

国家保护知识产权工作研究基地

教育部人文社会科学重点研究基地

中南财经政法大学知识产权研究中心学术刊物

知识产权年刊

(2006年号)

Intellectual Property Rights Annual Journal

吴汉东 ©主编

- *Patented Standards and the Tragedy of Anti-commons* Nari Lee
- 修理、零部件的更换与专利侵权的判断 田村善之
- *TRIPs*协议：欠发达国家的不满及应对 Peter K. Yu



北京大学出版社
PEKING UNIVERSITY PRESS

中国知识产权研究会
CHINA INTELLECTUAL PROPERTY RESEARCH SOCIETY
CHINESE INTELLECTUAL PROPERTY RESEARCH SOCIETY

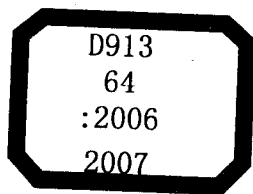
知识产权年刊

CHINA INTELLECTUAL PROPERTY RESEARCH SOCIETY

CHINA INTELLECTUAL PROPERTY RESEARCH SOCIETY

CHINA INTELLECTUAL PROPERTY RESEARCH SOCIETY

- 1. 中国知识产权研究会 2011 年学术年会 2011
- 2. 中国知识产权研究会 2011 年学术年会 2011
- 3. 中国知识产权研究会 2011 年学术年会 2011



知识产权年刊

(2006年号)

Intellectual Property Rights Annual Journal

吴汉东 ©主编



北京大学出版社
PEKING UNIVERSITY PRESS

图书在版编目(CIP)数据

知识产权年刊(2006 年号)/吴汉东主编. —北京:北京大学出版社,2007. 2
ISBN 978-7-301-11592-3

I. 知… II. 吴… III. 知识产权-年刊 IV. D913-54

中国版本图书馆 CIP 数据核字(2007)第 013190 号

书 名: 知识产权年刊(2006 年号)

著作责任者: 吴汉东 主编

责任编辑: 向晋勇 付 琴

标准书号: ISBN 978-7-301-11592-3/D · 1691

出版发行: 北京大学出版社

地 址: 北京市海淀区成府路 205 号 100871

网 址: <http://www.pup.cn>

电 话: 邮购部 62752015 发行部 62750672 编辑部 62752027
出版部 62754962

电子邮箱: zzpl05@163.com

印刷者: 北京大学印刷厂

经 销 者: 新华书店

730 毫米×980 毫米 16 开本 25.5 印张 446 千字

2007 年 2 月第 1 版 2007 年 2 月第 1 次印刷

定 价: 40.00 元

未经许可,不得以任何方式复制或抄袭本书之部分或全部内容。

版权所有,侵权必究

举报电话:010-62752024 电子邮箱:fd@pup.pku.edu.cn

目 录

学科前瞻

Patented Standards and the Tragedy of Anti-commons	Nari Lee (1)
修理、零部件的更换与专利侵权的判断	〔日〕田村善之 著 李扬 译 (36)
TRIPs 协议:欠发达国家的不满及应对	Peter K. Yu (53)
我国知识产权人才现状及其培养思路	曹新明 梅术文 (63)
我国商业标识立法体系的重构	王莲峰 (81)
专利联营之反垄断规制分析	张 平 (94)

热点聚焦

职务报酬的发明权属性及其创新激励探讨	陶鑫良 (114)
论我国《专利法》对职务发明规定之不足及其完善	李艺虹 傅剑清 (147)
传统医药知识保护之制度创新	
——从断裂的黔东南传统医药产业链谈 IP 制度创新	李 轩 (159)
从搜寻引擎的技术创新看知识产权的有关保护	余启民 (173)

学术争鸣

消费者理论对版权合理使用制度的影响	张 今 (188)
论虚拟物的无体物权	杨建斌 (197)
知识产权制度对科技发展的影响及我国的对策	胡开忠 陈 娜 (208)
商标法的经济学分析	彭学龙 (225)
版权保护与表达自由:冲突与协调	宋慧献 (273)
商标间接侵权研究	王 迁 (300)

后 TRIPs 时代中国知识产权战略选择研究

——以经济分析为视角 卢海君 (335)

✎ 域外法制

韩国版权法若干问题探讨 朴荣吉 (371)

美国知识产权法中的公共领域研究述评 王太平 (380)

✎ 疑案点评

“车把手”专利侵权案剖析 张荣彦 (395)

Patented Standards and the Tragedy of Anti-commons^{*}

Nari Lee^{**}

专利标准与反公共地悲剧

[芬兰]纳瑞·李

内容摘要 目前学界存在着关于知识产权越来越接近于有形财产权,即知识产权“财产化”的讨论,这种讨论通常始于这样一个问题:从理论和实践角度来看,知识产权与一般财产权有何类似、差异以及如何处理这种类似、差异。目前法律规定某些重要的、有用的信息可以成为专利权的客体获得财产权的保护,在财产化的讨论语境中,本文结合信息通讯技术业(ICT)的专利标准,考察

^{*} This article has been first published as Teollisoikeudellisia Kirjoituksia VII. (2006) edited by Ari Saarnilehto. Turun yliopisto oikeustieteellinen tiendekunta. (University of Turku, Faculty of Law Publication): pp. 1—34.

^{**} LL. D. COE Researcher, School of Law, Hokkaido University, Japan.

了经济学中颇具影响的两种财产权理论在知识产权领域的适用问题。其一是哈丁(Garrett Hardin)提出的“公共地悲剧”(tragedy of commons)理论,该理论解释了公共资源由于缺乏必要的产权界定而可能导致被过度使用而衰竭的现象。以公共牧场为例,每一个人都希望能够多放一只羊而使自己的利益最大化,并且每一个人都没有权力阻止他人也这么做,但牧场容纳羊的数量是有限的,最后可能因为过度放牧而造成牧场毁灭的悲剧,因此对公共物品或公共资源的自由使用可能会导致其毁灭。其二是海勒和艾森伯格(Heller & Eisenberg)提出的反公共地悲剧(tragedy of anti-commons)理论,他们认为如果产权分割过细可能会导致资源不能被充分利用,并进一步考察了生物医学领域过多专利可能导致的反公共地悲剧现象,认为鉴于高交易成本、不同权利人间的利益多元化和研究人员的认识偏见等原因,生物医学领域比其他领域更有可能产生反公共地悲剧。生物医学研究成果可能服务于公共健康等公益目的,而上游专利过多可能会导致下游产品的缺乏,故建议决策者应谨慎对待其中的产权私有问题。

本文在比较上述理论差异的基础上,认为公共地悲剧理论虽然是论证知识产权制度合理性的重要理由,但其主要适用于竞争性商品,如果将其适用于作为知识产权客体的非竞争性信息可能导致将所有的外部性包括正外部性内部化。相比之下,以ICT为例,反公共地悲剧理论的适用强调标准本质上是一种可分享的信息资源及其对特定产品市场竞争的关键作用,强调交易成本所导致的交易失败,似乎能更好地适用于作为知识产权客体的非竞争性、非排他性信息。

1. Introduction

Arguments that intellectual property is becoming more and more like tangible property have been heard, both in the academia and in the general public debates on intellectual property. In fact, the expression of ownership is frequently used to describe the relationship between the right holder of patent and copyright and the subject matter it covers, in the text of law.^①One consequence of this has been that property theories and doctrines find their ways in

^① Agreement on Trade Related Aspects of Intellectual Property Rights, [hereinafter TRIPs] 1994, that enshrines minimum standards for IP rights refers to the IP right holders under the agreement as an “owner” in the context of copyright in Article 14(3), in trademark Article 16(1), in industrial design Article 26(1), patents 28(1), (2) and in general provision related to competition, as a “intellectual property right owner”, article 40(3).

the court cases and that intellectual property as a variant of ownership may be viewed as a comfortable and acceptable way of describing the current legal status of intellectual property. Reflecting this is the academic debates of intellectual property [hereinafter IP] “propertyization.”

In academic context, IP propertyization is used to critique applications of property theories to explain a societal change or to propose a subsequent legal reform surrounding the problematic nature of “owning” an intellectual property. IP propertyization debates start from the question *how similar or how different IP rights are, and should be treated differently from property rights on tangibles*.^① IP propertyization debates are not merely an academic exercise, as the theory does get fleshed in practice, when property claims of IP prevails over other interests in response to the claims of IP ownership and leads to an actual assertion of exclusive right close to an absolute right of property. In a more general context, it lends persuasiveness to an interpretation of current IP law to signify that *it is wrong to use any valuable information without asking permission of the creator of the information*.^② This is so, even in the absence of explicit provision in law prohibiting such use, or requiring such use to be compensated, and even in cases where the subject matter at hand may not receive the protection from IP law.^③ At an extreme, if the subject matter of IP

① See Lemley, Mark A. (2005), Property, Intellectual Property, and Free Riding. Stanford Law and Economics Olin Working Paper No. 291. Available on the Internet, <<http://ssrn.com/abstract=582602>>, criticising propertyization and See Posner and Landes (2003) *The economic structure of intellectual property*, Harvard university press, at 11, extending a case for propertyization, by stressing the continuity of the property interests. See also, McGowan, David, (2005) The Trespass Trouble and the Metaphor Muddle. Minnesota Legal Studies Research Paper No. 04-5. Available on the Internet <<http://ssrn.com/abstract=521982>>, criticising the scholarly attacks on the US case law application of property law doctrine to Internet disputes. Although this paper is only tangentially related to the discussion of IP propertyization, his dynamic and robust definition of property suggests the negative view on the application of property theories to non property area, can be characterized by the authors' restricted understanding of “property.”

② Lessig calls this a “permission culture”. See Lessig, Lawrence (2004) *Free Culture* Penguin Press, New York, at xiv and discussion at 116—173.

③ See for example in Japan, Digital Alliance Case, Tokyo High Court Heisei 17 (Ne) 10049, Decided on October 6, 2005. Available on the Internet, <<http://courtdomino2.courts.go.jp/chizai.nsf/Listview01/0C642A4A124DC13D492570970018104B/?OpenDocument>>, [cited on January 5, 2006]. On the appeal from the lower court decision finding neither copyright nor tort, the Tokyo High court, on appeal, found no copyright protection of the headline, for lack of originality but still held that the act of copying the headline is illegal, and granted damages under Japanese Civil law section 709 without injunction.

should be legally treated in the same manner as other objects of property, any rights and the use of such right arising out of IP should be treated in the same manner of ownership, in terms of its scope, substance, duration and the range of available remedies.^①

IP “propertytization” may be a natural outcome of various changes and event that culminated into the preamble of the TRIPs agreement that ensures the protection of IP as a private right.^② This declared the victory of the chant that IP is still a property against the claims of monopoly that highlighted the public nature of the right.^③ Despite the fact that the TRIPs agreement did not call for law reforms to include intangible objects or immaterial objects as a specie of “thing” subject to ownership in the civil law countries or equivalent abstract objects in the others^④, it has practically closed the discussion whether they are or should be an object of property, as it groups patent, copyright and trademark together under the umbrella of “intellectual property,” analogous to tangible property ownership.^⑤ As a result, there seems to be a global acceptance that IP can be and is privately owned, either under the civil law or com-

① See Posner and Landes (2003) *The economic structure of intellectual property*, Harvard university press, at 7—8.

② TRIPs Preamble paragraph (e).

③ See for example, Kitch E. W. (1986), Patents, Monopolies or Property Rights? 8 *Res. L. & Econ.* 31, Kitch E. W. (2000) Elementary and Persistent Errors in the Economic Analysis of Intellectual Property 53 *Vand. L. Rev.* 1727. Easterbrook Frank H. (1990). Intellectual Property Is Still Property, 13 *Harv. J. L. & Pub. Pol'y* 108 at 118. Carrier, Michael A. (2004) Cabining Intellectual Property Through a Property Paradigm. 54 *Duke Law Journal* 1. Available on the Internet. <<http://ssrn.com/abstract=537762>>.

④ TRIPs Article 1(1) where it is provided that the members are free to determine the appropriate methods of implementation of the agreement, within their own legal system.

⑤ See Lemley, Mark A. (2005), Property, Intellectual Property, and Free Riding. Stanford Law and Economics Olin Working Paper No. 291. Available on the Internet, <<http://ssrn.com/abstract=582602>>, criticising propertytization and See Posner and Landes (2003) *The economic structure of intellectual property*, Harvard university press, at 11, extending a case for propertytization, by stressing the continuity of the property interests. See also, McGowan, David, (2005) The Trespass Trouble and the Metaphor Muddle. Minnesota Legal Studies Research Paper No. 04-5. Available on the Internet <<http://ssrn.com/abstract=521982>>, criticising the scholarly attacks on the US case law application of property law doctrine to Internet disputes. Although this paper is only tangentially related to the discussion of IP propertytization, his dynamic and robust definition of property suggests the negative view on the application of property theories to non property area, can be characterized by the authors' restricted understanding of “property.”

mon-law tradition, despite the heterogeneous cultural perception what property is and what can be the object of property relations.

If one hears the claims of IP ownership often enough, it may get crystallized by usage. This is because an interpretation of law has a tendency to get crystallized by practice and create demands for a legal reform reflecting such usage in practices. ①Likewise, among all the interested parties, if an IP is understood and accepted as ownership right on the intangibles, it will generate a need for similar changes to acknowledge the practices. As with language, a certain understanding of law is dynamic that once a claim is verified and accepted by others, it becomes solidified as practice and awarded with an authority. ②In other words, if one hears the claim of the ownership of patent often enough, and if the interested persons accept the claim as such, and treat them as such, it might form the basis of argument for a legal reform reflecting these changes, or at least for a recognition of what are accepted as practices, positively or negatively.

Practices in this case would be how private actors behave in a given legal setting, or reacts to legal changes or lack thereof, to gain efficiency that the law fails to provide—a *private ordering*. In this sense, solidification of practices could be seen as giving a legal meaning to the private ordering, whether negatively or positively. Private ordering relates to the debates on IP propert-

① This is so called “If value then right theory of IP Law”, criticised by Dreyfuss, Rochelle Cooper (1990) Expressive Genericity: Trademarks as Language In the Pepsi Generation, 65 *Notre Dame L Rev* 397 at 405.

② For example, property law, whether they are civil law or common law, have accepted new forms of “objects” such as controllerable natural forces, and also new forms of contract surrounding new objects. At the same time, the concept of objects and the principle of numerous *clausus* is no longer so strictly applied in Civil law countries. While once believed as a law of things, property laws in both Civil law countries and in common law countries are viewed less of a law on things but more as law regulating peoples around resources. In fact, communication and verification are important function of numerous *clausus*. See for example, Heller, Michael (2003) *Property*. IN: *The Oxford Handbook of Legal Studies*. Cane and Tushnet ed. Oxford University Press at 69—71.

zation as it is enabled by legal changes allowing private transactions to occur.^① In this context, this article examines some of the application of property theories in law and economics analysing private ordering in IP.

This article first places patented standards in the debates of property theories, and evaluate the application of four strands of property theory that have been influential in the IP literature. In particular, this paper asks if the lessons from property theories, such as anti-commons theory, can be translated to the understanding problems surrounding *standardization in information and communications technology [hereinafter ICT] industry*. This is because a recent legal change propertizes any useful processing of information as patent eligible subject matter,^② and thus allows the claims of “ownership” in useful and essential information. If the changed context for the creation and the adoption of standards are direct results of the propertization of IP, would property based understanding of IP help us to limit the negative effects? Particularly, this article discusses if it would help to explain whether rational choices could lead to irrational outcome, thus result in a tragedy that calls for an institutional interference.^③

① See Williamson, Oliver (1985) *The economic institution of capitalism*: The Free Press, at 29, describing the position of transaction cost economics as an approach that disputes the efficacy of court ordering, while focusing on private ordering. Following this line of argument, see the discussion of private ordering in Merges, Robert (1996) Contracting into liability Rules: Intellectual property rights and collective rights organizations. 84 *Calif. L. Rev.* 1293. See however, criticism of pro-transactionist bias in private ordering arguments, Benkler, Yochai (2000) An Unhurried View of Private Ordering in Information Transactions, 53 *Vanderbilt Law Rev.* 2063.

② See Lee, Nari (2005) Patent eligible subject matter reconfiguration and the emergence of proprietary norms—the patent eligibility of business methods. 45 *IDEA The Journal of Law and Technology* 321—359, documenting such legal changes in the US, Japan and Europe.

③ Tragedy is a metaphor used by Hardin. Hardin Garret (1968) *The Tragedy of the Commons*, 162 *Science* 1243 at 1244. He uses the concept of Whitehead, that “The essence of dramatic tragedy is not unhappiness. It resides in the solemnity of the remorseless working of things. . . This inevitableness of destiny can only be illustrated in terms of human life by incidents which in fact involve unhappiness. For it is only by them that the futility of escape can be made evident in the drama.”

2. Propertization, Commons and Patented Interoperability Standard^①

Property rights on information in the form of IP are based on the optimistic vision of private transaction that would lead to efficient distribution and allocation of resources. By trading access with incentive, and thereby emphasizing the private transaction based recouping of the cost of creation, the system of IP presupposes private exchanges to occur so as to achieve its institutional efficiency. In most cases, however, cognitive biases and information asymmetry result in behaviours that lead to failure in achieving this efficiency. In the context of ICT industry, standardization seems to be an example of situation where the existence of property claims adds to the cognitive biases and information asymmetry, enabling these types of behaviours to surface easily.

The intersection of standards and IP requires law and policy makers behind the *public ordering* to consider activities including *private ordering* beyond the initial grant decision, and the context in which how IP is actually used. Typically as a market driven phenomenon, standardization reflects transactional *behaviours* involving *multiple* private parties, owning fragments of standards among themselves and also with the other parties who do not hold any proprietary rights over crucial technologies that have to be *accessed by definition*. When standardization is anticipatorily organised, the standard-setting process could be viewed as a form of private ordering, to improve or to remedy a condition created by inefficient initial entitlement decisions.^② Either as transactions of multiple IPs, granted and defined by law, as an organised

① Interoperability standard in this paper is used interchangeably with interface standards to include a set of product features whether physical or “virtual,” which enables connection and communication of two different systems/device/product/module and program.

② See Lemley, Mark (2002) Intellectual Property Rights and Standard-Setting Organizations, 90 *Calif. L. Rev.* 1889, arguing that standard setting organization is a species of a private ordering.

form of private ordering such as standard setting organizations (SSOs) or IP pools,^① and how right holders of IPs surrounding an essential interface information behave, individually and as a group can illuminate a case for or against the legal (institutional) interferences.

2.1 Interoperability Standard as a Useful, Essential and Shared Information

Standard can be defined as a set of product characteristics that are widely accepted or used by a large group of people.^② As a set of product characteristics, *a standard is in essence information*. It is information on product features and characteristics, whether certain qualities in a product meet a given “standard” imposed *i. e.* measurement standard, regulations on safety or health. At the same time, standard information is also information that enables compatibility and interoperability. While standards play important role in various industries, one significant distinction can be made on interface or interoperability standards in ICT industries and other product standards. An interoperability standard is *useful information* as it allows different parts and modules to be produced separately from the final end user product that could be multi-components product.^③ As a means that enables a comparison and

① This does not mean that ordinary pooling of IP is without any problem. The patent pools itself has long been a topic of intense debates from competition point of view, generating volumes of literatures whether to treat them legal or illegal, including guidelines available in the US, Japan, and Europe. See for example, for a survey of US antitrust policy for patent pools, Richard J. Gilbert (2004) Antitrust for Patent Pools; A Century of Policy Evolution, 2004 *Stan. Tech. L. Rev.* 3. Also Available on the Internet. <http://stlr.stanford.edu/STLR/Articles/04_STLR_3>.

② For the detailed definition of standards, see Lee, Nari (2004), Standardization and Patent Law-Is Standardization a Concern for Patent Law? Available on the Internet <<http://ssrn.com/abstract=610901>>, at 5—6.

③ While the fact that the essentialist quality of an industry standard is information, how this information is contained or manifested is different. For example, a standard can be specified, but its implementation would differ. As intangible information on a product, it could be incorporated into “tangible” products and devices, or even into other acceptable yet still intangible products, such as computer software, in varying scale. Standards in ICT industries are often incorporated in physical devices and apparatus, computer programs, or other forms of concrete information. Ultimately, as it is information, a standard is more than the tangible products that incorporates the standard.

communication among two or more modules, a standard as information is crucial to the degree that its accessibility is *essential* in making technology compatible and interoperable with other technologies.^① In interoperability standards, the technological superiority or its “intrinsic value” is not as significant as the fact that it is a standard.^② Thus the claims of exclusive property right on a standard may influence the competitive structure of a market, regardless of the technical merits of the technology that forms a standard. This paper focuses on this interoperability standards.

The process of standard creation and its adoption fundamentally touches upon the nature of standard and the problematic nature of property claim over the standards. A creation of the information itself that later or simultaneously becomes a standard may not be distinguished from a creation of any other useful information, in the sense that it would need the IP incentives for creation and disclosure. The useful information that becomes a standard is often created by the same path of information creation. If the creation and disclosure of information requires artificial incentives in the form of exclusive right, then the creation of standard information would require it as well. Thus IP, in principle, benefits the creation of information including standard.

However, what characterises standard from other information is the process of its adoption. *A useful and essential information that specifies a feature of a product can only become a standard when it is accepted or used widely* by a group of people—whether they are users, producers, vendors or buyers of particular products or parts, modules. The process is uniquely based on a consensus (either by chance or by design) or an authority (either government or a market based coercion), that are enforceable on a group of users of

① See Farrell, Joseph (1989) Standardisation and Intellectual Property, 30 *Jurimetrics Journal* 35, Katz Michael L. and Shapiro, Carl. (1985). Network Externalities, Competition, and Compatibility, 75 *Am. Econ. Rev.* 424 at 425. See also Katz Michael L. and Shapiro, Carl, (1994), Systems Competition and Network Effects, 8 *J Econ Persp* 93.

② See Lemley, Mark (2002) Intellectual Property Rights and Standard-Setting Organizations, 90 *Calif. L. Rev.* 1898.

the standard.^①

At a first glance, IP that enables exclusive claims, legally, seems to be at an inherent conflict with the model of a standard that by definition presupposes a wide acceptance or at least a wide usage of the useful standard information. In effect, if sharing at mutual benefit or cost is what makes any useful information into standard information, the idea of private and arbitrary exclusion that IP is premised upon, seems to be at odds with standard.^② The concept of IP proprietization that completes the picture of exclusion at the hand of a private person, enforceable against the world, then would make IP inherently conflicting with the idea of standard as useful and essential information that has to be used by many.

2.2 Placing Interoperability Standards in the map of Commons

If a private right is inherently at odds with the standards, one should first examine what exists at the opposite of privately owned standards-*commons*.^③ Commons as goods that are shareable or shared resources are often discussed in the property theories.^④ With IP, commons often are associated with the concept of public domain. Economists often provide something like Table 1 to explain the nature of goods and the regulatory regime that are correlated to them.

① For an insightful analysis of the SSOs, see generally, Lemley, Mark (2002) Intellectual Property Rights and Standard-Setting Organizations, 90 *Calif. L. Rev.*

② See for example, Katz, Michael L. and Shapiro Carl (1986) Technology Adoption in the Presence of Network Externalities. 94 *Journal of Political Economy* at 825, Farrell, Joseph (1989) Standardisation and Intellectual Property, 30 *Jurimetrics Journal* 35 at 42—44. , See also Shapiro, Carl (2001) Navigating the Patent Thicket; Cross Licenses, Patent Pools and Standard Setting, IN: Jaffee, Adam, Lerner, Josh, and Scott Stern eds. *Innovation Policy and The Economy*, Vol. 1, National Bureau of Economic Research (NBER), MIT Press. ; 119—150 at 120.

③ See Boyle James (2003), The opposite of property, 66 *Law & Contemp. Probs.* 1.

④ See for example, Hess Charlotte and Ostrom Elinor (2003), Ideas, Artifacts, And Facilities: Information As A Common-Pool Resource, 66 *Law & Contemp. Probs.* 111.

Table 1 Standards in a Map of Commons to Private, Without IP

		Rival (Degree-Transaction Model)	
		Low-Non Market	High-Market
Exclusion	Difficult	Public goods Open Access Commons [Known and Unclaimed] <i>Standard Information</i>	Common Pool of Resources- Commons (Property)
	Easy	Club goods Limited Access Goods <i>Codified Standard Information</i>	Private goods Private Property <i>Tangible Product</i> <i>implementing standard information</i>

In this matrix, at the opposite of owned (private) is “public,” “common” or a “club” goods. As a starting point of debating alternative means of regulating resources, they often classify the resources into the public goods and private goods, according to how rival their benefits are (in other words, if the benefits are subtractable) and how difficult it is to physically exclude others from the benefits. If particular externalities resulting from the nature resources are only positive ones, *i. e.* that there are only benefits of particular arrangement, regulation that internalises the externalities may not be necessary. In this sense, nature of the resources, for the sake of economic efficiency, the regulatory regime may be defined by the nature of resources.

Where the resource is of such character that one cannot exclude others from the use and where the benefit of one use is not subtracted from the benefit of another use, a resource is often called to be “public goods” by economists, as its voluntary private production is doubted. Often it is regulated as a “commons”, meaning that no one-either private or public-has property claims.^①Public domain knowledge is a

① Drahos, Peter (1996) A Philosophy of Intellectual Property. Dartmouth at 54—68. He uses positive and negative commons as analytic concepts. Concepts such as negative commons and positive commons may show how there are different ways of justifying the appropriation from the commons. In other words, negative commons means that anyone may appropriate from the commons (following a set of rules of procedures, defining amount, and manner in which this appropriation is accepted by the community). Positive commons on the other hand, means that none may appropriate and therefore the commons may not be appropriated, even one follows the set of rules. When applied to the context of IP, negative commons is what are legally defined as subject matters of intellectual property. For example, in patent, all patentable subject matter (*i. e.* any invention of technology) is subject to appropriation. Thus it is negative commons, until individual appropriation, following the rules of patentability actually occur, by following the rules of patent laws. What are not the patent eligible subject matter such as scientific discovery, abstraction, algorithm as such and the like can be positive commons that even if an attempt at appropriation is made, following the rules of patentability (new, inventive and useful/industrially applicable), no private appropriation is allowed.