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Intellectual property and the forced commodification of knowledge

La propiedad intelectual y la mercantilización forzada del conocimiento

Pablo Míguez
Instituto de Industria. Universidad Nacional General Sarmiento (IDEI-UNGS)
Instituto de Altos Estudios Sociales. Universidad Nacional de San Martín (IDAES-UNSAM-CONICET)
pmiguez@ungs.edu.ar
Orcid Code: https://orcid.org/0000-0002-4359-7113

Abstract
This paper analyzes the growing commodification of knowledge through the reinforcement of intellectual property rights, on a global scale. This process is an expression of a change in the logic of capital's production and valorisation, in the switch from industrial to cognitive capitalism. The recent debates on commons and the theories of cognitive capitalism are recovered to show the need for stablishing a correspondence between international regulations and national legal systems, in order to valorize knowledge. The origin and historical evolution of intellectual property rights will be studied, based on empirical evidence obtained from specific studies and diverse sources to point out some concrete circumstances that favored changes in regulations and institutions.

Keywords
Intellectual porperty, knowledge, commons, cognitive capitalism.

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Resumen
Este trabajo propone analizar la creciente mercantilización del conocimiento a través del refuerzo de los derechos de propiedad intelectual a escala global como una expresión de un cambio en la lógica de la producción y de la valorización del capital, que supone el pasaje del capitalismo industrial a un capitalismo cognitivo. Retomando los debates recientes sobre los bienes comunes y las tesis del capitalismo cognitivo, procuraremos mostrar la necesidad de correspondencia de las regulaciones internacionales y de los sistemas jurídicos nacionales, con las necesidades de la valorización del conocimiento. Estudiaremos el origen y la evolución histórica de los derechos de propiedad intelectual y, con apoyo en evidencias empíricas provenientes de estudios específicos y fuentes diversas, señalaremos algunas circunstancias concretas que favorecieron los cambios en las regulaciones e instituciones.

Palabras clave
Propiedad intelectual, conocimiento, bienes comunes, capitalismo cognitivo.

Introduction

"Intellectual Property" was promoted at international level since 1967 by the General Agreement on Tariffs and Trade (GATT) in its attempt to generate global agreements on the production protection of Multinational Enterprises, mainly American. National patent laws have existed since the nineteenth century and were questioned since their origin —even in the countries where the major inventions of the industrial era developed— because of the limits they imposed on the possibilities of " Technology Innovation". However, although all developed countries were protecting intellectual property, patent, trademark, and copyright legislation varies by country.

This paper proposes to analyze the increasing commodification of knowledge through the reinforcement of intellectual property rights on a global scale, as an expression of a change in the production logic and the capital valorization that the change from industrial capitalism to cognitive capitalism implies. Retaking recent debates on common goods and the thesis of cognitive capitalism, the idea is to show the need for correspondence of international regulations and the national legal system, with the needs of the valorization of knowledge. The origin and historical evolution of intellectual property rights must be studied, with support in empirical evidence from

specific studies and diverse sources, pointing out some specific circumstances that favored changes in the regulations and institutions.

The concept "intellectual property" encompasses a series of regulatory frameworks that are substantively different from each other and require a separate study. The World Intellectual Property Organization (WIPO) in its World Intellectual property declaration of the year 2000, defines it as:

> Any property which, by common agreement, is considered to be of an intellectual nature and worthy of protection, including scientific and technological inventions, literary or artistic productions, trademarks and identifiers, drawings and models and geographical indications (OMPI, 2000).

As Igor Sádaba points out, it is the laws that determine whether a specific object belongs to the public domain or to the private domain:

> Much of the discussions on intellectual property can be reduced to the following dichotomy: arbitrate on the question of where an object is located (a gene that causes obesity, software to predict earthquakes, a cell line obtained from a human spleen, a medicine that cures malaria, the bars of a Mozart melody, etc.), in the public or private area, on the side of the individuality or on the side of the collectivity (Sádaba, 2008, p. 136).

Under this scheme, the public domain is becoming increasingly reduced and the advancement of private domain happens in all aspects of economic activity, colonizing the social, cultural and life dimensions in general.

The first section comprises a short tour of the origin and protection evolution of intellectual property until the beginning of the twentieth century, when two models of protection were configured: Anglo-Saxon and European. In the second section is analyzed the change that the passage of the rights guarantee for the author/inventor implies towards the company/corporation at the beginning of the twentieth century. In the third section is considered the change that emerged in the late 1970s, when the borders between what is an invention and what is a discovery are blurred. In the fourth section is dealt with the effect of this regulation as a new global order with specific consequences in Latin America. Finally, by following Karl Polanyi

is analyzed the fact that intellectual property implies the "Commodification of Knowledge" by means of "fictitious merchandise". In the conclusions are presented the consequences of these regulations, the beneficiaries and the handicapped of the forced privatization of what is common.

Brief tour of the intellectual property rights evolution

There is a tacit agreement on the origin of intellectual property with the appearance of the printing press in the 15th century, where authors and printers joined to protect themselves from the falsifications, at the same time as the state agreed to grant monopoly rights for its usefulness to control the contents of what was printed. It was the English revolution of 1688 which allowed the free impression, without previous authorization from the liberal thinkers. However, the indiscriminate proliferation of copies caused that in 1709 the statute of Queen Anne was dictated, which protected the editor more than the author; this statute protected only the words written for a relatively long period, but limited to 28 years, thus, originating the copyright laws.

In the copyright of a work were recognized patrimonial rights of possession and property, but not moral rights of recognition of their authorship, i.e, it consisted more on privileges for the exploitation of books than a protection to the author. Such protection appeared later as a result of the French Enlightenment and Revolution. The encyclopedia made it clear that the "right of copying" was understood from the ownership right of the writer on his works. The writers were grouped in societies to defend their corporate interests and obtained moral rights over their works, which could not be represented in the theatre or modified without their permission. The author was valued as a producer or creator who worked intellectually.

The patent, for its part, also originated in mercantilist England in the 15th century with the granting of monopoly privileges to merchants and manufacturers, but —unlike copyright— these could not be sold or yielded, and required a very detailed description of the invention to be able to be registered. Once the period of the monopoly has expired, the patent passes into the public domain, so the inventor was required to expose his secret in a detailed manner. The first presentation was tantamount to the discovery of the "invention", allowing even the importation of techniques from abroad. In revolutionary France, the owner of the invention is also asked to be

recognized as his inventor, in line with British law. The United States is the first modern state to sanction patent laws in 1790, for the benefit of inventors and society; then, in 1836, it creates the patent Office and in 1897 the American Patent Law Association (Sádaba, 2008, p. 47).

Two typical forms of intellectual property protection are then set up: The Continental European model and the Anglo-Saxon model:

> The English model is still very much a debtor of the printing press, of the possibility of producing exact copies and disseminating them. The French model instead incorporates the idea that society is composed of individuals with their own rights, stronger than those of the collectivity (Sádaba, 2008, p. 34).

The first has its origin in France prior to the French Revolution and consolidates a copyright. The second originates in Britain in the eighteenth century and is reformulated by the United States in the late eighteenth century. In late incorporation into the industrial world, the United States positioned itself in the first century of its history against the intellectual property rights of Britain and other industrial countries, as foreign copyrights were not recognized, even though this meant that American works would be left unprotected abroad. The protection was granted to guarantee the exploitation of the ideas and to assure the continuity of the creative processes not on the basis of a moral right of the author as "owner" of his work (Sádaba, 2008, p. 140).

After the revolution of 1775, the idea is to impose rules that compensate artistic creation in exchange for the promotion of collective progress in society. In this way, the Federal Copyright Act of 1790, agrees to grant a monopoly in a limited way in exchange for the promotion of innovation. As will be seen later, the differences between these two models are going to be reduced with the unrestricted acceptance of copyright by both (and drastically since the late twentieth century).

During the nineteenth century, the protection of intellectual property was consolidated in many countries and in international law. This process of granting intellectual rights accelerated at the beginning of the twentieth century with the advent of cinema and the possibility of mass reproduction of art works, which generates the need for economic compensation for authors and owners (financiers before directors or filmmakers), for which the sanction of a new American law, the Copyright Act, is given in 1909. The subsequent rise of the radio and television will make even more complex the allocation of royalties. As Sádaba explains:

> If at the time the printing press was key, no less important will be the appearance of the phonograph, cinematograph, radio, video, internet and all the media through which traditionally have been communicated or have been transmitted information content (2008 pp. 36-37).

In the same sense, Scout Forsyth points out that:

> Cinema is the strategic outpost —to put it in terms of the new jargon of the show business, the flagship— of a consumer goods circuit that includes videos, television, internet, comics, novels, games, toys, fast food, clothes, theme parks and rides. At this time, the entertainment industries are leading U.S. exports (Forsyth, 2005, p. 145).

From the inventor to the corporations

In the late nineteenth century there were different ways of protecting intellectual property, whose growing relevance led to the international implementation of legislation, since the Berne Convention of 1886. There, the creator and his successors were recognized internationally for the copyright until 70 years after his death. However, international law on intellectual property will tend to approach more and more the copyright scheme (Sádaba, 2008, pp. 55-59).

In line with the transformations of the "big company" production of emerging industrial capitalism, innovation will shift from the inventor to corporations from the first decades of the twentieth century. In industrial capitalism, the knowledge production mechanism was concentrated in the research departments —both theoretical and applied— of public bodies and of the "big enterprise" methods and I + D of the enterprise. The intellectual property model was coherent with a scheme where the private appropriation of knowledge was based on material resources and the spatial scope of the national State, where the invention was to:

- Represent a novelty.
- Be able to be applied at the industry level.
- Be able to reconcile the remuneration of the private inventive act with the public diffusion of knowledge.

Joseph Schumpeter (2002/1939; 1944) was one of the first to celebrate this passage from invention to innovation, giving the entrepreneur who takes

risks a leading role. The invention alludes to the mere generation of new knowledge or scientific and/or technological advances, while innovation implies the successful introduction of such knowledge in the production by the entrepreneurs, whether it is a new product, a new method of production, a new source of raw materials or a change in the industrial organization. Innovations reflect an idealized vision of the innovative entrepreneur —it is associated with new "leaderships"— by Schumpeter and constitute the main cause of the long cycles and imbalances that characterize the capitalist system from successive "Technological revolutions" (great technological leaps derived from innovations such as steam engine, railway, electricity or motorized transport).

The innovative trait will then be awarded to the "signatures" by neo-schumpeterians and evolutionist economists (Nelson and Winter, 1982; Dosi, Freeman, Nelson, Silverberg and Soete, 1988; Lundvall, 1992), since innovations are costly and risky and therefore require a high degree of concentration, as well as sufficient financial resources to be carried out. They are produced within the framework of certain "technological paradigms", those that direct the technical change as they define the relevant problems, the research patterns and the technology to be used until this phase is exhausted with the diffusion of knowledge, technical change is slowed down and investment opportunities are reduced (López, 1996). For them, patents ensure innovation, that is, generate the incentives needed to innovate, since innovation depends on limiting the diffusion of technology until technological income can restore that innovative effort.

America's own economic history seems to confirm this point, when corporate capitalism accelerates the separation between owners and managers since the first decades of the twentieth century. As David Noble (1979) points out in *American by design*, America's own economic power during the twentieth century was, to a large extent, conditioned by intellectual property laws adapted to the ownership recognition of scientific inventions and technology to the firms, to the laboratories of the big companies. Patents will be the property of large corporations instead of the inventor or scientist who developed them, who in return only received a regular income in the form of wages.

In short, throughout the evolution of intellectual property protection can be differentiated two fundamental models: the Anglo-Saxon model of England and the United States based on Common Law and the European

model based on Continental Law. In the North American legal model, patent laws set the general principles, but it is the patent office responsible for giving its version on the application of the standard, ultimately it is the one that has the capacity to create jurisprudence, because The Supreme Court intervenes only when decides to do so, which happens in a few cases. The classical courts, formed in the antitrust doctrine, were historically reluctant to grant patents, but this situation would change with the emergence, in the early 1980s, of numerous laws and several rulings of the American Supreme Court of Justice who radically transformed the situation (such as the decision to patent the genes, against the opinion of the Office of Patents), as will be explained in the following paragraph (Coriat, 2008, p. 57).

During the first 100 years of patent law enforcement, the United States was unaware of the copyright rights granted abroad, but since the 1970s, from its influence on international organizations, at the behest of this country, it seeks to homogenize legislation with unique implementation of legal frameworks around the world to promote the deployment of its industries, especially in the cultural and entertainment level (Lessig, 2005, p. 84). The United States holds a high number of patent granting on the total amount of patents requested, and in its territory is attended by the major judicial battles around violations of the patent laws. This makes many companies devote themselves to the accumulation of patents not for their use, but to sue small entrepreneurs or to negotiate among large companies patent-use agreements under more favorable conditions.

From the invention to the discovery

In the 1920, the first steps began to be taken in the patenting of "discoveries" —not only of inventions— when basic knowledge —those originated by basic science without having been applied (or ignoring their potential applicability)— began being patents. It did not matter that they already existed in nature and that they were not, therefore, a human creation. For example, in 1922 Pasteur had patented a process on a bacterium starting "patents on living organisms" and in 1930 the United States sanctions a law on plant patents. Dutch growers also did the same thing, receiving patents with the promise of not touching the sexual reproduction of the seeds. But it will not be until the decade of 1960 that the issue is going to take a real

boost. Even more emblematic is the case with the Hollywood film industry. The creation in California of the film complex responds to the escape of entrepreneurs of the east Coast, where they had to respect the patents of Thomas Edison. The patent war lasted until nine companies merged into the Motion Picture Patents Company (MPPC) (Sádaba, 2008, p. 130).

An important moment is in 1970, when the United States sanctions a new patent law, in the same year that it promotes OMPI. In this decade there are fundamental changes since in 1975, by decision of the Supreme Court, the microorganisms become patentable (case "Bayer Yeats"). However, these jurisprudential changes in American territory, although important, cannot be seen isolated. In contemporary capitalism, knowledge becomes the core for social and historical reasons rather than technological, and precedes the constitution of cognitive capitalism. These changes are mainly due to the democratization of education —with the consequent elevation of the general level of training— that facilitated the constitution of a "fuzzy intellectuality" that is at the base of the emergence of an economy founded on the knowledge (Lebert and Vercellone, 2006).

It must also be taken into account the juncture of fordist capitalism with its profitability crisis in the 1970s and its need to relaunch the foundations of accumulation. According to Coriat (2008), the takeoff of intellectual property as a decisive factor in contemporary capitalist valuation must be traced in the search by the United States of the restoration of its competitiveness eroded by many countries —especially Germany and Japan— which challenged it by leaning on technological developments based on basic research, from which the United States was responsible for 50% at the global level. These changes will suppose a brutal acceleration of the commodification processes of knowledge in the early 1980s. In 1980, the Bayh-Dole ACT will be sanctioned, from which the research products developed with funds from the U.S. government can be patented and, therefore, leave to be part of the public domain. In addition, patent owners may grant exclusive licenses on the condition that they are made to companies located in North American territory (Section 204). This is a fundamental rule, which meant a breaking point in many respects, especially due to the obligation of the Secretariat of Commerce to inform Congress of the list of countries that do not respect intellectual property to the detriment of Americans companies (Section 301). It was also envisaged the extension of the time limits for the protection of patents in many sectors, as well as the creation of arbitral tribunals to resolve such conflicts.

In fact, it will be in 1980, with the obtaining in favor of General Electric of the first patent on a micro-organism —that gobble oil slicks— when the real initial blow to the patents on life happens (the "Chakrabarti" case). In a few years, hospitals and universities launched in a career of patent applications for "inventions" containing biological material, reaching to the extreme case of scientists who patented their findings even before publishing. This system created for the United States was extended to Europe, where it was accepted in the European Parliament with resistances in points like ownership on genes and algorithms; however, it did not happen in the European Commission (Coriat, 2008, p. 59).

In short, there are two key moments from the second post-war period: the creation of OMPI in 1970 and the closure of the Uruguay round of the GATT 1986-1994, which was created by the World Trade Organization (WTO). After each of these events, has occurred the re-launch of intellectual property protection applications that currently condition technological innovation. The nineties brought an explosion of intellectual property, since transnational corporations (TNCs), especially North American, were launched to obtain patents of all kinds to benefit the so-called "globalization". In 1994, at the close of the Uruguay round of GATT, countries considered a trade issue under the protection of the nascent WTO, where the signatories were to undertake the protection of intellectual property of all kinds by way of the agreements on trade-related aspects of intellectual property (AADPIC). In short, the boom in biotechnology in the 1980s, the rise of genetic manipulation and the pharmaceutical industry, owe much to the evolution of patents, as these areas are no longer obliged to conduct their own research to develop products, but they can obtain licenses from universities, public institutions or small technological companies.

In Europe the objections to the immediate adoption of the American system are sustained with solid legal bases, since the sequence of a gene or an algorithm would not have, in principle, any industrial utility. Bercovitz points out that:

> The European Patent Convention of 1973 maintains this requirement by asking patentable inventions to be susceptible to industrial application, which is equivalent in traditional doctrine to requiring patentable inventions to be technical inventions, understood the technique as industrial technique (2003, p. 18).

Bercovitz also states that the AADPIC Convention establishes that "susceptible to industrial application" is synonymous with "usefulness", but does not distinguish the difference:

> Useful, in the sense that they satisfy human needs, are all inventions, whether or not industrial. And this distinction between utility and susceptibility of industrial application is important because in American law there is no explicit requirement that patentable inventions be industrial, although they are required to be useful. Therefore, the patentability approaches applied in the United States cannot be transferred purely and simply to the European law (Bercovitz, 2003, p. 18).

In the European case, countries are more thorough in defining what can fall within the scope of the patentable. In terms of patents, in Europe is used the term "industrial property", which means that they can only be granted to industrial inventions, although the trend is to approach the American model. There it becomes increasingly less rigorous the demonstration of the industrial application of the investigation results and more blurred the line that divides what is an invention and a discovery.

A new global institutionality and its impact on Latin America

According to Saskia Sassen (2010), the entry into force of the Marrakesh Agreement founded by the WTO in 1995, meant the origin of a new international economic law, as it regulated 97% of the international traffic trade and obliged the least developed countries to adopt the AADPIC, which assigns a permanent role to OMPI in cooperation activities. OMPI is the institution created by States to implement multinational intellectual property conventions, as well as Internet treaties and European copyright agreements. As international WTO standards must be incorporated into national law, this implies "new forms of private authority" such as arbitration systems, since it is necessary to "set aside the solution of conflicts between national legal systems and to refocus on conflicts between sectoral regimes, as is the case with differences between OMPI, WTO, EU and national rights" (Sassen, 2010, pp. 304-305).

The protection of intellectual property is at the spearhead of the change of international legal regime that implies the de-nationalization of national states (Sassen, 2007), or "several specialized institutional components" of them. But this does not imply a decrease in hierarchies or the sovereignty disappearance of States:

> Certain States, such as that of Great Britain and the United States, produce the formulation of this new legality and impose it on other states thanks to the interdependencies that characterize the current globalization stage. Even so, the participating States need to develop their own specific instruments according to the political economic systems that govern within them (Sassen, 2010, pp. 290-291).

The United States led or forced other States to take those obligations to global capital, after extensive experience in expanding cross-border operations for American companies. It is no longer a matter of supporting strategic industries, but of creating the competitiveness conditions for a global economy (Sassen, 2010, p. 300). These changes in knowledge-based production and valorization force to discuss the relationships between the "global" logic of capital and the "territorial" dimension of the political forms assumed by it (Negri and Hardt, 2002, 2011; Míguez, 2015, 2017).

The problem with this scheme is that its dissemination throughout the world from the Washington Consensus and WTO rules since the Uruguay round 1986-1994, imposes very disadvantageous conditions for developing countries. To enter the WTO, countries must comply with agreements such as the TRIPS (Trade Related Aspects of Intellectual Property Rights) of 1995, which sought to reinforce the protection of intellectual property from international-scale procedures and legislation, forcing the signatory nations to create administrative and penal mechanisms with respect to intellectual property rights and empowering the WTO dispute settlement system to act if trade differences arise around them, which started to be applied in 2000 (Sádaba, 2008, p. 70).

In Latin America, these provisions were initially propelled by NAFTA, created in 1992, for Mexico to conform to U.S. and Canadian regulations. NAFTA had been the model for the WTO rules of 1994 and then for the ALCA project, a free trade zone project from Alaska to Ushuaia that was propelled from 1998 to its rejection in 2005. In the face of the failed attempt to impose ALCA, the United States has promoted numerous bilateral free

trade agreements (FTAs) with several Latin American countries. This is the case with the trade agreements with Costa Rica, where the intellectual property laws of OMPI are in a more general package that includes rules for international trade. The United States also promotes multilateral initiatives in Latin America such as the Pacific Alliance, which includes Mexico, Colombia, Peru and Chile, and since 2009 —globally— the Trans-Pacific Agreement (known as TPP), created between Chile, New Zealand, Singapore and Brunei in 2005, and then signed by the United States, Canada, Mexico, Peru, Vietnam and Malaysia, which will only enter an impasse since 2016 with the government of Donald Trump. Whether it is an effective setback to free trade rules or only specific measures to protect America's lagging industrial sectors, which are not the main beneficiaries of global regulations, remains to be seen. The TPP proposed to organize the new rules of the 21st century global economic law, in line with the Transatlantic Trade and Investment Association (known as the Transatlantic Treaty or TTIP), a free trade proposal between the United States and the European Union on the basis of the regulation of trade, services, investment and intellectual property (Merino, 2018, p. 23).

Regional agreements such as Mercosur or CELAC attempted to advance in a regional economic and political bloc since the fall of the ALCA project in 2005, and made substantive progress in this direction, such as the consolidation of a dispute settlement system of permanent character, the Structural Convergence Fund of MERCOSUR (FOCEM) to resolve the asymmetries between the member countries and the Parliament of MERCOSUR (Parlasur) for the direct representation of the citizens of the block. In relation to knowledge, as part of the attempt to promote productive integration, the framework program for Science and Technology and the Biotechnology Support Program in the Biotech platform, which are proposed to promote technological innovations (given the Agribusiness boom in the region). This second initiative is driven and at the same time conditioned by the European Union, which is the financing source for these activities and which intends to be the owner of the property rights derived from these initiatives (Perrota and Porcelli, 2016).

One of the notable exceptions to these advances in the Latin American field was the initiative of the Organic Code of the Social Economy of Knowledge, Creativity and Innovation (popularly known as the Ingenious Code) in Ecuador, where it joined in an only legal body the rules on science,

technology and innovation, with ancestral knowledge and intellectual property (Pazos, 2016, p. 553). The code repeals the intellectual property Law and leverages the flexibilities of international standards by promoting a balance between the rights of holders and users, in pursuit of development goals (Ramírez, 2014, pp. 49-54). However, the sign change of the Governments of the region since 2015 and the renewed preference for the "open regionalism" of the previous years, lead to prioritize the agreement conclusion of free trade like the MERCOSUR-European Union, that in facts imply a renewed strengthening of intellectual property.

New "fictitious" goods

Knowledge —such as the goods of nature— should be considered a common good, and the way to manage it as well as the ownership of common goods is in fact prior to that based on public/private distinction. The privatization of common lands between the 15th and 16th centuries was decisive in the dispossession process of producers, characteristic of the original accumulation, and was a necessary condition for the development of capitalism. As Polanyi points out, the Earth —as a product of nature— is not the product of human labor and is, therefore, "a fictitious commodity." It is false to suppose that labor, land and money are merchandise, but from or with the help of this fiction "markets" are organized, and most importantly: they become the organizing principle of society.

> The crucial point is this: labor, land and money are essential elements of industry: they must also be organized in markets. Indeed, these markets form an absolutely vital part of the economic system. But it is obvious that labour, land and money are not goods; in the case of these elements, it is emphatically false that everything that is bought and sold must have been produced for sale (Polanyi, 1992, p. 81).

Making the land a commodity the principle of private property is installed and the principle of the public-private as the organizing principles of the economic and social order, leaving aside the "common".

In the first half of the twentieth century conventional economic theory theorized on public goods. Unlike private goods, which are rivals (the increase in the amount consumed by an individual necessarily implies the

reduction of the quantity consumed by another) and excluding (one can exclude an individual from the consumption of a good through the system of prices), public goods are those goods where the marginal cost of producing an additional unit is null. They are also non-exclusive goods, no consumer agent can be excluded from such good (for example, public lighting), which justifies the provision from the state, as he/she can obtain the "price" through taxes, provided that they are reflected in the equilibrium conditions of the market (positive price and equal to marginal cost).

Additionally, there is the problem of the free-rider, the possibility of an individual to hide his/her preferences and connect to the consumption of good without paying. As seen, what is shown is a theoretical and practical problem, that the market does not serve to reveal the preferences of the individuals, the demand cannot be estimated and the offerer does not know how much it should offer for the product, altering the fluid operation and balance of the market, justifying the provision of such property by the State (security and administration of justice are classic examples of public goods).

The political process must replace the absence of demand, allow disclosure of consumer/citizen preferences, and determine the supply of public goods. However, a "market failure" does not necessarily imply the production from the state, but at least it determines its financing or the regulation of the activity establishing a tariff in the case of the concessions of public services or the creation of efficiency incentives by creating or exempting taxes or granting subsidies.

In the boom period of the Keynesian-benefactor state, the fact that the state was in charge of the provision of many public goods required the elaboration of a justification that would allow this provision to be managed with the subsistence of the economic neoclassical principles. In this context arises the idea of *the Tragedy of the Commons* (Hardin, 1968), where it is concluded that the rational and individual action of goods exploitation of nature, while seeking the maximization of individual well-being, ends up overexploiting the natural resource and eliminating common benefits, from which a justification for private property is derived. With these arguments it is also intended to "protect" the products of knowledge, which derives in a counterproductive effect, called by Michel Heller, *the Tragedy of the Anticommon* (1998), that is, the creation of a system that sub-uses the knowledge because of the exaggerated patenting of goods. This impedes the free use of knowledge, because it wants to stimulate growth by promoting

innovation, but at the same time it blocks the diffusion of innovations, which is a contradiction of cognitive capitalism that should be resolved if It wants to build a real economy founded on knowledge.

In the case of the nature goods, the aim is to preserve scarce and non-renewable resources. From the conventional neoclassical economy, Elinor Ostrom (1990) —the Indiana school researcher who received the Nobel Prize in Economics at 2009— has raised an alternative way out of privatization, which is to reach appropriate agreements between participants based on clear rules, reciprocal supervisions and mutual commitments, articulated for the pursuit of the common good. In the case of knowledge, in an alternative way to the individualistic principles of neoclassical economics, the Italian economist Vercellone (2017) proposes to raise the common as a "mode of production", which has as its starting point the transformation of the collaboration at work. It is just a common good that is not scarce, but abundant, cumulative, "non-rival" and "not excluded." As it is not susceptible to overexploitation and, therefore, does not justify the private ownership of it:

> Not only capital, but the labor product is increasingly immaterial and incorporated into goods of innovation, knowledge, computer services that constitute fictitious goods. Why fictitious goods? They are fictitious goods because they escape to the criteria that define the traditional goods by their non-competitive character, cumulative and hardly excluded (Vercellone, 2009, p. 90).

For some authors, intellectual property rights constitute "new fencing" or enclosures, in the same way that during the so-called original accumulation the laws of land fencing imposed the initial conditions for the deployment of conventional capitalist accumulation. This time these enclosements would aim to impose the foundations of a capitalism sustained on new pillars, a "cognitive capitalism" where the production of intangible goods imposes its hegemony to the typical production of the classic industrial period. In cognitive capitalism, intellectual property is reinforced because it is the only mechanism that allows the private appropriation of increasingly social knowledge and its control is strategic for the valorization of capital. Moulier Boutang emphasizes that this new "great transformation" that means cognitive capitalism —taking the terms of Karl Polanyi— needs the creation of new "fictitious goods" such as the introduction of "artificial"

scarcity mechanisms, "to temporarily limit its diffusion and to regulate access" (Rullani, 2002). In that sense, Boutang pointed out in 2001 that:

> The cognitive capitalism is in its phase of primitive accumulation, in the sense that the whole of the property rights established between the seventeenth and eighteenth centuries, and from which it has reasoned the classical political economy —and which in turn contributed to perfection and legitimize— constitutes an impassable limit for the inscription of the development potential of the productive forces of the human activity in a trajectory of regular growth and in the framework of an institutional commitment with the forces of the old economy (Moulier Boutang, 2004, p. 111).

For Boutang, the old property rights are limits to the development of the productive forces to the extent that they do not allow to take advantage of the positive and free productive effects ("positive externalities" in the conventional economic jargon) of the multiple interactions of a knowledge-based economy, a free, incessant and continuous activity. If one is obliged to resort to the commercial exchange for the production of knowledge-intensive goods, the company would be deprived of an essential source of the productivity of the economic agents (Moulier Boutang, 2004, p. 116).

In the same way, the geographer David Harvey expressed that the mechanisms of primitive accumulation were perfected to give rise to new accumulation mechanisms by dispossession:

> The insistence on intellectual property rights in the WTO negotiations (the so-called TRIPS Agreement) indicates how patents and licenses for genetic material, seed plasma and many other products against the entire populations can now be used, whose practices have played a decisive role in the development of these materials (Harvey, 2003, p. 118).

The jurists of Stanford University, specialized in the study of intellectual property such as James Boyle and Lawrence Lessig, agree with these considerations to the privatization of common goods that were excluded from the right of ownership (Vercelli, 2004). James Boyle (2003) says that what is known as enclosure is part of a privatization movement of commons or goods that were outside the property system. What is known as *the Tragedy of Commons* first originated in England and then in other European regions during the eighteenth century. Yochai Benkler (2003) and Lawrence Lessig (2005), in discussing the scope of intellectual property, proposed updating

the debate on "common goods", such as natural resources and knowledge itself. If private property and public goods correspond to private ownership or property, the commons should be governed by non-ownership (Lessig, 2005). The capital possibility of putting to work in the common arises from a new organization of the production that needs the valorization of the work, but under new and sophisticated modalities.

Conclusions

Throughout this work have been investigated the origin and evolution of intellectual property rights from the first copyright to patents, from the protection granted to individual inventors to their contemporary attribution to large corporations. It was also pointed out the change in the subject matter of intellectual property rights, its incessant and unlimited enlargement beyond the inventions to the discoveries and its final extension to the patenting of life itself. All this means giving rise to new fictitious goods accompanied by national and global regulatory legal frameworks that are the possibility condition of sustaining this advance.

The intention was to establish the keys for understanding the meaning of the advancement of intellectual property protection in the most diverse fields, even beyond that strictly linked to the economy itself and at all political levels: whether state, regional or global. For this, was established the need to think of knowledge as a common good, essential in a new logic of accumulation based on the generation and appropriation of knowledge where these become a fundamental commodity that implies —paraphrasing the title of the famous book by Piero Sraffa (1975)— the "production of knowledge by means of knowledge".

The main beneficiaries —stakeholders and drivers— of the proliferation of intellectual property rights are the big industries and big firms of the technological sectors highlighted during the last quarter of a century, for example, the pharmaceuticals industry, technology and those that excel at the cultural and entertainment level, since all of them were built and supported by these rights. The media industry is riddled with stories about copies of content, but today they are the main drivers of intellectual property, partly because royalties and rights revenues are currently the main export item of the American industry. This should not be surprising, since the increase

in the world economy points out that the countries that deliberately led development always needed industrial, commercial, and active technology policies that would include copying technology developments, so that when they finally reached the status of "developed" countries would not allow the same behavior of developing countries... According to the famous expression of Ha-Joon Chang, they "kicked the staircase" (Chang, 2002).

The main victims of intellectual property laws are those who seek to dispose freely of the socially generated knowledge. Society as a whole does not perceive benefits from these "new enclosements", nor do they perceive the native people who for centuries have been dedicated to improving the seeds and who see their efforts captured by multinational companies that then impose their logic renters. Small and medium-sized enterprises are also harmed, which, in order to carry out research —in the face of the proliferation of the most unlikely patents and the need to develop their own innovation— will probably infringe some existing patent. This situation would put them at a disadvantage with regard to large companies, many of which are mainly devoted to accumulating patents not necessarily to use them, but to prevent others from using them or as a change currency against other big companies, to whom specify agreements for the use of patents, damaging small companies and favoring the centralization of capital.

The consequences of these advances in intellectual property protection are likely to continue to take place in the light of the centrality they adopt as mechanisms for the generation and private appropriation of common knowledge. This route should be completed in the future with case studies that differentiate sectors, countries and levels of relative development to evaluate the concrete impact of these initiatives that will continue to have a central place in the governance of the global capital. This political management of accumulation on a global scale will not be without conflict, to the extent that in this cognitive capitalism one of the most obvious contradictions lies in the fact of seeking to disseminate knowledge and information, and at the same time to block the development of knowledge with the increasing regulations on intellectual property. Vercellone underlines very clearly this contradictory dimension of the attempt to capture the common. It is then to move from a cognitive capitalism to a real knowledge-based economy, for which are required forms of public property, common or mixed, suitable for such purposes.

Bibliografía

Benkler, Y. (mayo/junio, 2003). La economía política del procomún. *Novatica/Upgrade*, *163*, 6-9. Madrid: ATI.

Bercovitz, A. (mayo/junio, 2003). Sobre la patentabilidad de la invenciones referentes a programas de ordenador. *Novatica/Upgrade*, *163*, 17-21. Madrid: ATI.

Boyle, J. (2003). The Second Enclosure Movement and the Construction of the Public Domain. *Law and Contemporany Problems*, *66*(12), 33-74. Recuperado de https://bit.ly/2AHB23X/

Chang, H. J. (2002). *Kicking Away the Ladder.Development Strategies in Historical Prespective*. Londres: Anthem Press.

Coriat, B. (2008). El régimen de la propiedad intelectual y la innovación. *Realidad Económica*, *233*(37), 49-65. Buenos Aires: IADE.

Dosi, G., Freeman, C., Nelson, R., Silverberg, G. y Soete, L. (eds.). (1988). *Technical Change and Economic Theory*. Londres: Pinter Publisher.

Forsyth, S. (2005). Hollywood recargado: el cine como una mercancía imperial. *Socialist Register 2005: el imperio recargado*, 145-164. Buenos Aires: CLACSO.

Hardin, G. (diciembre, 1968). The Tragedy of the Commons. *Science*, *162*(3859), pp. 1243-1248. Recuperado de https://bit.ly/2q8FkZf/

Harvey, D. (2003). *El nuevo imperialismo*. Madrid: Akal.

Heller, M. (enero, 1998). The Tragedy of the Anticommons. *Harvard Law Review*, *111*(3). Recuperado de https://bit.ly/2naQ3Sj/

Lebert, D. y Vercellone, C. (2006). Il ruolo della conoscenza nella dinamica di lungo periodo del capitalismo. En C. Vercellone (ed.), *Capitalismo cognitivo. Conoscenza e finanza nell'epoca postfordista* (pp. 19-37). Roma: Manifestolibri.

Lebert, D. y Vercellone, C. (2011). El rol del conocimiento en la dinámica de largo plazo del capitalismo. En C. Vercellone (2011): C*apitalismo cognitivo. Renta, saber y valor en la época posfordista* (pp.31-55). Buenos Aires: Prometeo.

Lessig, L. (2005). *Por una cultura libre*. Madrid: Traficantes de Sueños.

López, A. (1996). Las ideas evolucionistas en economía: una visión de conjunto. *Buenos Aires: Pensamiento Económico*, *1*. Recuperado de https://bit.ly/2vqC52r/

Lundvall, B. A. (1992). *National System of Innovation: Towards a Theory of Innovation and Interactive Learning*. Londres: Pinter Publisher.

Merino, G. (2018). Los tratados comerciales y la era Trump. *Realidad Económica*, *313*(47), 9-40. Buenos Aires: IADE. Recuperado de https://bit.ly/2KtWDMX/

Míguez, P. (2013). El Estado capitalista, la crisis financiera y el debate Imperio-Imperialismo. En J. Kan y R. Pascual (eds.) *Integrados (?) las relaciones internacionales y la integración regional latinoamericana en debate* (pp. 89-119). Buenos Aires: Imago Mundi.

Míguez, P. (2013-2014). Del *General Intellect* a las tesis del "Capitalismo Cognitivo": aportes para el estudio del capitalismo del siglo XXI. *Bajo el Volcán*, Revista de Sociología de la Benemérita Universidad Autónoma de Puebla, *13*(21), 27-57, septiembre 2013/febrero 2014.

Míguez, P. (mayo-septiembre, 2017). Capital global, integración regional y Estados nacionales en el siglo XXI: más allá de las teorías del imperialismo y de las Relaciones internacionales. *Revista Estado y Políticas Públicas*, *8*, 41-57.

Moulier Boutang, Y. (2004). Riqueza, propiedad, libertad y renta en el capitalismo cognitivo. En Y. Moulier Boutang, A. Corsanni, M. Lazzarato *et al*. (eds.), *Capitalismo cognitivo, propiedad intelectual y creación colectiva* (pp. 107-128). Madrid: Traficantes de Sueños.

Negri, A. y Hardt, M. (2002). *Imperio*. Buenos Aires: Paidós.

Negri, A. y Hardt, M. (2011). *Commonwealth*. Madrid: Akal.

Nelson, R. y Winter, S. (1982). *An Evolutionary Theory f Economic Change*. Cambridge, MA: Harvard University Press.

Noble, D. (1979). *America by design*. Nueva York: Alfred Knopf.

OMPI. (2000). *Declaración Mundial sobre Propiedad Intelectual*. Organización Mundial de la Propiedad Intelectual.

Pazos, R. (2016). El Código Ingenios y su construcción colaborativa. En R. Ramírez (ed.), *Universidad urgente para una sociedad emancipada* (pp. 541-564). Quito: SENESCYT-IESALC.

Perrota, D. y Porcelli, E. (agosto, 2016). Mercosur 25 años: desafíos en su nueva etapa. *Márgenes*, Revista de Economía Política, *2*. Los Polvorines: Universidad Nacional General Sarmiento-UNGS.

Polanyi, K. (1992). *La gran transformación: los orígenes políticos y económicos de nuestro tiempo*. México: FCE.

Ramírez, R. (2014). *La virtud de los comunes: de los paraísos fiscales al paraíso de los conocimientos abiertos*. Quito: Abya-Yala.

Rullani, E. (2004). El capitalismo cognitivo ¿Un *deja-vú*? En Y. Moulier Boutang *et al*. (eds.), *Capitalismo cognitivo, propiedad intelectual y creación colectiva* (pp. 99-106). Madrid: Traficantes de Sueños.

Rullani, E. (mayo, 2000). Le capitalisme cognitif: du déjà-vu. *Multitudes*, *2*, 87-94.

Sádaba, I. (2008). *Propiedad intelectual: ¿bienes públicos o mercancías privadas?* Madrid: Los Libros de la Catarata.

Sassen, S. (2007). *Sociología de la globalización*. Buenos Aires: Katz.

Sassen, S. (2010). *Territorio, autoridad y derechos: de los ensamblajes medievales a los ensamblajes globales*. Buenos Aires: Katz.

Schumpeter, J. (1944). *Teoría del desenvolvimiento económico*. México DF: FCE.

Schumpeter, J. (2002/1939). *Ciclos económicos: análisis teórico, histórico y estadístico del proceso capitalista*. Zaragoza: Prensas Universitarias de Zaragoza.

Sraffa, P. (1975). *Producción de mercancías por medio de mercancías*. Barcelona: Oikos-Tau.

Vercelli, A. (marzo, 2004). *La conquista silenciosa del ciberespacio:* creative commons *y el diseño de entornos digitales en el nuevo arte regulativo de Internet*. Buenos Aires. Recuperado de https://bit.ly/2naIGdx/

Vercellone, C. (2004). Las políticas de desarrollo en tiempos del capitalismo cognitivo. En Y. Moulier Boutang *et al*. (eds.), *Capitalismo cognitivo, propiedad intelectual y creación colectiva* (pp. 63-74). Madrid: Traficantes de Sueños.

Vercellone, C. (2009). Crisis de la ley del valor y devenir renta de la ganancia. Apuntes sobre la crisis sistémica del capitalismo cognitivo. En A. Fumagalli, S. Lucarelli, C. Marazzi, S. Mezzadra, A. Negri, C. Vercellone (eds.), *La gran crisis de la economía global* (pp. 63-98). Madrid: Traficantes de Sueños.

Vercellone, C., Giuliani, A., Brancaccio, F. y Vattimo, P. (2017). *Il Comune come modo di produzione. Per una critica dell'economia politica dei beni comuni*. Verona: Ombre Corte.

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