

# Research on the Noumena of Intellectual Property Rights from the Perspectives of Law and Economics

Haozhe Yuan

College of Yangming, Ningbo University, Ningbo 315211, China

miraclemakerjyc@qq.com

**Abstract.** This paper aims to explore the noumena of intellectual property rights through the analysis of law and economics, examining the functions of establishing the intellectual property rights system and its independent significance compared to other rights. A new approach to goods analysis is proposed to analyze the noumena of intellectual property rights and understand the functions and construction methods of the intellectual property rights system. By comparing intellectual property rights with other noumena such as data property rights, virtual property rights, and information rights, the independent significance of intellectual property rights is explored. Furthermore, an analysis of the creating process of right noumenon leads to the establishment of the principle of primacy for the original acquisition of intellectual property rights. Based on this principle, it is argued that the noumena of intellectual property rights should be the result or the certificate of "confirming rational significance."

**Keywords:** Intellectual Property Rights; Law and Economics; Goods Classification; Right Noumenon.

## 1. Introduction

The noumena of intellectual property rights is not easily known or defined. Due to the continuous development of intellectual property, the existing definitions are no longer sufficient to encompass its current types or to prepare for the emergence of new types of intellectual property rights. The term "noumenon" is used in this paper to replace the customary terms of "object" or "content" because those terms have been subject to academic controversies. The purpose of this paper is not to engage in the academic dispute between the two, but rather to use the term "noumenon" to avoid confusion and to clarify the functions and significance of the independent existence of intellectual property rights. By analyzing and exploring the noumena of intellectual property rights, this paper intends to elucidate the role of constructing the intellectual property rights system and the significance of intellectual property rights being independent of other domains.

## 2. The Economic Nature of Intellectual Property Rights

### 2.1 Rethinking Goods Classification in Classical Economics

Classical economics often classifies goods based on their exclusivity and rivalry to facilitate analysis, but there are various disagreements regarding the specific connotations of rivalry. It is sometimes referred to as "subtractability of use" or "rivalry of consumption." The former has a simple and clear definition, while the latter may introduce ambiguity due to the inherent definition of "consumption" itself. Moreover, there are differences in the connotations of the two terms. Consumption includes the aspect of use but also implies acquisition. Taking knowledge (regardless of whether the noumena of intellectual property rights is synonymous with knowledge) as an example, the use of knowledge is non-rivalrous, but its consumptive value may vary based on the number of consumers, and its market value may decrease as it spreads. Both "subtractability of use" and "rivalry of consumption" do not facilitate the analysis of such goods' nature. Let us attempt to explore the characteristics of rivalry and its potential causes to propose a reasonable definition of rivalry. One of the causes of rivalry in goods is congestion, which occurs when goods exceed their capacity to accommodate a certain number of users, leading to competition for the goods. If goods do not exhibit

congestion or not surpass the limits of congestion, they demonstrate zero rivalry or even negative rivalry. For instance, national defense exhibits almost no congestion, meaning that increasing the number of users or consumers of national defense is unlikely to surpass its capacity. On the contrary, to enjoy national defense, individuals often need to pay taxes, and the more people who benefit from national defense, the lower the cost borne by each person.

However, rivalry of acquiring and using the same goods is different. Taking health insurance as an example, an individual's purchase of health insurance does not influence others' purchases. Nevertheless, if everyone purchases health insurance, it may strengthen the financial capacity of the insurance, but it also increases the risk of "bank runs." If everyone falls seriously ill simultaneously, the insurance may become insolvent. Therefore, it is better to define rivalry based on "rivalry of acquiring," even though this definition may reduce the original connotations. Nonetheless, it facilitates the analysis of the nature of goods without creating ambiguity.

In general, knowledge exhibits no congestion, meaning that the acquisition of knowledge by one person does not hinder others from acquiring it. Instead, the acquisition of knowledge is facilitated by its dissemination, indicating a negative "rivalry of acquiring." As for evaluating the use of goods, it is more appropriate to use the term "feedback of use" instead of "subtractability of use." This is because in some cases, using goods can bring benefits, implying that the goods become "better with use." However, the "feedback of use" of the same goods is not fixed and is difficult to analyze (Scholar Yang Xiaowei summarizes it as having four characteristics: dual nature of "quality" and "quantity," unity of "subjectivity" and "objectivity," multi-causality, and specific spatiotemporal nature. He provides a profound analysis of the reasons behind these characteristics. For more details, refer to Yang Xiaowei. "Negative Competitiveness: Challenges and Improvements to the Theory of Goods Division in Neoclassical Economics - On the Generation Logic of Platform Economy." *Zhejiang Social Sciences*, 2021(01): 23-33+155-156. DOI: 10.14167/j.zjss.2021.01.003.). For example, in the case of national defense, the equipment used in national defense will undoubtedly experience wear and tear, but if sufficient compensation is obtained due to a victorious war, it can replenish the defense capabilities and even lead to upgrades and replacements, thus creating positive feedback. This is an inherent limitation of the original definition of "rivalry," which cannot be eliminated. Therefore, considering this point, it is appropriate to separate it from the original definition to facilitate the analysis of goods.

#### Analysis of Intellectual Property Right Noumenon

Based on the competitive nature of acquiring goods and the feedback nature of their use, the noumena of intellectual property rights is formed. The acquisition of intellectual property rights promotes others' access to the goods, whether it is knowledge itself or its carrier, as it becomes more accessible through dissemination. The use of intellectual property rights generates positive feedback utility, as it not only becomes more proficient with use but also influences or develops other technologies to gain advantages. Since the noumena of intellectual property rights can transform into more valuable goods through acquisition and use, why establish exclusivity in property rights and distinguish intellectual property rights from general public knowledge (regardless of whether the noumena of intellectual property rights is synonymous with knowledge)?

The discussion of exclusivity in property rights can be classified based on feasibility or infeasibility, which is often determined by the congestion mentioned earlier. In this case, competition is also related to exclusivity. The intense competition in acquisition can sometimes be transformed into the exclusive nature of property rights, such as the possession of tangible objects. By considering the two classification criteria of "feasibility or infeasibility" and "legitimacy or illegitimacy" of exclusivity in property rights, they can be divided into four categories: "infeasible," "feasible but should not be exclusive," "feasible and should be exclusive," and "can only be exclusive." The non-exclusivity attribute of the first two categories leads to market failures in regulation. Needless to say, goods that are "infeasible to be exclusive," such as air, cannot be privately owned and are naturally beyond market regulation.

The reason for distinguishing whether exclusivity should be applied in property rights lies in the fact that the existence of exclusivity itself establishes an order, a reverse entropy from disorder to order, from uncertainty to certainty (thus generating efficiency), which often implies a burden or productive value. Using the example of property rights, the Shangjunshu states, "If one rabbit runs and a hundred people pursue it, it is not because the rabbit can be divided into a hundred, but because the name is not yet determined... Therefore, the determination of names and divisions is the way to govern power." (Footnote reference). Similarly, if the copyright of a book is not determined, its content can be freely copied and resold, creating uncertainty in production or trade. In a natural state, a market without defined property rights tends to increase entropy. Therefore, based on this, different "knowledge" can be classified, categorizing "general public knowledge or ideas," among others, as "goods that should not be exclusive." Official documents, pure factual information and calendars, general numerical tables, generic forms, and formulas should not be protected by copyright. Scientific discoveries and principles should not be included in patent protection. Purely functional signs and generic symbols should not be included in trademark protection. the noumena of intellectual property rights encompasses those goods for which exclusivity should be applied, and the order generated by intellectual property rights will inevitably promote their creation and use. This is the consideration behind applying exclusivity in property rights.

The externalities generated by the use or production of goods should also be considered when constructing an order. In a natural state, a long-term and stable market tends to pursue positive externalities. Although individuals may not consider the external impacts in their immediate actions, the externalities of these actions will ultimately affect the sustainability of the market. Behaviors with negative externalities will be resisted, while behaviors with positive externalities will benefit the market. When combining externalities with the previously discussed entropy increase, a natural market is essentially a delicate equilibrium achieved through the combined effects of externalities and entropy increase. For example, if the negative externalities generated by pollution from a factory are too strong, it can trigger collective resistance from the public and result in regulations imposed on the factory. Conversely, if the negative externalities generated by pollution from a factory are not as strong, it may be difficult for the public to reach a consensus, leading to disarray.

Analyzing intellectual property rights within this framework: If a book is truly remarkable and generates strong positive externalities, everyone will rush to plagiarize, resulting in chaos. On the other hand, if a book is not as remarkable and does not generate strong positive externalities, people may not necessarily resort to plagiarism but instead form a purchasing order for genuine copies. Considering this comprehensive perspective, one of the reasons for not including "official documents, pure factual information and calendars, general numerical tables, generic forms, and formulas" in copyright protection, not including scientific discoveries in patent law protection, and not including purely functional signs and generic symbols in trademark law protection is that to establish order with property rights would weaken their externalities.

Coase's theory introduces the concept of "transaction costs." Different configurations of rights will result in different arrangements due to the existence of transaction costs. In a sense, these hidden "transaction costs" are formed through the entropy increase in the market. When establishing exclusivity in the noumena of intellectual property rights, the goal is to achieve the optimal configuration of rights that balances the reverse entropy and positive externalities to reach Pareto optimality.

### **3. Exploration of the Noumenon of Intellectual Property Based on its Nature**

#### **3.1 Difference between Intellectual Property and Other Rights**

Based on economic arguments, methods for constructing intellectual property systems have been developed. However, without a precise description of the noumenon of intellectual property, its independent existence cannot be clarified. Exploring the noumenon of intellectual property means examining its independent significance or, in other words, differentiating it from other rights.

Therefore, it is worth comparing intellectual property with other rights to reveal its unique characteristics and locate its noumenon.

### **3.1.1 Data Property Rights, Virtual Property, and Intellectual Property**

Broadly speaking, data property rights are not a single type of right, as the rights associated with data property encompass more than just possession, disposal, and use of data. The specific types of rights depend on the noumenon of the rights contained in the data. For example, if the data contains personal information, it falls under the scope of personal information protection. If the data represents a computer program, it falls under the protection of copyright. Data can also serve as evidence for other rights. For instance, virtual property, such as account levels, virtual currency, and in-game items, can be converted into tangible assets under certain conditions. However, the presentation of most content depends on the services provided by internet companies, making virtual property essentially a right to access services. Nevertheless, in the future, with the implementation of decentralized technologies, the benefits of virtual property will no longer depend on Internet companies, and users will have full control over data realization and disposal. Only then can it be considered as a "complete intangible property right." However, this "intangible property right" differs from intellectual property. The noumenon of different intellectual property rights varies. Different copyrights belong to different authors of works, different patents are granted to different inventors, and different trademark rights are awarded to different trademark holders. In contrast, in the case of virtual property, different accounts' levels, equipment, or attributes may be the same, with no distinction between their holders. In other words, if everyone has identical virtual property objects, the virtual property still holds value. However, if everyone possesses the same intellectual property right, apart from personal rights, that intellectual property right loses its value. Thus, there are fundamental differences between virtual property and intellectual property.

In conclusion, intellectual property may be realized through data interests, but it is not limited to data interests alone. The rights associated with data property include more than just intellectual property rights. Therefore, it is inappropriate to simply define the noumenon of intellectual property as intangible property because at least data property rights and virtual property, which are also intangible property, differ from intellectual property.

### **3.1.2 Information Rights and Intellectual Property**

Information refers to the presentation of objective attributes of things. Information rights can be divided into positive information rights and negative information rights. The former refers to the right to access information, namely the right to know, while the latter refers to the right to refuse disclosure of information. It is evident that intellectual property does not fall under positive information rights and differs from negative information rights as well. Although intellectual property relies on information for transmission, the information presented only represents the attributes possessed by the intellectual property itself, not the intellectual property itself. Rights holders have no right to possess or control the information contained within intellectual property. The purpose of establishing intellectual property rights is not to control the dissemination of the information it contains. Once information on work is published, it can be repeatedly accessed in libraries, museums, cultural centers, and other places. Information on a patent is made public upon its disclosure. The information presented on a trademark is precisely what it needs to represent and communicate. Thus, intellectual property differs from information rights. Therefore, it is also inappropriate to simply define the noumenon of intellectual property as information.

## **3.2 Discussion on the Issue of Original Acquisition of Intellectual Property**

By analyzing the differences between intellectual property and data property rights and information rights, we can understand the uniqueness and independence of intellectual property. However, the exact noumenon of intellectual property remains unclear. The characteristics of different rights entities differ during the occurrence or original acquisition of rights. Therefore, it is

worth discussing the contentious issues related to the determination of the original acquisition of intellectual property rights to further clarify the noumenon of the intellectual property.

Taking the attribution issue of intellectual property generated by artificial intelligence (AI) as an example, the key dispute lies in the uncertainty of the subject who created the intellectual property. The traditional approach assumes that the person who invents or creates the intellectual property is the rightful owner. However, this is not always easy to determine and prove. Let's consider replacing AI with another entity, such as a chimpanzee that can understand and autonomously create works (which is not entirely impossible). In this case, who would own the rights to the works created by the chimpanzee? If the chimpanzee can acquire legal personhood, then the rights would naturally belong to it. However, in the absence of legal personhood, the rights would generally belong to its owner. But if the chimpanzee's owner is different from the person who first encountered the work and claimed it as their own, it becomes extremely challenging to prove ownership. If the owner of the chimpanzee denies the person's authorship, should the owner be supported in claiming intellectual property rights? If so, let's consider replacing the chimpanzee with another entity. Suppose someone owns a set of cards with various texts on them. One day, due to wind or other reasons, the cards are scattered on the ground in a specific order, forming a work that is seen by someone other than the owner, who claims it as their creation. In such a scenario, it would be difficult to support the claim of intellectual property rights by the person who saw the work later, based on his property rights. In other words, the intellectual property rights of this work are exclusively occupied by the first person who saw it. This principle can also be applied to the "chimpanzee problem."

By using this principle to discuss the disputes arising from the use of AI-generated intellectual property, we can draw several conclusions. Firstly, intellectual property is not necessarily the result of intellectual creation. Secondly, the general principle for acquiring intellectual property is based on the concept of "first occupation." Whether it is created from scratch through intellectual activities or acquired through perception and recognition of existing results, both are common ways to create the noumenon of intellectual property. This creation method is consistent with its function, which is to determine a possibility in the unknown. A work represents the determination among all possible creative outcomes, an invention represents the determination among all possible technological solutions, and a trademark represents the determination of a symbol associated with a subject's reputation. This process of defining and expressing rational significance is the noumenon of intellectual property and its existence. Although its existence depends on a certain form, its nature itself is metaphysical. In other words, the noumenon of intellectual property is a metaphysical entity that represents the confirmation of rational significance or the certificate obtained through the confirmation of rational significance.

In summary, works, inventions, trademarks, etc., are just certificate of a certain metaphysical entity. Works serve as certificate of knowledge, inventions serve as certificate of technology, and trademarks serve as certificate of the connection between symbols and a subject's reputation. This certificate not only confirms their existence and function but also serves as certificate of a subject's discovery, invention, application, or creation of the metaphysical entity (although this certificate can be transferred, the original occupant often permanently enjoys certain personal rights). The existence of these metaphysical entities is defined by human rationality.

#### 4. Summary

This paper proposes a new approach to analyzing objects based on the exclusivity of property rights, the competitiveness of acquisition, and feedback of utilization. By applying this method, the noumenon of intellectual property can be analyzed. Intellectual property has negative competitiveness in the acquisition and positive feedback in utilization. The key question in constructing an intellectual property system and utilizing intellectual property is how to establish the exclusivity of property rights. Based on considering the "transaction costs" formed by market entropy, the configuration of

the exclusivity of intellectual property should be based on the "negative entropy" and "positive externality" of intellectual property, aiming to achieve optimal comprehensive utility.

Although the functionality and construction methods of intellectual property rights have been derived through economic analysis, the independent significance of intellectual property rights would be questioned if their noumena cannot be clarified from a legal perspective. Exploring the independent significance of intellectual property rights essentially involves examining the differences between intellectual property rights and other distinct entities' rights. Comparing intellectual property rights with data property rights, virtual property rights, and information rights, not only demonstrates the distinction of intellectual property rights from the aforementioned rights but also argues against defining the noumena of intellectual property rights solely based on intangible property or information. To further clarify the noumena of intellectual property rights, the example of the attribution of intellectual property rights generated by artificial intelligence is discussed, focusing on the issue of the original acquisition of intellectual property rights. By separating the acquisition of intellectual property rights from the creation of their noumena, the principle of first occupation can be applied to the original acquisition of intellectual property rights. Based on this, it is proposed that the noumena of intellectual property rights should be seen as the result or the certificate of "confirming rational significance."

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