoy other civil rights and interests as prescribed by law,” followed by Article No. 127 making a provision regarding virtual property. Why does the law not stipulate virtual property in Article No. 126, the catch-all provision? Due to virtual property not being prescribed in the provision on property rights, does that mean the legislative body refuses to recognize the characteristics of virtual property as property rights? Moreover, the unclear nature of virtual property rights leading to Article No. 127 of the General Provisions of the Civil Law will bring no benefits to juridical practice. Since the provision does not clarify the nature of virtual property rights, it cannot eliminate the coexistence of default and tort causes in the similar cases previously put on record by all local courts. This leads to a situation where Contract Law and Tort Law can apply separately, and different results of judgments might be produced for the same types of cases. Finally, if it is an intended elusion for the legislative

① This is an opinion held by Prof. Long Weiqiu, Wang Yuan et. al. (2017, March, 22). General provisions of the Civil Law: Standing fast between inheritance and innovation. *The Procuratorial Daily*.

② Meng, 2017, March 22

③ Zhang, 2017, March 22

④ Summary of seminar on legislative protection of network virtual property in Civil Code. Retrieved from <http://www.civillaw.com.cnllw/ 11?id=31564>.

body to vaguely describe the nature of virtual property rights and leave room for subsequent legislation, then the nature of virtual property rights remains an inevitable problem.

Though the academic circle has completed a great deal of research regarding the nature of virtual property rights, a consensus has not yet been reached. By evaluating and analyzing the existing academic work, the author hopes to provide theoretical support for subsequent legislation.

1. Protection path of virtual property under the “relationships paradigm” and its criticism

1.1 Main viewpoints on the protection of virtual property under the “relationships paradigm”

Presently, the discussion of virtual property rules by the academic circle is mainly focused on whether virtual property constitutes a civil right and what type of right it belongs to. This research is a continuation of the traditional construction mode of rights in the civil code of civil law system, which can be termed as the protection path of the “rights paradigm.” But apart from such a protection path, some scholars have invented a new way by proposing a protection path for virtual property under the “relationships paradigm.”^① The proposers of the “relationships paradigm” believe that depending on the differences between the “free” distribution and “forced” distribution of legal disputes, the rules of civil law can be classified into the “rights paradigm” and the “relationships paradigm.” The so-called “rights paradigm” refers to the construction of rights that enables a civil subject to enjoy the rights and thereby enforce behaviors on other civil subjects. The so-called “relationships paradigm” refers to “the construction of rules that are directly concerned with the relationship between the subjects of civil legal disputes, and the forced relationship distribution between civil subjects under specific behaviors or conditions is described by use of a ‘condition-consequences’ expression approach.”^② The concept of virtual property rights does not appear in the Civil Code, and the interests of virtual property can be realized through the network services protocols between the network operators and users and the Tort Liability Law according to specific legal relationships. The “relationships paradigm” is based on the premise of maintaining the existing Pandekten rights system to manage the virtual property interests in accordance with Contract Law or Tort Law, depending on the different legal relationships involved, and thus deny the dominance of virtual property rights.

Such an opinion disregards the current social situation of growing virtual property, and manages the virtual property interests respectively according to the legal relationship involved. It does not attach a legal position to virtual property but tries to resolve interest disputes through legal interpretation or analogy. It seemingly brings forward a different innovative idea by setting rules on virtual property but must be carefully reviewed.

1.2 Criticism on the protection of virtual property under the “relationships paradigm”

No standard has been set for the classification of the two protection paths, i.e. “rights paradigm” and “relationships paradigm.” Standard is the basis of classification, without which the classification and its demonstration are not academically persuasive. “Rights paradigm” does enable a civil subject to enforce other

① Shen, 2016.

② Ibid.

civil subjects in performing behaviors by enjoying its rights, but the statement saying that “the rules of real and personal rights are the product of the typical rights paradigm”^① cannot cover all types of rights. In fact, the rules for creditor’s rights can also be included in the scope of the “rights paradigm.” After the stipulation of creditor’s rights, the creditor can also enforce the compulsory behavior of the debtor, and the creditor’s competence and rights constitute the basis. Meanwhile, real and personal rights shall be constructed not only as objective rights in the relationships formed through disputes, but also by the “conditions-consequences” expression approach in the benefit distribution relationships. In addition, it is difficult to wholly include the right of personality in the scope of the “rights paradigm” or the “relationships paradigm.” In contrast with real rights, the right of personality does not have a clear and definite boundary, making it hard to define its power and functions, and causing the inadequate basis for the subject of rights enforcing other subjects to perform duties.

The next noteworthy point is that the “rights paradigm” and the “relationships paradigm” are not in opposition to each other. No matter whether the norms are designed as per the “rights paradigm,” disputes must be resolved as per the “relationships paradigm.” For instance, for real rights, personal rights and intellectual property rights, though their connotation and scope are clarified by legislation, and the obligee can exercise the rights within the legal limits, once any right is infringed, the “conditions-consequences” expression is still used to apply for subsequent remedies. Similarly, for the creditor’s rights as a model applicable to the “relationships paradigm,” the creditor who fails to exercise the rights as per the right of claim still needs to apply for remedies for interests according to the expression of “conditions-consequences.” In addition, for the typical rights of the “rights paradigm” such as intellectual property rights and personal rights, there is also no such thing as rights being exercised as per their legal connotations in general. The subject of copyright as the rights of publication, authorship and maintaining integrity of a work may claim the rights as per the “relationships paradigm” only after specific powers and functions are infringed, and conduct benefit distributions according to the rules of compensation for damages. More obviously, since punishment is impossible, the subject of personal rights can only request responsibility determination according to the Tort Liability Law when its rights are infringed, and then benefits will be distributed as per the “relationships paradigm.” As a result, the two paradigms are not contradictory but indispensable to each other, and the “object tool (rights) outside the relationships between civil subjects” does not exist.^② No rights can break away from relationships. Even self-exercising of real rights also involves the exclusive relationship between the obligee and the third party, and this depends on how we limit and explain the scope of the word “relationship.”

The third noteworthy point is that the classification of the “rights paradigm” and the “relationships paradigm” originates from the different viewing angles of absolute rights and relative rights. Legal rights such as real rights and intellectual property rights have clear connotations and can be freely exercised by the obligee within the statutory authority. If the rights are not exercised beyond the boundary, then the process will not involve anyone else or create any legal relationship. In case rights are exercised in multiple forms, such as income of real rights, transfer of intellectual property rights or infringement of rights, the relationships paradigm then plays its role by applying the contractual relationships and tort relationships related to creditor’s

① Ibid.

② Ibid.

rights. The proposer of the “relationships paradigm” tries to discard the traditional “rights paradigm” and include virtual property into the protection scope of the “relationships paradigm.” Such an innovative paradigm is not advisable.

2. Criticism on the “theory of virtual property as a real right” under the protection of the “rights paradigm”

2.1 Criticism on the “theory of virtual property as a real right” under the approach of essentialism

2.1.1 The “theory of virtual property as a real right” under the approach of essentialism has resulted from utilizing features in demonstrations.

Logically, “theory of virtual property as a real right” is to judge whether virtual property belongs to property from the perspective of property features. If yes, then virtual property rights shall be defined as a real right; otherwise we need to search for cognitive standards of other natures. But to make the theory logically possible, one precondition is required, i.e., a definite judgment standard. Although property features are not explicitly stipulated in legislation, the theory is still worth taking as a reference. But the problem is that it might be arbitrary to judge whether virtual property constitutes property as per a theory. Since scholars often select judgment standards from the perspective conducive to proving their own opinions, the conclusions naturally come down to the “property” preset by scholars. Property’s corporeality is the most important standard for judgments of property, but scholars often avoid the crucial point in demonstration by not mentioning the bodiless feature of virtual property but demonstrating its specificity and independence. For instance, some scholars believe that “network users can set a password for their account to keep others from editing, adding or deleting their data, and can trade, use or consume virtual property through certain programs, or determine its value depending on market supply and demand. Network operators can also safekeep virtual property as per protocols to endow it with identity during effective operation, indicating that network virtual property possesses specificity in general social or economic concepts. The independence of ‘property’ possessed by network virtual property is manifested in such a way that although virtual property must be technically dependent on a specific network platform for existence, the property’s independence does not just refer to physical independence. Virtual property is differentiated from network platforms and other users’ network resources by technical means. What is particularly important is that in the general social concept and transaction concept of virtual property in particular, virtual property is treated as an independent ‘property’ with its value independent of real property.”^① In my opinion, the discussion of the specificity has a premise, that is, virtual property is a type of “property,” or such specificity is meaningless. The greatest weakness of this theory lies in its failure to demonstrate the fundamental standards of judgments for property, i.e., an object’s corporeality; instead, it directly affirms the specificity of virtual property which is a “bodiless property.” This neglects the important issue in favor of trivialities. Property Law is built on tangible property, with movable and immovable properties as the major forms of property. Although rights can also be objects regulated by Property Law under legal conditions, the latter cannot be identified with properties themselves.

^① Summary of seminar on legislative protection of network virtual property in Civil Code. Retrieved from <http://www.civilaw.com.cnllw/ 11?id=31564>.

Those which can be regulated by Property Law are not necessarily a type of property; even if regulated by property law, virtual property is not necessarily identified as property. Furthermore, identifying virtual property as property due to its independence also involves logical problems such as prejudice by first impression or circular argument. The standard of independence is only valuable to property. It is meaningless to discuss independence before demonstrating that virtual property is a type of property with corporeality. Independence is a standard used for distinguishing property from its components and judging whether property is under independent ownership, with property as its logical premise. Without being property, there is certainly no need for demonstrating independence.

2.1.2 The “theory of virtual property as a real right” under the approach of essentialism has resulted from mistaking rights of property dominion for real rights.

Identifying disposal rights with real rights is another logical mistake in the “theory of virtual property as a real right.” The demonstration strategy adopted in the “theory of virtual property as a real right” is that virtual property possesses dominant traits, so virtual property is a real right. For instance, when demonstrating the attributes of an online store as a real right, some scholars first argued that the dominant trait of rights is the mark discriminating real rights from creditor’s rights, and then demonstrated the owner’s dominance over the online store in detail, as manifested by the online store owner enjoying the exclusive autonomous management right and independent disposing right over the virtual space.^① This demonstration method contains a significant logical fallacy as it equates disposal rights with real rights. Fruitful results have been obtained in the research of the relationships between real rights and proposal rights, which can be described as follows. The concept of disposal rights is indeed derived from the right in rem, but the dominant trait of the right in rem has later been highlighted by the interpretive model of subjective rights under the control of will. With the development of the Pandekten system, disposal rights can thereby be separated from and then be independent of real rights, becoming a concept under a rights expression standard different from real rights.^② Furthermore, the typical model of disposal rights is shown as control of will between “subject - object.” The object of disposal rights comprises not only tangible property, but also bodiless non-material interests.^③ Some scholars expand the object scope of disposal rights to cover spiritual interests. That is, in addition to real rights and intellectual property rights, right of personality shall also be included.^④ I also hold the same opinion that disposal rights shall include real rights, intellectual property rights and the right of personality. Finally, absolute rights are in nature a disposal rights, but disposal rights are not totally equivalent to absolute rights which are wider in scope.^⑤ The dominant trait of absolute rights is undeniable, and all absolute rights can dominate interests. The dominant trait of absolute rights is manifested as selection and decision of property interests under the obligee’s control of will. Take copyright as an example. A copyright owner can exercise various powers and functions under its control of will, such as authorship, publication, modification and transfer. The selection and decision of copyright interests are realized through the will of the copyright owner. But this reason is not enough for defining copyright as a real right. Copyright can only be deemed as an

① Lin & Cai, 2016

② Quan, 2006

③ Zhu, 2013 & Wen, 2005

④ Wang, 2015

⑤ Quan, 2006

absolute right in such a case. Even if virtual property right possesses such core features that an obligee has the decision-making power over it and can ultimately control and decide its future and destiny, this can only prove that virtual property rights are disposal rights and cannot be logically inferred as a real right.

2.2 The “theory of virtual property as a real right” under the approach of consequentialism has resulted from adhering to the dichotomy system of property rights comprising real rights and creditor’s rights.

Some scholars have brought up the thinking approach of consequentialism, holding the opinion that the legal position of virtual property rights has always swung between real rights and creditor’s rights, and this is supposed to change the viewing angle and define the nature of virtual property rights from the perspective of consequentialism.^① Consequentialism is a concept corresponding to essentialism. Traditional essentialism bases itself on the idea that every entity must have several decisive traits, while consequentialism is a theoretical attitude making a judgment by means of facts and consequences, instead of concepts and general principles. Applying such an attitude to the legal practice means that legislators or judiciaries shall be responsible for the consequences of their activities, or at least those to be achieved intentionally or with deep consideration.^② With different schemes in view, it is supposed to choose the one most conducive to society. The three major criteria proposed by German scholar Deckert, namely, efficiency, justice and truth, shall be adopted in selection. Different fields may emphasize different selection criteria, e.g., civil law emphasizes efficiency while public law emphasizes justice. The consequentialists use the economic analysis of laws to study the dispute types through specific cases. The conclusion drawn after analysis is that defining network virtual property as a real right is better than defining it as a creditor’s right in consequences.^③

This demonstration does develop a new and unique method, and the selected cases also seem relatively persuasive, but it is still problematic in logic.

Such an argument is built on the premise that the nature of virtual property rights is either real rights or creditor’s rights, but the nature of property rights can be identified as more than two forms. Theories like “new rights theory” and “intellectual property rights theory” are not baseless. The demonstration is not precise unless there is evidence that defining virtual property rights as a real right is superior to other right forms (such as creditor’s rights, intangible property rights, and new property rights). “The dichotomy system of property rights comprising real rights and creditor’s rights originated at the beginning of the Renaissance and took root in the industrial revolution. The virtual property issue emerging in the network era extends far beyond the range of the system.”^④ It is better to purge the restraints of Pandekten’s dichotomy property rights system, consider the nature of virtual property rights with an open mind, and leave virtual property a wider legal space for development, than to narrowly interpret virtual property rights as a real right, leading to various theoretical exceptions.

The second problem is that such conclusion compares obligatory claims with real rights claims and real rights damage claims, arguing that the effect of exercising real rights is superior to that of exercising creditor’s rights. However, the problem is that the strong effect of real rights is relative to creditor’s rights. If virtual

① Xu, 2016

② Ibid.

③ Ibid.

④ Ibid.

property rights are defined as another rights form, their effect will not necessarily be weaker than the real rights and might even be stronger. The strong effect of real rights stems from its exclusive effect as an absolute right, and the absolute rights in civil law are not limited to real rights. Taking intellectual property rights as an example, such rights also possess strong erga omnes as an absolute right, and claim effects such as stopping infringements, removing obstacles, eliminating dangers and compensating for losses. If defined as a property right with erga omnes effect, virtual property rights can also have the above strong erga omnes effects and effects better than creditor's rights. Therefore, it is not that the effect of real rights precedes creditor's rights, but in essence that the effect of absolute rights precedes that of relative rights.

The last point is that such a conclusion is only focused on the strong effect of real rights, without considering the overall system design after defining virtual property rights as a real right. The consequentialists themselves also believe that, "The legal orientation of network virtual property just marks the beginning of the study, and addressing such difficulties as the content, publication and transference of the rights still relies on the accumulation of more cases and the inspection of the consequences in detail. So, we still have a long way ahead."^① The effect of real rights is truly strong, but virtual property rights are significantly different from the traditional real rights in terms of content, publication method and transference, so it is logically unreasonable to equate these two quite different rights.

3. Criticism on the "theory of virtual property as a creditor's right" under the protection of the "rights paradigm"

3.1 Negation of the "theory of virtual property as a creditor's right" from the perspective of larceny in Criminal Law

Virtual property has already extended beyond the boundary of civil law and made its presence in criminal law, administrative law and other fields. In recent years, there have been many discussions in criminal law field regarding whether stealing virtual property constitutes larceny. Criminal Law scholars focus their debates on what the nature of virtual property is. It is widely accepted by criminal law scholars that the object of larceny is property, and if virtual property is not property, such behavior shall not be defined as larceny. This shows that how the nature of virtual property is defined by civil law will directly influence criminal judgments. Although criminal law scholars have often discussed the act of stealing IOUs or debt notes which is considered by some scholars as larceny,^② it is noteworthy that IOUs or debt notes are in nature just certificates of creditor's rights which can only prove the possible debtor-creditor relationship. The certificates of creditor's rights such as IOUs or debt notes can be stolen, but creditor's rights cannot. If virtual property rights are identified as a creditor's right, then there is no such problem as whether stealing virtual property constitutes larceny.

Zhang Mingkai holds that, "It is not necessary to define the concept of virtual property, but just judge whether the virtual property infringed by the perpetrator can possibly be managed, transferred or valued. If yes, it shall be identified as property; otherwise, even if widely recognized as virtual property, it shall not

① Ibid.

② Li, 2013

be identified as property in criminal law.”^① The management possibility refers to whether virtual property can be dominated and controlled; the transference possibility refers to whether virtual property can be transferred to a different account; the value refers to whether virtual property has a market value. Virtual property in possession of these three features can be judged as the property prescribed in criminal law, which can constitute the object of larceny. To declare guilty and punish crimes, criminal law just needs to define its nature as property rather than to describe what nature the property is.

3.2 Negation of the “theory of virtual property as a creditor’s right” from the perspective of larceny in insurance law

Law, based on bounded rationality and procedural justice, always lags the market. Virtual property is not systematically prescribed by law, but its great value has already been affirmed by the market. The launch of virtual property insurance proves the strength of the virtual economy and its nature as not being a creditor's right. Now virtual property insurance can be classified into two major categories: virtual property damage insurance^② and virtual property liability insurance.^③

The validation of virtual property liability insurance subject and calculation of insurance compensation amounts indicate that virtual property’s value is independent of its generation basis, i.e., creditor’s rights. The existence of virtual property liability insurance presupposes an onerous contract relationship between a network service provider and a network user. The network service provider shall be liable for damages if the network user is victimized by burglary of its virtual property due to the fault of the service provider. But the network service provider can transfer the liability for damage to an insurer by purchasing virtual property liability insurance. The compensation amount of virtual property insurance is calculated based on the virtual property market value, not measured by the deal price agreed to by the network user and network service provider. This proves that virtual property rights are not a creditor’s right, but a property right independent of creditor’s rights. Creditor’s rights certainly possess property values and can be treated as a trading object in modern market transactions, namely, disposed as assets. But with virtual property liability insurance, the network service provider or network user does not propose to transfer the creditor’s right. Although the virtual property liability insurance is created based on the contract between the network service provider and the network user, the validation of the insurance subject and calculation of insurance compensation amounts instead prove that the virtual property rights are property rights different from creditor’s rights.

Moreover, the subject of virtual property damage insurance is the loss of virtual property value, more intuitively showing the independent value of virtual property. After the establishment of a contractual

① Zhang, 2015

② For example, China’s largest virtual goods trading platform 5173 joins hands with the People’s Insurance Company (Group) of China Limited (PICC) to launch virtual property insurance services. This type of insurance was developed by PICC and sold on the 5173 platform in order to ensure the security of virtual property trading among online game players. When users trade goods on 5173 platform, the buyer can choose the insurance options for the purchased equipment; once the equipment is retrieved by the seller maliciously, PICC will fully indemnify the sufferer. (Zhang Zhouping, Growing Market of Virtual Property Insurance. Faren Magazine, 2013, 8.) Taobao also launched Tencent game props insurance jointly with Ping An Insurance Company and the latter provides equipment insurances services for X-game, an MMORPG under Tencent Games. The players can start Safe Box services to buy insurance at QQ Insurance interface and the insurance takes effect on the day and remains valid for one month. Once the game equipment in the Safe Box is lost and cannot be retrieved, the players can apply for at least “1 yuan premium, hundred times claim” to get cash compensation. Ping An Property Insurance Joins Hands with Tencent to Launch China’s First Virtual Property Insurance. Retrieved from: <http://finance.qq.com/a/20130608/017487.htm>.

③ For example, Sunshine Insurance launched damage liability insurance for online game operators and players with GAMEBAR. This insurance is a liability insurance purchased by online game companies from the insurance company and the latter shall guarantee the interests of the former and online game players as per the insurance contract. If players’ account data were stolen or lost due to the online game company’s fault in security assurance, the insurer shall assume relevant responsibilities pursuant to the stipulations of the insurance contract. The First Listed Virtual Property Insurer in the World. Retrieved from: <http://m.dooland.com/index.php?s=/article1/id1154577.html>.

relationship between the network service provider and the network user through a network service protocol, the network user plays the game and accepts the services through an account, thereby accessing the virtual property for value or for free. The time and money invested by the network user during the usage enable virtual property to increase its existing market value or gain market value if it does not initially have any. It is the value of virtual property that makes it the subject of virtual property damage insurance.

Finally, the coexistence of virtual property damage insurance and virtual property liability insurance can further prove that virtual property is independent of network service protocols. For the same user's virtual property in insurance services, either the network service provider or the network user can buy virtual property liability insurance from an insurer. This indicates that the network service provider does not have the exclusive property rights over virtual property; otherwise, the provider will not allow the network user to sign an insurance contract with the insurer. In turn, the reason why the network user can buy virtual property damage insurance is that he has an exclusive property right over his virtual property.

4. Justification of virtual property rights as a new independent civil property right

4.1 Virtual property's uniqueness is enough to make it the object of a new property right

Some scholars have opposed treating virtual property as the object of a new property right because the "theory of virtual property as a new property right" overstates the uniqueness of virtual property, which is considered not enough for separation from reality.^① But scholars holding such an opinion also admit that, "Network virtual property possesses an 'intangibility' similar to that of the object of intellectual property rights, and also the form of protection similar to that of traditional property."^② Some scholars even argue that virtual property rights are real rights turning to have the character of creditor's rights.^③ The legislative body also fully recognizes the fact that virtual property is characterized differently from traditional real rights and creditor's rights. Sun Xianzhong who participated in the formulation of General Provisions of the Civil Law believes that network virtual property shall not be fully defined as general property. The standard of property value must be a social one universally accepted by society, but network virtual property still cannot meet this requirement. As a result, he submitted it to the 5th Session of the 12th National People's Congress for modification of the original statement in the General Provisions of the Civil Law (draft) during the deliberations.^④ Any forced interpretation of virtual property rights as real rights or creditor's rights may face the theoretical issues and barriers for legal applicability, which are hard to explain. "In the face of the constantly merging new property forms, we do not have to establish a new institutional system if the existing legal system can be used to standardize them, so as to maintain legal stability."^⑤ Nevertheless, it is better to face the particularity of virtual property rights and the fact of a booming virtual economy, and identify virtual property rights as a new property right, i.e., "virtual property rights," than to create too many exceptional interpretations for adaption to the existing legal system, causing the existing rights system to fall apart and

① Yang & Wang, 2004

② Ibid.

③ Zheng, 2016

④ Retrieved from: <http://www.bbtnews.com.cn/2017/0316/185402.shtml>.

⑤ Zhao, 2011

damage its internal logical structure, bringing impacts to the dichotomy system of real rights and creditor's rights. Wu Jingxiong once said: Law science and legislation are both of openness. For instance, we can generally describe the 19th century as a century inclined to specialization. A variety of specialties developed internally in their own way. This fashion certainly also affected law science."^① Facing such rights with complicated and individualized content, we shall identify them as a new right and regulate them by a single law, a way that can better accord with the continuously increasing amount of property and content of rights.

4.2 Intangible property rights as a superordinate theoretical concept cannot precisely reflect the nature of virtual property rights.

Identifying virtual property as intangible property is also one of the opinions held by the theoretical circle, but in my opinion, it has the following problems.

The first problem is that intangible property rights are not a standard concept of law, but a concept created in theory and used to describe the rights related to intangibles or tangibles. Intangible property rights exist only as a descriptive or theoretical concept but identifying an emerging right as an intangible property right is actually nothing more than describing the features of such a right, instead of revealing its essence.

The second problem is that "there are a wide variety of intangible property rights which further consist of countless subtypes. It is difficult to find common rules even within the same intangible property right. Therefore, from the perspective of overall intangible property rights, the content of property rights vary greatly."^② The three typical intellectual property rights considered as intangible property rights, i.e., copyright, patent right and trademark right, can hardly be unified and standardized in one code due to their unique rules, so a single law shall be formulated for each of them. On the premise that unified rules have not yet been formed for the internal rights of intellectual property rights, and the nature of virtual property as an intellectual property right is denied, identifying its nature as an intangible property right is just an objective description, without any benefits.

The third problem is that the concept of intangible property rights is just a theoretical generalization, which is irrelevant to the legislative models of intangible property rights. Although in some countries, general provisions of property rights are stipulated in the Civil Code, the property concept always includes movable or immovable property.^③ The discussion of the attribute of virtual property rights as an intangible property right without legislative precedents does not have the foundation of comparative law. For now, at least, it is still impossible for China's legislation to give up the existing tangible property rights system, and in turn adopt a greater property rights system to cover intangible property rights.

4.3 The high legislation cost cannot fully justify the negation of independent virtual property rights.

One of the reasons for negating the attribute of virtual property rights as a new property right is that, "The legislation cost for establishing a complete set of new property protections system is too high; if without such a protection system, this theory then turns into a 'depicted cake' that looks tasty but cannot really fill the stomach."^④ Such an opinion just mentions the high legislation cost in a general way, but does not analyze what

① Wu, 2005

② Zhao, 2011

③ Article 156 of French Civil Code; Article 810–821, Chap. I "Property," Vol. III "Ownership" of Italian Civil Code; Article 333, Series I, Vol. II of Spanish Civil Code; Article 79–84, Part II of Brazilian Civil Code.

④ Tang, 2015

kind of legislation cost is high and why it is so high. The so-called legislation cost refers to the cost-benefit analysis of legislation, namely, calculating the legislation cost and benefits, analyzing them by the benefit-cost-difference method and benefit-cost-ratio method, and finally deciding whether legislation is necessary and which legislation is the best option.^① But from the perspective of legislation cost for virtual property, such an opinion has some problems. The first is that there is no independent agency in China that can uniformly inspect and coordinate the cost-benefit analysis of legislation. Without such agencies to analyze the legislation cost and benefit of virtual property, it is certainly impossible to draw a conclusion stating that the legislation cost of virtual property is too high. The second problem is that even if the cost-benefit analysis of legislation is conducted by a private organization, the conditions for accessing analytical data are not available. The cost-benefit analysis of legislation needs plenty of data, requiring the collection of complete information. Presently, there is no collection, analysis and comparison of data for virtual property in China and no one has ever conducted an analysis of legislation cost for virtual property. The last problem is that a “cost-benefit analysis is not fit for all legislations.”^② The cost-benefit analysis of legislation itself also incurs cost, and the collection and statistics of relevant data are almost an impossible mission due to virtual property’s oversized scope. The tremendous cost for cost-benefit analysis of legislation determines that it is unfit to conduct such analysis for virtual property.

On the contrary, viewed from the legislative attitude of the General Provisions of the Civil Law towards virtual property, there is no need to consider legislation cost if virtual property is identified as virtual property rights. The General Provisions of the Civil Law generally stipulates that virtual property shall be protected by law, with no specific provisions on the nature and concrete protective methods of virtual property, and relative laws shall be referred to as to its concrete protective methods. So far, the civil legislation of virtual property is still inadequate; the concrete protection of virtual property will certainly be detailed in a single law. Therefore, no matter which rights it is identified as the cost for secondary legislation is inevitable. If the attributes of the rights for virtual property are identified as real rights or creditor’s rights in legislation, there will definitely be many exceptions deviating from the rules of traditional real rights or creditor’s rights, such as limitations on disposal rights, special ways of publication and other regulations. This case will in turn affect the legislation quality. Low legislation quality will be the biggest waste of legislation cost. Therefore, the most objective way of thinking towards legislation cost is to face the true nature of virtual property, and not to include it into any existing rights with similarities but also large differences.

4.4 The relational structure of Civil Law and Intellectual Property Law provides an example for the independent legislative model of virtual property.

“Due to the tradition of codification since Roman law and the inability of legislative techniques, intellectual property has never been able to appear in the modern society’s civil code with paradigms as a systematic rights system.”^③ Intellectual property rights face no pressure under the broad concept of “property” in the Anglo-American Legal System, but there is a predicament about how to enter the Continental Legal System. Both French Civil Code and German Civil Code based on the Roman legal system follow the beaten

① Liu & Jin, 2016

② Ibid.

③ Wu, 2003

track of treating property as an object and thereby establish a real rights system of ownership, from which a dichotomy system of property rights comprising real rights and creditor's rights is formed. The impregnable Pandekten system keeps to the existing rights system too firmly to let in new rights. Whereupon jurists have been compelled to use the legal concepts such as "creditor's rights turning to have the character of real rights," "real rights turning to have the character of creditor's rights" and "quasi-real rights," trying to make a connection with real rights or creditor's rights and gain favor from the traditional civil rights system that can provide legal protections and remedies. But the above methods can hardly apply to and explain intellectual property rights, because the corporeality of object of real rights as a precondition has directly excluded intellectual property rights. Despite their many features in comparison with traditional private rights, such as mingling with attributes of public law, more procedural provisions, and strong regulatory character, intellectual property rights are still identified as private rights overall. In terms of legal applicability, the application of basic principles in civil law face no pressures. "The compilation of modern civil code is an important way to realize legal modernization. The intellectual property law having undergone systematic and modern transformations is 'incorporated into the Civil Code' becoming a historical coordinate of the civil code with 'paradigms'."^① "Making a connection between intellectual property law and Civil Code, namely, making an institutional arrangement of intellectual property rights in the civil rights framework of Civil Code is an issue about intellectual property law being 'incorporated into the Civil Code'."^② There are three specific modes, i.e., take-in type, blending type and linking type. In Chapter 5 of "Civil Rights" in General Provisions of the Civil Law of China, a special section is arranged to prescribe intellectual property rights, setting principles for copyright, patent right, trademark right and right of inventions, which is a typical linking-type legislative model. In the compilation of the Civil Code, the Chinese legislators still follow the existing linking-type legislative model of intellectual property rights in the General Principles of the Civil Law. The generalized provisions on intellectual property rights in Article No. 123, Chapter 5 "Civil Rights" in General Provisions of the Civil Law inherit the linking-type legislative model which has proved to be successful in the 30-year practices of the General Principles of the Civil Law. While maintaining the stability of the code, the legislators allocate a position to intellectual property rights in the civil rights system through linked clauses, successfully incorporating intellectual property rights into the traditional civil rights system, so that the essence of intellectual property rights as being protected by private law is affirmed in legislation. This no doubt provides a definite legal basis for principal theory and system of civil law in the field of intellectual property rights.

Creditor's rights and real rights are the reflection of relative rights and absolute rights in the field of property rights. The intervention of intellectual property rights has not exerted a destructive effect on the property rights system. In the new property rights system, intellectual property rights coexist harmoniously with real rights and creditor's rights, enriching the property rights system and also providing a successful example for the introduction of virtual property rights. The advanced experience of linking-type legislation for intellectual property rights in the General Principles of the Civil Law of China has been used for the legislation of virtual property. In view of its features, the unique legal protection rules of virtual property shall

① Yi, 2014

② Wu, 2003

be standardized in the form of a single law, just like the rules of intellectual property rights.

5. Analysis of the legislative frame of virtual property rights

5.1 Subject of virtual property rights

William Blackstone once said, “There is nothing which so generally strikes the imagination, and engages the affections of mankind, as the right of property”.^① In modern society, the values of intellectual products and virtual property are enough to rival all property. The booming intellectual property system is exactly the fruitful results obtained under the protection of the property rights system. It might be more appropriate to turn the above quotation into, “There is no legal system which inspires the enthusiasm for creation of mankind, as the right of property.” For the virtual property formed through the network coding design input by network service providers, it is supposed to endow the virtual property with virtual property rights by following John Locke’s Productive Labor theory, i.e., network service providers are the original subject of virtual property rights. Developers input massive manpower, materials and finances during the development of network virtual property and are justified to own the property rights.^② Even though virtual property does not enter the trading market, its usage value and exchange value shall not be denied.

After virtual products are put on the market by network service providers, network users obtain the virtual property rights through derivative acquisition. Network users cannot acquire virtual property rights in the original way, because they cannot develop network code and provide network services.” “Property rights might be the best way used in which to ensure that individuals devote sufficient resources to the creation of abstract objects.”^③ After acquiring virtual property rights through market conduct, network users can achieve preservation or appreciation of virtual property through their own maintenance and operation of the property. If not endowed with property rights, network users will not be motivated and encouraged to maintain and operate the property with best efforts, just as a legal proverb goes, “One shall have his peace of mind when he possesses a piece of land.”

“Rights shall have their own subject(s), but it is not necessary to specify whether subject(s) is in singular or plural form(s).”^④ Virtual property rights as a category of property rights can be shared by several persons and established to be a quasi co-ownership on its nature, i.e., “the so-called property rights except the proprietary rights co-owned separately or in common by several persons.”^⑤ In terms of legal applications, special law shall prevail if any provision is given therein. If no special law is formulated, provisions on co-ownership are applicable to the quasi co-ownership of virtual property. Assume that two or more subjects jointly open an online store and do not involve any common relations like family relationships, then it is in nature a store quasi co-owned by shares. If one of the subjects intends to sell its shares, the provisions on preemptive rights of co-owners by shares shall be applied and other co-owners shall be given priority in obtaining the online store’s shares. In general, it is necessary to consider the particularity of quasi co-ownership of virtual property when

① Norbert Horn, 1996

② Tang, 2015

③ Drahos, 2008

④ Zheng, 1963

⑤ Xie, 2011

applicable to co-ownership rules. If virtual property cannot be applicable to any division mode of common property, then only division by pricing is of practical significance.

5.2 Object of virtual property rights

As mentioned above, the independence of the “rights paradigm” protection path on the object of virtual property rights is exactly the key point criticized by the “relationships paradigm” protection path.^① In my opinion, the object has always been favored more theoretically by theorists, but the identification of the object does not help the resolution of practical problems. That is why the General Provisions of the Civil Law does not prescribe the object of virtual property rights. But if it is imperative to describe the object of virtual property rights, then I am prone to identify the object of rights as interests, through which it is able to be adapted to and cope with the abnormal phenomenon of identifying an object per type of rights in previous theoretical disputes, and differentiate the two concepts, i.e., object of legal relations and that of rights.

5.3 Exercise and protection of virtual property rights

Virtual property rights remain valid for a period of time and available during the provision of services by network service providers but are not permanent. During the validity of virtual property rights, the obligee is entitled to use, reap and dispose the properties. Network service protocol cannot restrict the disposal of virtual property rights in such ways as transfer, inheritance and division.

“The owner of any rights certainly can exercise his rights for his own interests, but on one condition that his interests shall never confront social interests. An individual is no more than a social cell and must not go beyond the spirit of the system, which is nothing else but creating his own rights by himself, the abuse of rights.”^② The principle of not abusing rights also governs virtual property. Since virtual property exists in cyberspace, where someone can abuse rights simply by moving the mouse and causing damage to others’ and to social interests, it is easier for people to abuse rights at a low cost. The criminal offenses by the use of networks such as gambling and obscenities overstep the limit of the obligee’s virtual property rights. It is prescribed in Article 132 of the General Provisions of the Civil Law that the civil subjects shall not abuse the civil rights and damage the national interests, the social public interests or the legitimate rights and interests of others. The principle of prohibiting rights abuse prescribed in the article also governs virtual property rights.

Virtual property rights shall be defined as absolute rights in nature, from which the right of absolute claim arises, i.e., the obligee of virtual property rights can exercise the right of claim such as return of properties, abatement of nuisance and elimination of dangers. Virtual property does not possess the corporeality of property, so its infringement by others is mainly manifested as the obligee’s changed account and password that can disable the obligee ability to login to the account. So, to exercise the right of claim for return of properties, the only way is to request the infringer to notify the new account and password, so as to recover the quasi-possession of the virtual property. Upon the exercise of the right of claim for abatement of nuisance and elimination of dangers, virtual property rights show no particularity.

When virtual property damages are caused by other’s infringement, it is supposed to claim for different compensations for the damages according to the categories of virtual property. Depending on the differences in content, virtual property can be classified into property-interest virtual property and personality-interest

① Shen, 2016

② Josserand, 2006

virtual property. The property-interest virtual property, such as game equipment, the account and password registered at an online store, refers to the virtual property that can bring economic interests. The personality-interest virtual property, such as pure network photos, net mail, microblog accounts and passwords, refers to the virtual property with little or no economic value, but more reflecting personality interests.^① For the infringement of property-interest virtual property, it should be undoubtedly for the obligee to claim for property damage compensation, with the market value or estimated value as the reference factor for determining the amount of indemnity. There are different views in the academic circle on whether the infringement of personality-interest virtual property can claim for spiritual damage compensation. There is an opinion that the applicable objects of spiritual damage compensation shall be confined to virtual subjects and characters, and the legal personality of personality-interest virtual property has not yet been accepted academically, so compensation shall not be granted.^② Another opinion is that the affection online game players attach to the virtual items shall be used to justify the necessity of spiritual damage compensation.^③ Both opinions contain some defects. The first is that plentiful virtual property varieties are overlooked when virtual property is confined to virtual characters in online games, from which a unilateral conclusion is drawn on whether compensation shall be granted. The second is that the judgment on whether a spiritual damage exists is suspected of substituting personal subjective standards for the “generally reasonable person” standard. Regarding this issue, it is supposed to follow the logic of the current spiritual damage compensation system and judge on the basis of whether such virtual property has a symbolic meaning of personality, such as an E-mail address or microblog account storing some memorable letters, photos and articles. Subjective feeling shall not be used as the standard for paying spiritual damage compensation. My opinions have been supported in judicial cases. For instance, in the Dispute over a Contract on Entertainment Services in the Case of Li Hongchen v. Beijing Beijibin Technology Development Co., Ltd.,^④ the prosecutor claimed that he had devoted a lot of energy and affection to playing the game for two years, and the defendant’s deletion of items has given him a severe mental blow, so he requested a spiritual damage compensation amounting to RMB 10,000. The court did not support the request for spiritual damage compensation on the grounds that the deleted items did not have a legitimate value in themselves. Another noteworthy point is that because of its network coding features, if the virtual property, though deleted by network service providers or infringed by others, can be restored via recovery codes, then discretionary consideration shall be given in terms of economic and spiritual damage compensation. If property-interest virtual property is restored through the network service providers’ technical means, then only the losses indirectly caused there from shall be compensated for, such as operating losses, necessary litigation costs and others. If personality-interest virtual property is restored through the network service providers’ technical means, then a spiritual damage is still possible. In such a case, the amount of compensation shall be reduced accordingly, and the calculation shall not be conducted as if virtual property was completely lost, and meanwhile consideration shall be given to the necessary litigation costs and other property losses.

5.4 Publication of virtual property rights

Virtual property rights are in nature an absolute right, instead of a relative right, so their publication is

① Li, 2013

② Lin, 2010

③ Zhang, 2013

④ Civil Judgment (2003) CMCZ No. 17848 of People's Court of Chaoyang District, Beijing.

necessary to set a space for others' freedom to act. Some scholars believe that, "Publication is the source of the absolute effect of rights. To empower rights with a binding effect on others, it is imperative to let rights into the publication field."^① The attribute of virtual property as an absolute right just determines that it is possible to publish virtual property rights. The publication of rights not just aims at the right in rem. The necessity of publishing a right hinges on whether it might be infringed by others. The process of virtual property arising from custom and gradually entering the legal field as a new object of property rights is a process of virtual property rights being infringed. And virtual property rights "as a property right not dominating property but having actual dominance relations shall be protected by law without question."^② Virtual property rights can be published in a quasi-possession way. It is prescribed in Item 1, Article 966 of the so-called "Civil Law" in Taiwan, China, that, "A quasi-possessor is a person who exercises such property rights over a thing as are established without having taken possession of the said thing." It can be learned from such provision that quasi-possession comprises the following three components: (1) treating property rights as a subject matter; (2) being applicable to the property rights does not establish domination of the property; (3) exercising the right in reality.^③ As far as virtual property rights are concerned, although having the attribute of personality, some virtual property rights are on the whole a property right, instead of a right of personality. And virtual property differs from property because the former is not established for domination of physical objects. Finally, the obligee exercises the rights over virtual property. The quasi-possessors' requirements are nothing more than dominating virtual property in reality. Therefore, adopting quasi-possession as the way of demonstration for virtual property is completely fit for its own features. Moreover, considering the complicated varieties and huge differences in the values of virtual property, it is suggested to directly eliminate registration as the way of demonstration for cost purpose. Quasi-possession is externally manifested as the holding of account and password. Users login the account via account name and password, representing quasi-possession externally.

5.5 Alteration of virtual property rights

Acquisition of virtual property comprises original acquisition and derivative acquisition. The original acquisition of virtual property shall refer to the acquisition through labor, i.e., network service providers generate property via source code design. After being put on the market, virtual property is acquired by a successor through market transfer and the obligee of virtual property rights can transfer the virtual property again. These two transfers, though both are disposals of virtual property rights, differ slightly in essentials of establishment. The primary transfer is conducted by the network service provider to the vendee, i.e. the obligee of virtual property rights, and both sides just need to enter a basic legal relationship, usually through a network service protocol. The completion of registration directly results in the legal transfer of virtual property rights. And the secondary transfer must be completed by informing the transferee of the account name and password, i.e., external imagery of quasi-possession. Thus, the dual-alteration mode of virtual property shall be "basic contractual relationship + quasi-possession."

The issues about acquisition in good faith of virtual property rights may also emerge in a particular situation. Though stemming from real rights, the acquisition-in-good-faith system is designed to protect good-willed

① Mei, 2004

② Xie, 2011

③ Ibid. pp. 1241-1242

traders, and therefore its range of application shall be extended to cover all the property rights conforming to the requirements of publication. The attribute of virtual property as a right instead of a physical object determines that virtual property rights may also face the problem of unauthorized disposal rights acquired in good faith by a third party. Although Article 106 of Property Law of China confines the applicable objects of acquisition in good faith to real rights, the acquisition in good faith of stock rights provides that of virtual property rights with legislative and judicial experiences as guidance. It is clearly prescribed in Articles 7, 26 and 28 of Provisions of the Supreme People's Court on Some Issues about the Application of the Company Law of the People's Republic of China (III) (hereinafter referred to as Interpretation of Company Law (III)) that the provisions on acquisition in good faith in Article 106 of Property Law can serve as a reference to unauthorized disposal rights. In concrete application, the acquisition in good faith of virtual property rights shall involve the three cases below. The first case is that, if one account is registered by several persons who shall form a quasi-common relationship over the virtual property per a protocol, and if one of them disposes of the virtual property rights without other co-owners' permission, then unauthorized disposal rights is constituted and further acquired in good faith by a third party.^① The second case is that, it is prescribed in Article 26 of Interpretation of Company Law (III) that acquisition in good faith shall apply to the case in which significant shareholders dispose of the property of dormant partners. This provision can also be consulted for virtual property. If the real obligee registers Taobao stores or WeChat business accounts in the name of others for the sake of his status as a public servant, and the nominal obligee of virtual property rights later transfers the Taobao stores or WeChat business accounts to a third party, then the good-willed vendee's interests shall be protected through the application of the acquisition-in-good-faith system. The last case is that a game account might be lent out. If the borrower sells the account to other uninformed players in his name, then it is possible to apply acquisition in good faith to unauthorized disposal rights.

Virtual property can also be inherited, leading to the intergenerational transference of virtual property.^② Since virtual property is based on the Internet, accounts and passwords are necessary to the exercise of rights; with the object of rights attached to no physical object, anyone who has the accounts and passwords can control the virtual property online. Above features determine that if virtual property does not involve with property in terms of inheritance, then it is of personality-interest virtual property, and multi-person inheritance shall be possible, without division of the shares involved.

The division of virtual property rights might also be possible. If it is personality-interest virtual property which does not involve property interests and might be accessed by several persons via accounts and passwords just like that with inheritance, then the division issue does not exist. If it is of property-interest virtual property such as an online store and WeChat merchant account, then the division issue does exist. In respect to the division method, priority shall be given to the method that after bilateral consultation, one side acquires the virtual property rights and compensates the other side for the loss by payment. If both sides claim for the virtual property rights, then the attribution of the rights shall be decided through bidding.

Many factors can result in the eradication of virtual property rights and are directly related to the features of virtual property. In real life, virtual property rights can be eradicated for many reasons. The specific situations defy enumeration but contain the following cases. (1) Abandonment. Any right could be abandoned,

① Zhang, 2016

② Li, 2013

and virtual property rights are not an exception. For example, a registered E-mail account is abandoned, and other registered E-mail addresses are used instead. (2) Termination of services by network service providers. The existence and validity of virtual property rights are based on the premise of the services provided by network service providers. If network service providers terminate the network services due to operational transformation, business failures and dissolution, then virtual property rights shall be eradicated with the loss of cyberspace they depended on. It is well known that Yahoo Inc. called off its mail product due to the failed localization in China, many Yahoo Mail users' virtual property rights over the mail were eradicated with the termination of the network services. (3) Expiration of agreed duration. Network service providers and network users might set a duration for a specific network service; if the service duration expires, the virtual property rights obtained during the duration shall therefore be eradicated.

5.6 Legislative model of virtual property rights

The legislative model of single law for intellectual property rights has been proved to be a success after years of practice, while that of virtual property rights shall be the direction for legislators to work on in future. Even after the introduction of Civil Code, it is still necessary to adopt the legislative model of single law in order to meet the demands for rapid development of virtual property rights in the network era. The legislative model of database shall serve as a reference for the legislation of virtual property rights. For the protection mode of database, the debate among protection modes of copyright, anti-unfair competition, contracting, technical measures and special rights has always been there. The Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases (hereinafter referred to as "E.U.'s Database Directive") went into force in 1996, adopting the mode of special rights to protect databases. Germany and the UK have successively modified or formulated special provisions or laws on database protection. Database Investment and Intellectual Property Antipiracy Act of 1996 (also known as H.R. 3531) of U.S. and the WIPO Draft Treaty on Intellectual Property in Respect of Databases are also the protection acts treating database as special rights and formulated on the basis of the EUs Directive.^① The separate legislation model for protection of special rights suits the needs of unique rights content and relief methods for databases, and avoids confusion in interpretations arising from copyright, contracting and other comparable protection modes. In this regard, virtual property and databases bear resemblance. Virtual property has once been defined as various property rights, as a result of compromises reached through various legal fictions or analogies by sacrificing or overlooking the uniqueness of virtual property. In comparison, the legislative model of single law shall be adopted for virtual property rights. In future Civil Code, virtual property rights shall be prescribed in the "Rights" chapter of the General Provisions of the Civil Law as an independent property right. As for ordinal position, it is suggested to put virtual property rights behind stock rights and other investment rights, and stipulate that civil subjects legally enjoy network virtual property rights. This provision can then be followed by the catch-all provision, i.e., Article No. 126 of the General Provisions of the Civil Law, reading, "The civil subjects enjoy other civil rights and interests as prescribed by law," so that virtual property rights can truly become a member of the civil rights system. After the establishment of virtual property rights as an independent property right in the Civil Code, it is important to timely formulate Virtual Property Law, making systematic designs and arrangements for their special provisions.

① Huang, 2007

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