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БУДУЩЕЕ ПРАВА ИНТЕЛЛЕКТУАЛЬНОЙ СОБСТВЕННОСТИ THE FUTURE OF INTELLECTUAL PROPERTY LAW

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Аннотация. Право интеллектуальной собственности медленно и часто плохо адаптировалось к быстрому развитию науки и техники, а также к распространению Интернета и высокоскоростных коммуникаций. Данная статья обозначает некоторые возникшие проблемные зоны и подчеркивает необходимость модернизации и реформирования применимого права.

Ключевые слова: авторское право, защита дизайна, доменное имя, интеллектуальная собственность, NFT, невзаимозаменяемый токен, патент, защита растений, право на публичное использование, товарный знак, коммерческая тайна, полезные модели

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• **Abstract.** Intellectual property law has adapted slowly and often poorly to the rapid advances in science and technology and the spread of the Internet and high-speed communications. This article identifies some of the problem areas that have appeared and emphasizes the urgency of modernization and reform of the governing law.

Keywords: Copyright, Design Protection, Domain Name, Intellectual Property, NFT, Non-Fungible Token, Patent, Plant Protection, Right of Publicity, Trademark, Trade Secret, Utility Models

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INTRODUCTION

The famous American baseball player and popular philosopher Yogi Berra is known for his remark, “It’s tough to make predictions, especially about the future”. Thus, this article ventures into dangerous territory.

Intellectual property is like a zoo, full of different types of animals. In the nineteenth century, Charles Darwin succeeded in developing a general theory of evolution by “survival of the fittest” explaining both the common elements and the differences among these animals. Darwin, however, clearly saw the limits to his theory, and added a second theory, that of sexual selection, involving not the survival of the fittest, but the success in the market for reproduction, explaining the development of bird plumage as a way of signaling to the opposite sex.

Intellectual property, like evolution, has two separate theoretical explanations. The first is that of providing an incentive for creative activity. The United States Constitution explicitly provided for the enactment by the federal government of patent and copyright legislation effective through the states, “to promote the progress of science and the useful arts”. Translated from eighteenth-century English to modern, this phrase would mean “to promote the progress of knowledge and useful technology”. Just as evolution has enriched the world through the survival of the fittest and most beautiful, patents have led to highly beneficial inventions and copyrights have led to a world ever richer in the arts. Trademarks, have served quite different functions by signaling quality and facilitating consumer search. Given the very different nature of the basic types of intellectual property, it is no surprising that the United States Supreme Court decided, almost a century and half ago, that the patent and copyright clause of the Constitution did not grant Congress the power to regulate trademarks, but left the way open for Congress to use its power to regulate commerce to create nationwide trademark protection [1].

James Madison, one of the drafters of the Constitution (and later the fourth president of the United States), in urging the adoption of the Constitution, had argued, “The states cannot separately make effectual provision for either” copyright or patent [2]. The issue of unification of intellectual property law raised by Madison has now moved from an issue for a single country’s legal system to

the issue of intellectual property law at the international level. The nineteenth and twentieth centuries saw partial unification of intellectual property law by multilateral treaties and new international institutions. Intellectual property in the twenty-first century faces serious challenges from rapid advances in science and technology and widening conflicts between information-exporting and information-importing countries. I’d now like to turn to discussion of various areas of intellectual property in two groups, first, those encouraging creative activity and investment, and second those encouraging product quality and facilitating consumer search.

As I mentioned, some branches of intellectual property law, for instance patent and copyright, have as their purpose the creating of incentives for creativity through the grant of exclusive rights. However, because the incentives are based upon the creation of monopoly rights, which result in decreased production, it is important that there be a proper balance between the benefits of incentives and the negative effects of monopoly.

Other branches of intellectual property law, such as trademarks and marks of geographic origin, have as the purpose the insurance of quality and the facilitation of customer choice. However, in these branches of intellectual property, it is necessary to maintain a balance between exclusive rights on the one hand and the benefits of competition and free speech on the other. In this article, I would like to discuss the imbalances that have emerged and are emerging in intellectual property law along with some measures that are being taken or could be taken to deal with them.

PATENT

When the United States patent system was created over two-hundred years ago, inventions were simple; few businesses held more than one or two patents; and expired patents put important technologies into the public domain. Today the situation is very different in two respects, the emergence of huge patent portfolios and the rapid obsolescence of technology. In the early years of the United States patent system, no businesses owned large patent portfolios. The most serious problem facing patent law in the twenty-first century is continued rap-

id growth of huge patent portfolios by giant corporate groups. IFI Patent Claims Services publishes a highly useful list of the 250 largest patent portfolios [3]. The list shows that, as of 2021, fifty-one corporate groups each owned over 10,000 unexpired patents. Samsung led the list with over 80,000 unexpired patents. The rapid obsolescence of technology has made largely irrelevant the idea embodied in the United States Constitution that a patent owner should receive a monopoly for a limited time in return for the disclosure of the invention and its eventual passage into the public domain. The current pace of advance of science and technology means that a large portion of inventions are obsolete by the time the patents expire, so their entry into the public domain is of little use. Meanwhile patent portfolios continue to grow. Apple currently has about 18,000 patents [3]. In 17 years nearly all of these will have expired. But Apple is adding about 2700 patents a year, so that in 17 years at this pace it may have accumulated about 46,000 new patents. The ever-increasing number of patent applications makes it more and more difficult for patent offices to ensure that patents are only issued for really new and creative inventions.

Such huge patent portfolios create a serious barrier to entry for the kind of small startup company that has often led in technological advances. Startups will need to spend large amounts of initial capital paying expensive lawyers to guide them through the patent minefield. Further, they will need more cash to pay for licenses to patents that block their way. Meanwhile large established companies with extensive patent portfolios and large legal staffs are in a much better position to overcome these obstacles to innovation. In particular, they can use their patent portfolios as bargaining chips to obtain needed licenses and use their expert legal staffs to challenge dubious patents.

Developments in some countries have mitigated the negative effects of the huge portfolios, but much more needs to be done at the international level. In the United States, the Supreme Court has eliminated the doctrine that an injunction should be issued for every patent infringement. In the 2006 case of *eBay v. MercExchange*, the Supreme Court overturned prior judicial practice by holding that injunctions should not be available automatically for all infringements [4]. This decision was of great importance for prospective entrants into fields such as the design and manufacture of mobile phones and self-driving vehicles, because of the existence of thousands of patents on the relevant technologies.

The denial of injunctions would be of little use to new entrants if they faced royalties based upon the total value of their entire product, for instance, if the patent-holder of a single patent related to mobile phone technology

could seek a royalty as a substantial percentage of the typical \$400 cost of a modern mobile phone. However, the courts have developed a number of limiting doctrines. In *Samsung Electronics Co. v. Apple Inc.*, the United States Supreme Court held that an award of profits for infringement of a design patent on the design of a mobile phone display, would be based not on the profits from the sale of the phone as a whole, but rather on that portion of the profits that was attributable to the display [5].

Another major limitation relates to FRAND (Fair, Reasonable, and Non-Discriminatory) licensing of SEPs (Standard Essential Patents). International standards have become of every greater importance during the twenty-first century, particularly in the area of the Internet of things, in which interoperability is essential. A good example is the ability of mobile phones to roam worldwide and to connect with WiFi routers and Bluetooth devices anywhere. Several decades ago it was realized that the best technical approach to a standard often was protected by one or more patents, called "Standard Essential Patents". Further it was understood that requiring use of a patented technology to meet a standard would give undue bargaining power to patentees [6]. A related problem was that of patent stacking, the situation in which compliance with a standard would require licenses from a number of different holders of Standard Essential Patents. Leading SDOs (Standard Developing Organizations) have adopted a policy of refusing to create standards requiring the use of a particular patent unless the patent-holder would agree to contract to license the patent at fair, reasonable, non-discriminatory terms. The European Union has issued a directive dealing with this issue [7]. Approaches have varied in the courts in the United States. Some courts have intervened to set royalties, using the standards for awarding reasonable royalties adopted in the *Georgia Pacific* case in 1970 [8]. A very different approach was taken in a recent case involving mobile phone patents, *HTC v. Ericsson* [9]. In this case, Ericsson had signed a FRAND contract governed by French law with the relevant standards setting organization. The court analysed the case not as an intellectual property case but rather as a case of application of the French law of contract interpretation. The court essentially left to the jury the interpretation and application of the FRAND clause of the contract.

UTILITY MODELS

Some countries allow the protection of "utility models", improvements lacking the major inventive step needed for patent protection. Other countries, for instance, the United States, where the Constitution requires an "inventive step", do not offer protection for utility models. There

is an important, but unanswered question of economics, namely whether or not there should be an intermediate form of protection for useful advances that do not meet the requirements for patentability. Arguably, the advantages accruing to the business that is first to market an advance and thus has a brief monopoly should be enough to encourage minor advances. Given the basic disagreement on this question, and the difficulty of obtaining objective economic evidence, it is unlikely that any international harmonization of utility model protection will take place during the twenty-first century.

DESIGN PROTECTION

Various countries offer protection to product design through design patents or design registration. Despite the undoubted importance of encouraging products that are not only useful but also are beautiful, there are problems with design protection. One problem, like the problem with huge utility patent portfolios discussed above, is that large design patent portfolios may create undue barriers to entry by small competitors. Another problem, which has found different solutions in different countries is that of repair parts. If the left front fender of a car is damaged in an accident, the owner will want a left fender that not only keeps mud from flying toward the windshield, but that also matches the right fender. If there can be a design patent on automobile fenders, I (or my insurance company) will have to pay a monopoly price to repair the car. Some countries have partially solved the automobile repair problem by denying design protection for parts of a car that are normally not visible, such as carburetors.

VARIETIES OF LIVING THINGS

Genetic engineering has revolutionized the protection of varieties of living things. At one time, intellectual property protection of living things was limited in the United States to plants that could be reproduced with the same genetic material, such as by grafting. With advances in science, this protection has been broadened internationally to include seeds and genetically-engineered life. It is often said that genetic engineering will be, for the twenty-first century, the advance that computerization was for the twentieth century. One can expect many new issues to arise, in particular the complex ethical and practical issues of genetically engineered human beings. I just mentioned some issues with protection of the design of spare parts such as fenders and carburetors for automobiles. However, these issues pale in comparison with the possibility of engineering replacement limbs and organs for humans.

TRADE SECRECY

The extensive replacement of hardware by software is revolutionizing trade secret law. Thieves and disloyal employees no longer measure individual parts with a ruler or photograph design drawings; they download terabytes of programs and data to flash drives or remote servers [10]. A notorious example is the case involving Google, Uber, and the former head of Google's self-driving car program, Anthony Levandowski, who defected to Uber taking a huge amount of software and data with him. In an arbitration, Levandowski was ordered to pay Google 179 million dollars. His new employer, Uber, agreed to pay Google 245 million dollars to settle a lawsuit [11]. Levandowski also was convicted of the Federal crime of trade secret theft [12], but was pardoned by President Trump after lobbying by a major contributor to the President's campaign fund [13].

Another problem has been the expansion of trade secret theft from individual actions by disgruntled employees to coordinated actions by nation states in the ever intensifying atmosphere of economic and military competition. The vastly increased size of trade secret thefts and the emerging role of national intelligence services has led to much more active enforcement and, as noted above, unfortunately to the politicizing of trade secret enforcement.

Trade secret law presents special problems for businesses operating internationally, because of difference among countries in laws concerning the qualification of information for trade secret protection and in laws regulating employer-employee relations.

COPYRIGHT

There are four major negative trends in copyright law: first, the growing number of "surprise" copyright violations in which someone inadvertently uses copyright-protected material, second emergence of an ever growing number of "orphan" works, whose uncertain copyright status prevents their use, third the extension of copyright to computer software, and fourth, the overexpansion of the rights of copyright owners by anti-decryption legislation. The following discussion will highlight these problems and some of the attempts to solve them.

First I will turn to what I call "Surprise" copyright infringement. Such infringement can occur in two ways, either due to a misunderstanding of the complex rules or the relevant facts bearing on copyright ownership or, most commonly, due to the uploading by users of infringing material to social networks or other websites. Over thirty years ago, the United States Supreme Court provided for leniency for an infringement caused by a misunderstanding of complex legal rules. In the case of *Stewart v. Abend*, the court held that there was no automatic

right to an injunction, and decided that the copyright owner could only recover reasonable warranties reasonable royalties for the surprise [14]. There is ongoing debate worldwide over the other problem, namely how to apportion responsibility for uploaded infringing material. Obviously the users of social media and other websites are liable for uploading such material, but such users are often anonymous or are teenagers or others lacking money to pay damages. The much-debated question is whether the copyright owners or the website maintainers should be responsible for policing such uploaded material. In the United States, a solution was found in the Digital Millennium Copyright Act [15], which placed the burden of policing upon the copyright owner while freeing the website maintainer from damages if it took down infringing material upon notice from the copyright owner. It may be time to reexamine this allocation of responsibility in light of the increasing availability of digital search techniques for finding infringing material. The 2019 European Directive on Copyright [16] provides for a more balanced, but much more complex approach to the respect burdens upon the websites hosting uploads and the copyright owners.

Second I will discuss “orphan” works. These include works in the public domain whose copyright status cannot be determined easily and also copyright-protected works whose owners cannot be determined easily present a special problem. In my opinion, the universal adoption of the Berne Convention and its enshrinement in WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) was a great mistake. In particular, it created a huge and ever growing number of “orphan” works. Thus, I believe that the United States made a great mistake in abandoning its longstanding system, which put published works in the public domain upon publication if they lacked a copyright notice, otherwise after a relatively short twenty-eight years, if the owner failed to file for renewal. Under that system anyone could determine the copyright status of published work merely by checking for a copyright notice. The system effectively prevented the emergence of orphan works and achieved a good balance of incentive for creation and the public interest. In 1675, the great scientist Isaac Newton, in a letter to Robert Hooke, made the famous statement: “If I have seen further it is by standing on the shoulders of Giants”. Given that all new creations rest on earlier creative efforts by others, it is only appropriate that there be a balance between incentives and the public domain. The universal adoption of the Berne Convention has upset that balance in two ways, first by creating uncertainty as to the ownership and end date of copyright, and second by creating an excessively long term. The already excessively long term has been made worse by legislation in

many countries extending the term by decades beyond that required by the Convention.

A possible compromise approach to orphan works may involve several steps. Some of these have been would not require renegotiation of the Berne Convention; others might require the extremely difficult task of revising the Convention. Some steps indeed have already been taken in the United States. Numerous countries and the European Union have considered reforms to deal with the orphan works problem [17]. Many of the proposed and adopted changes, however, are very timid; they do not come close to solving the problem. Typical proposals would restrict remedies to “reasonable royalties” if the copyright-owner had made a “diligent search” for the copyright owner. This reverses the principle applicable in many other areas of property law, for instance laws concerning transfers of immovable property, which place the burden upon property owners to ensure that their ownership is reflected in public records. It is contrary to the universal approach to patents and to the approach of most countries to trademarks, which places a similar burden on owners of these types of intellectual property. The problem with the reasonable search approach is that there is no easy way to define what constitutes a “reasonable search” and that a thorough search may be extremely expensive. Another suggestion has been to retain the present length of copyright protect, subject to repeated filing of renewal and payment of renewal fees by the copyright owner [18]. However, this would be difficult to implement in a way that would not violate the Berne Convention. It would be even more problematic in that the Berne Convention is incorporated in TRIPS and thus national laws requiring renewal formalities and fees would be subject to attack through the World Trade Organization’s dispute settlement procedure.

Third I will discuss problems by the extension of copyright to software protection. Such protection is in conflict with the longstanding principle that copyright should protect only literary and artistic works, while useful works should be protected by patents and then only if they involved an inventive element and with protection for a relatively short term after an enabling disclosure. In case of patent protection, nothing prevents other businesses from making devices compatible with patent devices or repairing patented devices. However, copyright can hinder such independent work.

In the United States, both Congress and the courts have put some limits on the overbreadth of copyright protection, but many problems remain, both here and around the world. In a leading case, *Google LLC v. Oracle America, Inc.* [19] the United States Supreme Court gave a broad interpretation of the principle of “fair use” embodied in the United States Copyright Act to allow

Google to copy over 10,000 lines of Oracle's code for the Java language so as to ensure compatibility with Google's Android software. However, it is far from clear that other countries, whose legislation limits "fair" uses to a fixed list, would reach the same result.

One encouraging development in copyright law has been the worldwide recognition of free and open source software ("FOSS") in legislation, for instance in a European Union copyright directive and in court decisions in various countries [20]. Much more, however, needs to be done to remove uncertainties in this area [21].

A fourth problem area is that of restrictions on access to encrypted and password-protected copyrighted information. While such restrictions aid greatly in the fight against piracy of books, music, and video, they also limit traditionally permitted uses of copyrighted material. A good example of the problems created by these restrictions is that of the Digital Millennium Copyright Act in the United States. This Act allowed the Librarian of Congress, as the head of the United States Copyright Office to proclaim, on a regular basis, a list of exemptions to the DMCA's prohibition on circumvention of copyright protection. The most recent such list was adopted in October 2021 [22]. It retained many of the prior exemptions aimed at uses for critical comment, education, and handicapped access. It also substantially broadened exemptions for circumvention for repair to include to include all consumer products. Litigation is ongoing on the question of monopolization by Apple of the process of sale of applications and payment for upgrades of applications. The leading case, which is currently in the courts is *Epic Games, Inc. v. Apple, Inc.* [23]. A popular vote in one state, Massachusetts, approved extending an existing "right to repair" to include access by independent repair shops to modifications of automobile software downloaded over the Internet [24].

In the future, the issues of conflicts between intellectual property rights and the right to compete in such widespread areas as mobile-phone applications and automobile repairs, will be come more and more important.

TRADEMARK

The twentieth century was marked by successful efforts to simplify the international trademark registration process and to broaden the protection afforded to trademark owners. The Madrid System has simplified and reduced the cost of registering trademarks in multiple countries [25]. The idea, first developed widely in the United States of protecting trademarks against "dilution" by the use of marks with respect to completely different types of services has been spread to the world by Paragraph 3 of Article 16 of the TRIPs agreements, which provides:

3. *Article 6bis of the Paris Convention (1967) shall apply, mutatis mutandis, to goods or services which are not similar to those in respect of which a trademark is registered, provided that use of that trademark in relation to those goods or services would indicate a connection between those goods or services and the owner of the registered trademark and provided that the interests of the owner of the registered trademark are likely to be damaged by such use.*

The combined result of these two developments has been a serious new problem for the twenty-first century, that of the increasing unavailability of "good" trademarks. A business that wishes to market a new product is likely to encounter problems in various countries, both of previously registered marks for identical or similar goods and of marks registered for quite different goods by large companies that can afford to litigation to protect their marks from so-called dilution. By the lack of "good" trademarks I mean the limited availability of trademarks, particularly word marks, that are short, memorable, and convey a positive feeling. A recent extraordinary thorough empirical study shows that such trademarks are becoming increasingly less available, particularly for products to be marketed internationally [26]. This situation is a serious barrier to entry by new firms in a market dominated by older established businesses with easy-to-remember marks.

Two other areas of trademark law are likely to be of importance in the twenty-first century. The first involves the delineation of trademark protection from patent law. Trademarks, which if necessary formalities are observed, can last for ever, should not be available to protect useful features of products, which should be protectible only by patents, meaning that protection should require an inventive step and should be strictly limited in time. Drawing the line between trademark protection and patent protection is not easy. It has led to extensive litigation in the United States, for instance. There is as yet no internationally-accepted approach to this problem. Developing such an approach will be a challenge for the twenty-first century.

A second frontier is the line between trademark protection and freedom of speech. Should protection be denied to trademarks that offend some customers, or should trademark protection be granted to such marks, leaving the marketplace to decide if customers would be so offended that they would not buy the product. How free should critics and competitors be to make negative comments on products while referring to the trademark? Opinions differ on these issues, with the result that there may be a patchwork of different regulations in different countries.

OTHER AREAS RELATED TO INTELLECTUAL PROPERTY

Next I'd like to turn to some areas closely related to the main branches of intellectual property law. I do not think

it matters whether these areas are considered “intellectual property” or not. What matters is that many of the issues emerging in the twenty-first century with these areas raise the same questions as I have discussed with respect to intellectual property.

DOMAIN NAMES

Domain names have much in common with trademarks. In the recent “booking.com” case, the United States ruled that a domain name could function as a trademark [27]. Unfortunately, way that the domain name system has developed on the Internet has resulted in a violation of a basic principle of trademark law, because competition can only flourish if all competitors can use their products’ generic names. It is a universal principle of trademark law that no one can have trademark rights in the generic name of a product. No one can have a valid trademark in “beer,” “restaurants,” or “surgery.” However, on a first-come first-served basis, in the days of the “dot com” gold rush, astute speculators captured thousands of generic “dot com” domain names, such as “weather.com” and “hotels.com”. Indeed, the study I cited above that found that the supply of trademarks was largely exhausted also found that the supply of generic and geographic terms in the dot-com domain was largely exhausted [26]. Attempts to reform the domain system to eliminate this generic advantage have failed. ICANN, the organization that administers domain names, attempted to improve this situation by instituting a system of generic top level domain names [28]. Many of these domain names correspond to generic words, such as “beer,” “restaurant,” “surgery”. Some names, such as “.beer” are open to all. Others, such as “.archi” are limited to a particular type of business. Hundreds of new top-level domains have been created [29]. In 2013, even before the new system was launched, an article in the authoritative publication *The Guardian* correctly predicted that the new name system would fail [30]. The system has been a total failure. Businesses have found that they must have a dot-com name to succeed on the Internet. Thus the problem of monopolization of generic names remains. Because of vested interests, it is now too late to consider what could have been a solution, namely allowing all business in a particular area to share a generic dot-com name with links to their business site.

In some countries business make wide use of country specific top level domains, such as “.ru” for Russia. The question of exhaustion of generic names in such country level names is a ripe subject for empirical research. I note for instance that the well-known vodka, “Russkiy Standart” has cleverly obtained both “vodka.com” and “vodka.ru”. A Polish liquor company has not only captured the website “vodka.pl”, but is selling vodka with the trade-

mark “vodka.pl”. A more appropriate use of a liquor site is “cognac.fr”, which is owned by an association of grape growers, distillers, and marketers of the beverage bearing the famous appellation of origin.

RIGHT OF PUBLICITY

The right of publicity, i.e., the exclusive right of individuals to allow use of their name or identity for advertising purposes has been recognized for decades in the United States. This right serves as an important source of income for famous entertainers and athletes. In the United States, the right is recognized in most states by common law, statute or both. However, most other countries do not recognize this right directly, though many may protect the right indirectly by legislation restricting the use of people’s images [31].

Numerous questions concerning this right remain open for resolution in the twenty-first century. As a matter of economics, the right allows celebrities to maximize the income from their personas by avoiding both underutilization and overexposure. A natural rights theory suggests that each person should enjoy the benefits of their achievements, such as the extensive effort required to succeed at sports. But is making the rich richer an appropriate goal for the legal system? Should untalented but good-looking persons be given the chance to turn their appearance into money? Should persons with ordinary looks and no particular achievements have a right to publicity? Should the right to publicity pass by inheritance and if so, how long should it last? Should the right to publicity be alienable? Should creditors be able to attach the right of publicity? Should the right of publicity apply only to a person’s image or also to the person’s voice. Should a person have a remedy against the use of look-alike or sound-alike models? Should it apply to objects associated with particular persons, such as a famous driver’s well-known racing car?

In the United States, the right of publicity grew out of the right of privacy. The two rights are still related. Should a movie star be able to swim at a nudist beach without worrying about photographs being taken and sold by paparazzi? Should a teetotaling sports star be able to prevent his likeness from being used to sell whisky?

Finally, are the differences in views on these and other questions so fundamental that the right to publicity, in contrast to most branches of intellectual property, be left to local legislation and not made the subject of international unification, international treaties, and international enforcement efforts?

NON-FUNGIBLE TOKENS

The twenty-first century has already seen at least one new type of intellectual-property related right and certainly will

see more. A highly-debated new type of intellectual property is the “non-fungible token” (or “NFT”). These tokens are elements in a block-chain, most often in Ethereum. However, non-fungible tokens, although based on a link in a block-chain are not like the Ethereum or Bitcoin cryptocurrencies, which are fungible, in the sense that one unit of either is completely equivalent to another unit of the same cryptocurrency, just as a dollar coin is equivalent to any other dollar coin, or a ruble coin is equivalent to any other ruble coin.

The first “non-fungible token” appeared in 2014 [32]. Since then numerous NFT’s have appeared [33] Ethereum has defined official standards to ensure the uniqueness of NFT’s in its blockchain [34] NFT’s based on other blockchain systems are sure to follow. However, there are numerous outstanding legal issues [35].

There are many possible uses for NFT’s, as the Ethereum website advertises [36]:

NFTs are currently taking the digital art and collectibles world by storm. Digital artists are seeing their lives change thanks to huge sales to a new crypto-audience. And celebrities are joining in as they spot a new opportunity to connect with fans. But digital art is only one way to use NFTs. Really they can be used to represent ownership of any unique asset, like a deed for an item in the digital or physical realm.

But a major question remains with respect to NFT’s and other new forms of intellectual property that will be invented in the twenty-first century? Are they really a useful innovation or are they primarily a new way of defrauding the public. Such fraud has long been a problem in traditional forms of intellectual property, for instance vanity presses that promise authors fame and fortune from their copyrighted works, but which only end up charging exorbitant fees for insignificant results, or inventor assistance firms, which charge amateur inventors large fees for advice, but almost never end up creating valuable patents.

A comprehensive article warns of the numerous possibilities of fraud with NFT’s connected to digital art works [37]. Once a digital artwork is available on the Internet, either directly or through an NFT, anyone can make an unlimited number of identical copies and connect each copy to an NFT. There is no simple way for a buyer of an NFT of a digital art work to know how many NFT’s of the same work are available nor to know if the NFT was authorized by the artist. In a recent notorious case, a new organization sold newly-minted NFT’s for 2.7 million dollars and then disappeared with the customers money [38]. In another case a copyright owner forced a takedown of a sales platform that had sold millions of dollars worth of NFT’s [39].

RICH VERSUS POOR

In this article, I have discussed numerous existing and emerging problems in the intellectual property system.

As I have noted, there are possible, and sometimes easy solutions for these problems. I would like to close with what is the greatest problem facing intellectual property today. In the world economy, the richer countries tend to be producers and exporters of intellectual property and users and importers of raw materials, while the poorer countries tend to be producers and exporters of raw materials and importers of intellectual property. The imbalance has been partially rectified by the policies of the OPEC Plus Cartel, but in the long run the use of local renewable energy sources in the richer countries will restore the imbalance. The imbalance in intellectual property, on the other hand, is built into the system of intellectual property treaties in general and in particular in the WTO’s Trips agreement.

During the COVID pandemic the effect has been particularly evident. Rich countries, such as Japan and Canada have been able to pay for imported vaccines and achieve extremely high vaccination rates [40]. In contrast, the poorer countries of Africa have had extremely low vaccination rates [41]. World Health Organization statistics show an radical difference between the rich countries and the poor [42]. There is no doubt that the intellectual property system along with government support of basic science has worked wonderfully in encouraging the rapid invention of safe and effective vaccines and the development of effective medications to treat the disease. The difficult task remaining is to maintain these incentives for invention while finding a way to bring the inventions to all those susceptible to the disease.

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