IPR Journal of Maharashtra National Law University, Nagpur Volume I | Issue I | June 2023, pp. 104-122

AI AUTHORSHIP AND OWNERSHIP OF CONTENT AND WHERE IT STANDS IN THE PATENT AND COPYRIGHT LAW: THE CURRENT SITUATION AND WAY FORWARD

Arya Hartalkar[*]

Abstract

In today's developing and technologically advanced society, artificial intelligence is developing on a large scale. With advanced technology being incorporated, in few years these systems will begin to develop wonderful creations without any form of human interference. AI is growing in technology which leads to make an impact on the economy therefore, it is need of the time for the laws governing intellectual property to have answers for the future possible things which AI might bring. Also, if these technologies keep developing at the same pace, then it is near future when AI and like systems will make inventions, artistic creations and perform human tasks (which some AI systems are doing now on full fledge scale). This raises important considerations about "intellectual property rights (IPR)" because it casts doubt on not merely conventional understandings of ideas like patents and copyrights but also raises issues regarding the control of such creations, among other things. With a global perspective on the subject, this research paper aims to shed light on the evolving IPR laws' application to artificial intelligence as well as the resulting issues because as of now there is no legal framework for activities of AI but it's not far that we need a comprehensive legal framework for AI. It also aims to answer concerns about criminal culpability for the content produced by such technologies and makes recommendations that go beyond IPR.

Keywords: *Copyright Law, Intellectual Property Law, Patent Law, Artificial Intelligence, Rights of Artificial Intelligence Systems*

Introduction

Modern artificial intelligence (AI) systems are expanding exponentially as more advanced software is added into them. AI-enabled systems can now create more complicated creative works like poetry and artwork in addition to simple computations. This creates the question that can a special identification and status be given under the rules governing intellectual property rights, in addition to any other type of work created by a human (who can be identified) that is protected by IP regulations. This query reveals a number of other complex

[*] III Year Student, B.A.LL.B. (Honours in Adjudication and Justicing), MNLU, Nagpur.

concerns, which the authors hope to emphasise in this study.[1] The notion of AI is explained in the beginning of this research paper, also the intellectual property rights are taken into consideration specially regarding the copyright and trademark and AI. The study then moves on to the more in-depth discussion of copyright issues in regard to AI solutions and emphasises how patent rules relate to AI systems. In its final section, the study makes suggestions about these problems.

Meaning and Definition of Artificial Intelligence

With the help of human intellect and computers, decision-making capabilities have even been achieved. Artificial intelligence, as it is known today, is the computer system's ability to make analyse the situation and react on it independently.[2] In a conference conducted in the year 1956 the word "Artificial intelligence" was introduced in "Mr. John McCarthy, a computer scientist". He claimed that it was the idea of a computer analysing information and behaving on it in a way that is similar to an individual (with an intellect) would react to the same input.[3] Because of our dependence on and interest in machines, AI initiatives have been created that enable the completion of jobs requiring human-like inventiveness. However, it is doubted that whether the results of machine are out of machine's intelligence or result of the algorithm. Sir Alan Turing suggested a test known as the "Turing test" to address the issue. After having a text-only conversation with either a computer or a human, users were asked to say whether they believed they were conversing with a human or a machine. According to Turing, a machine exhibited intelligence if its responses were identical to those provided by actual humans. This exam was effective for a few years, but it could only be used with speech machines and for certain quizzing reasons. "Expert systems, perception systems, and natural-language systems" are the three kinds of AI that the "World Intellectual Property Organization (WIPO)" proposed as existing. Expert systems are computer programmes that address issues in highly specialised domains of knowledge, including, but not limited to, identifying geological conditions, prescribing treatments, and diagnosing medical ailment. These methods are also employed for artistic endeavours like the creation of artwork and other similar products. The Registrar refused copyright for a computer-authored work, citing the ambiguous legal status of computer-assisted works, which attracted legal attention to this system. Many States have yet to find a solution to this problem. The systems known as perception systems

[1] Raquel Acosta "Artificial Intelligence and Authorship Rights" *HJLT* Feb. 17, 2012

[2] Can a Computer Be an Inventor?, *available at*: https://www.jdsupra.com/legalnews/can-a-computer-be-an-inventor-11706/ (Visited on June 21, 2023).

[3] T.H. Cormen *"Algorithms Unlocked"* (The MIT Press Cambridge, Massachusetts London, 2013).

enable a computer to view and hear the outside world. Topologists, word context specialists, etc. use this. Last but not least, a natural language programme needs a dictionary database in order to comprehend word meanings. What is remarkable is that the system provides a semantic analysis by taking into account various grammatical and textual situations. Due to the widespread adoption of these AI systems, many people sought to secure the outputs. However, these aspirants had very dim hopes after the 1956 decision to deny copyright to a literary work. However, due to its importance to the field of IPR covering copyrights and patents, the discussion continued and even reached national courts.

Copyright of Artificial Intelligence

A crucial component of "intellectual property rights" is copyright. It is privilege given by law accorded to the author of an authentic work, giving him or her sole authority over its use and dissemination[4]. The foundation for this argument was grounded in the possessive individualism economic theory of Locke. In general, two key conditions ought to be completed to grant a copyright status. The work should be original and should first take the form of a tangible object. Typically, a copyright is used to protect creative and literary works. The creation of creative novel works being one of the latest uses of AI, the study of copyright in related to AI becomes pertinent. Three court decisions – "Bleistein v. Donaldson Lithographing"[5], "Alfred Bell & Co. v. Catalda Fine Arts"[6], and "Burrow Gilles Lithographic Co. v. Sarony" - can be examined to better comprehend the same for the purposes of this study.

1. In the case of "Sarony v. Burrow Gilles Lithographic Co."[7] The bone of contention was can copyright be issued for an image. Because an image is creation of mechanical work and creativity of an individual, it was a relevant case. The Court considered whether a machine's output might be granted copyright protection. By concluding that simply mechanical work is not by definition artistic, the Court reduced the scope of their protection. Therefore, if a strict method like this were employed, giving copyright to works created by AI is a not an easy process.

2. "Donaldson Lithographing Company v. Bleistein[8]" the legal issue raised in the previous case was continued in this one. The Court here made a distinct distinction between something created artificially and something created by a human. In his opinion (of majority), "Justice

[4] *Supra* note 2 at 2
[5] Bleistein v. Donaldson Lithographing Co [1903]188 U.S. 239
[6] Alfred Bell Co. v. Catalda Fine Arts [1951]191 F.2d 99 (2d Cir.)
[7] *Supra* note 6 at 3.
[8] *Supra* note 6 at 3

Holmes" outlined the distinctiveness of human individual and emphasised that it is an essential component for copyright. The Court's use of the phrase "something irreducible, which is one man's alone" made it apparent that it did not allow for the possibility of anything that was not an expression of human creativity.

3. "Alfred Bell & Co. v. Catalda Fine Arts, Inc.[9]" With this decision, the courts showed a milder stance toward copyrights. Novelty and originality standard was lowered by the judiciary and decided that in order for a work to be declared original, it cannot be an exact replica of another artistic production of a similar kind. It also said that an author could claim ownership of inadvertent or unintentional alterations. This decision provided a reprieve to those who were claiming copyrights for works produced by AIs since, despite being the result of specific programming and algorithms, they weren't copied. These three rulings help to resolve the uncertainty surrounding the protection of AI systems to some extent. The potential right holders are still impacted by the lack of a clear position, though.

Copyright of Artificial Intelligence

AI's development with the potential to create a work not realistic but more of theoretical concept, according to a 1974 study by the "National Commission on New Technological Uses of Copyrighted Works (CONTU)"[10]. As a result, the debate about AI's position is not new. The issue was revisited in the year1986 when the "Office of Technology Assessment (OTA)" evaluated how IP might be impacted by improvements in "interactive computing". Contrary to CONTU, OTA argued that AIs should be considered legal co-authors of works that are copyright protected. The debate over artificial intelligence (AI) will be at its most heated in 30 years, with one side contending that computers lack the creative capacity of humans, and the other opposing this claim under the pretence of defining creativity. One of the most vocal opponents of providing AIs with protection is Lovelace. She asserts that because a machine behaves in a predetermined way and lacks originality.

Her argument is based on the idea that creativity is the capacity to act in unforeseen ways, i.e., deviating from the norm, as opposed to what software, AI and like machines always do. The same is disputed by authors who refer to writers as machines as they analyse pre-existing works and derive the majority of their ideas from them. For e.g., there are various copyrights for films based on the "Romeo and Juliet" plot.[11] The music industry also experiences similar

[9] *Supra* note 7 at 3
[10] Final Report of NCNT UCW, 1978
[11] Xiao Y, "Decoding Authorship: Is There Really no Place for an Algorithmic Author Under Copyright Law?", 54 IIC 5-25 (2023).

occurrences. They take support of decisions like "Cummins v. Bond," in which the Court had to decide whether a writer may register a work in Jesus' name. The Court decided that the non-human nature of a work's source should not be a defence against copyright, regardless of whether self-reliant editorial judgement was applied during the process. The registration of AI-performed work that is also something that cannot be considered as human in nature is being expanded by the advocates of AIs under this judgement. Even if nations acknowledged providing copyrights to an AI's creations, it is still unclear and impossible to understand who is the rightful owner of those rights. This is true because, unless its creator is given that authority on its behalf, an AI lacks the legal personality that existing law demands of a right holder.[12] There is a loophole in the law, though, which concerns what would happen if the AI system had been purchased, and whether the buyer or the developer would receive the copyright. In nations like New Zealand and U.K. there is a legal fiction, where the copyright of the AI created, works is granted to the programmer, the answer is in favour of the creator. Expanding the concept of copyright to encompass computer-generated works provides legal support for the same for e.g., the AI which lacks human touch. This does not, however, address the aforementioned query. The way AIs are currently criminally liable is another issue with the system. Nobody could have predicted the miracles that AI would accomplish when it was first developed, and it wouldn't be odd to anticipate that progress to continue so that, in the future, AIs will stand entirely on their own. The relevant question of whether an AI might be held liable (in criminal sense) will subsequently be raised. If the current approach is conserved, the creator will be held accountable even though he lacked the "mensrea or actusreus" of an act. As a result, there are several gaps in the current standing of AIs under law governing IP. The author offers some solutions to close these gaps in the paper's subsequent sections.

International Conventions and Treaties on Copyright Law

It is helpful to consider how the "ICL", which serves as the model for state copyright laws in the world, shapes the national legal framework for authorship before diving into the specifics of that framework. "The Berne Convention", "the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)", and the "WIPO Copyright Treaty" are the three main foundations of the international copyright system, which practically all nations in the world have ratified (WTC). According to Article 2(1) of the Berne Convention, any works in the "literary, scientific, and artistic sphere, regardless of the mode or form of their expression," which is what copyright protection applies to, are included. Computer programmes are

[12] James Boyle, *"Endowed by their Creator?"* Brookings, Mar 9, 2011.

explicitly included in the definition of "computer programmes" in "Art. 2 of the Berne Convention" according to "Article 10 of TRIPS" and "Art. 4 of the WCT". Thus, it would appear simple to protect AI programmes as "literary and artistic works," as well as the generative contents they produce, given that it is pricy. The idea of "literary and aesthetic works" already includes the demand of originality. A work would need to be an original piece of thought by a recognised author. Whether on purpose or not, the Berne Convention makes no mention of the critical question of who qualifies as an author for the purposes of "the Convention" and instead leaves it up to national law. Some claim that one shouldn't put too much stock in this dubious self-control and ambiguity. "The Convention" did not define the idea of authorship because it was superfluous to do so because the contracting states took the term's humanistic foundation for granted. It is unlikely that there would have been agreement on the exhaustive list of subject topics outlined in "Article 4" if there hadn't been a common understanding of authorship. Even though "Article 4(a) of the Convention," which provides protection to those who create cinema or creative work of that nature is generally viewed as a deviation from a regular "human-centric idea," it actually communicates a separate non-human author nature.

National copyright laws, particularly in the USA where employers' status as author-in-law is strongly protected, further showed the acceptance for the author other that the usual human authors.[13] The standing of "Art. 4(a)" shows the potential of creating a new "Convention norm", or passing deviation from the norm like that, even if humanness were to be read into the Convention's definition of authorship based on state practise. Indeed, the "search for a clear Convention philosophy" frequently proves to be a "elusive" and "frustrating" one because of all these "conflicting signals" emanating from every angle, whether it be a study of the Convention's source and evolution, or an analysis (doctrinal) of the Convention's text in general, or the implementation of the Convention in the territory of member states. Although they have the effect of working against a consistent international apprehension of copyright protection, these pervasive inconsistencies are actually a reflection of and the outcome of highly disparate domestic approaches, which are implicitly permitted by the Convention as a necessary "price to pay" for reaching a broader international unanimity. To put differently, a reformist and minimum human focussed view of authorship at the country domestic level is not prohibited by the Convention itself. These ostensibly conflicting interpretations and

[13] *Supra* note 12 at 5.

behaviours are made conceivable by the significant "liberty space" between the Convention's principles. The Convention's Art. 6b is, which clearly guarantees moral rights to the "author," is a key supporter of the claim that "the Convention" solely recognises human authorship. It might seem strange to think of AI as an "author" within the terms of "the Convention" as it lacks legal personhood. According to Jane C. Ginsburg, to permit "the Convention" to recognise solely computer-generated works as works of authorship would mean excluding "the author human)" and "purging copyright of its soul". A pause for reflection should be needed here. Even if it is agreed that this humancentric narrative has certain virtues, "the Convention" is not always binding on the contractual parties to its implications as a realistic. For example, "the Berne Convention Implementation Act of 1988", that mentioned "the Convention" was not self-executing in that existing law satisfied the United States' commitments in adhering to the Convention, allowed the US to successfully avoid dealing with the question of moral rights. In order to "appease the domestic lobby" and quell criticism from the outside for not upholding a higher standard of protection, "the Visual Artists Rights Act of 1990" was created, which gave limited rights of moral nature to a particular category of artists with a large number of sculpt clauses in place. In fact, moral rights are simply not "on the ballot for harmonisation" on a global scale, and it is so even within the EU itself, which is arguably the very best example. On the other hand, the deliberate omission of the moral rights clause (i.e., "Art. 6 b of the Berne Convention") from "TRIPS", which incorporates multiple provisions of "Berne Convention" provisions by reference as a result of an outright rejection by the US, further undermines the humanistic "moral rights" reading of authorship. The institutional distinction among these international treaty regimes may help to explain the US's notably vehement opposition position relative to its stance on the Berne Convention. If section related to moral rights were added into "TRIPS", unlike the "WIPO", which oversees the Berne Convention, member states could utilise the "WTO's" mandatory enforcement mechanism to hold those who fail to defend writers' moral rights accountable. To put it another way, adding moral rights to "TRIPS" would give the provision "teeth," and from the US's point of view, this is evidently bad for "the larger apparatus of trade relations". As such, "international copyright law" does not through light on the question of authorship it should be granted to AI or not. Even while it may not have been in the minds of the EU or the US at first, the ambiguity or contradictions within the intricate "international treaty" regimes that come from the balance of competing national interests to give identity to "algorithmic creator".

Artificial Intelligence and its position in Patent Laws

In the current era where technology is centre point, there is an increasing amount of interplay between patent regulations and AI.[14] As was shown in the earlier section of this study, AI is used in large manner to streamline the performance of fundamental operations and, primarily, to reduce efforts of human. AI-enabled systems appear to function similarly to simple calculators and other comparable gadgets at first glance. [15]. It operates in a far more convoluted manner, though. Systems with AI are capable of carrying out tasks based on their own crucial insights, opening the door to the possibility of invention. However, this being a big development in technology, it raises new, difficult concerns from a legal perspective, namely from the patent law's view.[16] This section of the study will analyse the idea of patents first before going on to how it interacts with AI systems and finally outlining the problems this connection poses.[17]

Patents and the Current Position of Law in the World

A patent can be thought of as the sole ownership of an innovation. This term "innovation" has been interpreted to refer to do some work in different manner by offering a product or procedure, even those that present a fresh approach to an existing technical issue. For a specific period of time, the owner of such a right may be required by law to prevent others from producing, offering for sale, or even utilising the patented innovation. Thus, it can be claimed that the right protected in such a situation justifies the establishment of a monopoly in favour of the original invention. As it was already stated, AI-enabled systems are capable of performing tasks and even coming up with ideas, which typically come about as a consequence of the application of human thinking. The product or content created by these artificial machines can be termed as invention that can be patented. As per the "U.S. patent law", a "inventor" is defined as a person or group of people who created or discovered the invention's main idea. This disproves the claim that the United States' legislative objective sought to encompass innovations or rather the prospect of inventions being generated by anyone other than humans. However, these queries necessitate legal review due to the growing engagement of AI systems in invention processes. A semblance of this examination may be seen in the "European Union's" efforts to persuade countries to broadly widen domestic laws to cover works of copyrightable nature made by AI and likewise technology under the heading of "own

[14] OCED, *Artificial Intelligence in Society* (OECD Publishing, Paris, 2019)

[15] *Supra* note 2 at 2

[16] Intellectual property office of India, Order No. 36 of 2017, *available at:* https://ipindia.gov.in/writereaddata/Portal/Images/pdf/Office_Order_No_36_of_2017_for_Revised__Guidelines_for_Examination_of_CRIs.pdf (Visted on June 21, 2023)

[17] European parliament's (draft) report made with recommendations to the Commission of CLR on Robotics

intellectual production." This is a positive development in the recognition of the originality demonstrated by AI and like systems when producing works of creative nature, appropriate rumination should be provided to the inventions and patent applications generated by robots and AI systems. "The European Parliamentary Committee" has underlined how, in a few decades, AI systems may outperform human intellect in certain tasks, which, if unchecked, could provide problems for how these AI systems control and direct their own course of action. When discussing AI systems, one must pay close attention to patent rights due to the great degree of autonomy these systems have.[18] Because of their autonomy, AI-enabled systems can carry out tasks with little to no assistance from humans. Because of this, these machines or programmes can be used early in the research process, which may ultimately result in some sort of "finding" based on the capabilities of the machine. This spots the dilemma encountered when bearing in mind how to protect the "finding." The capacity of an innovation to successfully pass the patentability requirements is a significant factor in deciding whether or not it will be given a patent. This makes necessary that it be innovative, creative, and have an industrial application. The main obstacle to getting a patent for AI created inventions is to clear the three-step test. It is a criterion to decide the invention unique from the present art which is considered novel.[19] To accurately evaluate at the invention stage if his breakthrough is easily expected or is the result of further study and a creative mental element, it typically takes a thorough examination of the existing prior art by the inventor. Due to the oversight of human scientists who provide information, it is clear that an AI mechanism can access the art which is in existence.[20] However, is an AI system genuinely independent, let alone competent to decide whether or not its innovation can be considered "novel"? Regarding the issue of an innovative step, it is undoubtedly more difficult to achieve innovations on current models or concepts which are doubtful to an individual who is expert in the art if novelty itself is difficult for the AI system to evaluate. Currently, AI is typically fed with pre-existing goals that it is trained to accomplish. First, the technology must be progress to give AI or like systems intelligence of level of a human so it will be able to take decisions on novel situations. Furthermore, it may be shown from a review of instances involving question of software and their patentability etc., where the court has not granted patents to software merely because operation carried out by them are not innovative. This is a crucial point to take into account

[18] European Patent Convention, (2016 amendment)
[19] *Supra* note 15 at 8.
[20] Bently & B. Sherman "*Intellectual Property Law" Oxford University Press, 4'th edition,* 2014.

because the majority of artificial intelligence relies on computer programmes that were created to carry out specific tasks, with modifications made by the human inventors. The human or AI (or such inventor) inventor controversy, which further emphasises the challenge of issuing patents to AI-invented programmes, will be clarified in the following section. If an AI-enabled system developed software that could be utilised on generic machines, it would have practical utility, maybe in more than one industry, allowing it to satisfy the industrial application criteria under the patentability test. However, India and some other countries have removed their strict rule that to be eligible for patent there should be a novel hardware with the computer programme. In general, it is necessary to simplify the laws and regulations in place so that patents may be awarded for AI-based ideas. However, given the numerous challenges and misunderstandings that remain surround patentability and other difficulties, further investigation of the problems is necessary.[21]

'Invention' and 'Inventor' and its New Dimensions

As it can be seen, there are several crucial components to an invention that influence whether a patent can be issued. However, in order to qualify as an inventor, a person must fulfil a number of standards. For instance, it was determined in the US case of "Townsend v. Smith" that in order to be recognized a result of an invention, must clear the step of "conception," meaning that the inventor must have had a stable notion in mind before putting the idea into practise.[22]

Something cannot be called an invention if it is reduced because of a predetermined notion, and the person who made it is not an inventor as a result. With these conception theories, it has been asserted that only the human intellect is capable of such creative conception. The justification for eliminating the "flash of genius" patentability requirement is one of the strongest arguments in favour of include AI in the category of "inventor." This requirement was denied by the US Congress and it said that "If an innovation improved the science on which it was intended to operate, the process by which it came to be in the inventor's mind became irrelevant.". This test created the requirements which classifies anything as an invention.[23] Naturally, it might be claimed that since various AI algorithms, including

[21] *Supra* note 2 at 2.

[22]New Hampshire University Patent Protection - UNH Innovation available at https://innovation.unh.edu/intellectualproperty (Visited on June 23, 2023).

[23] Professor Alain Strowel, Dr. Sinan Utku, final report*"The Trends and Current Practises in the Area of Patentability of Computer Implemented Inventions Within in the European Union and the United States of America", (* the European Commission, Directorate-General of Communications Networks, Content & Technology, 2016).

AlphaGo, Watson, etc., undertake tasks like developing solutions based on a flood of data, these solutions advance the field of research and so require patent status. Scholars contend that the matter is not as simple as that. Even if the invention of collaborative nature were used as a defence, which will identify the AI or like systems as inventor with the human which accompanied it, this will not have work because most legal systems do not grant computers "legal personality," which is analogous to the stand that citizens does not include corporations. The implementation of the "incentive theory" is another justification for granting computers patent protection and classifying them as inventors. Even if machines that are incapable of emotion may not utilise this as incentive, it will nonetheless encourage people to develop such technology because they are aware of the advantages that come with patent protection. However, the main purpose of patents is giving a special status to the inventor and respect the creation, as he does not want it to be utilised exponentially by others.[24] As a result, many who oppose giving artificial intelligence (AI) patent protection claim that machines don't have this attachment. This renders them unable to form strong judgments on how their invention should be used, negating the fundamental purpose of patent protection.

AI-Authored Works and its ownership

The distribution of ownership is a significant issue arising from the acknowledgement of algorithmic authorship. Authorship serves as the official justification for ownership allocation under the copyright law if it is interpreted in the traditional sense. The following presumption is made: in the absence of proof to the contrary, the ownership rights are given to the author because it is his/ her original work. Giving proprietary rights to AI or like mechanism will be difficult and something abnormal, therefore this supposition would be problematic in the case of the algorithmic creator. An appropriate model for resolving this possible issue is the USA work made for hire doctrine, in which ownership of copyrighted works is transferred to different party other than author-in-fact. This doctrine states that the creator of the disputed work, whether it be the employer or another party, is regarded as the author for purposes of copyright law. Similar to this, considering the programmer as the employment provider - that is, the owner-in-law- would not allow the attaching of rights in AI-authored works.[25] Although it is complete legal fiction, this story also has a realistic element. Jumping right to the conclusion that the programmer is the creator of the AI created works since, obviously, he/she is the author's author is both intuitively and conceptually handy. However, this is just incorrect

[24] *Supra* note 4 at 2.
[25] *Supra* note 12 t 5.

from a doctrine standpoint because the programmer has no real influence on the decisions that must be made in order to produce the specific creation. Once the codes for developing AI are complete, it has a thought of its own that is entirely independent of its programmer. Instead, AI is the author in practise. In reality, some common law nations have already adopted a comparable strategy to safeguard works written by algorithmic authors. For example, there is a specific provision for computer-generated author works in the UK and New Zealand that grants copyright to "the person by whom the arrangements necessary for the creation of the work are undertaken." In fact, this proposed solution undermines the traditional authorial ownership norms in a literal sense even if it acknowledges a contradiction between the "author-in-law" and the "owner-in-fact" because the legal beneficiary of the copyright in the work is not the actual author of the work. However, this shouldn't be cause for alarm because the link between authorship and ownership has been broken since the middle of the 19th century, when collaborative methods of cultural production were more common. At that time, the default rule of ownership allocation gradually changed to favour corporate creators who could best use the works (i.e., exploit their commercial value) at the expense of the original authors. The issue of overprotection may be a more urgent worry resulting from this modified employer ownership strategy. Although it is true in many instances, or at least according to many theories, copyright protection does not necessarily result in more successful creation. Some creative fields actually benefit more from the absence of copyright protection, as shown by the fashion and food industries. There may already be sufficient incentives in place along the creative value chain for AI to produce more and better-quality inventions. There exists a copyright protection for algorithm programmes, the unique protection is available to data on which programme is reliable to work. Given these various protective filters, is it reasonable to provide another safety net for AI-authored works that could easily end up being unnecessary or even harmful? This line of reasoning is frequently rebutted with the argument that all works written by algorithmic authors should be made available to the public.[26] In addition to encouraging innovation and cultural output, the public sphere also protects fundamental human rights like the freedom of expression and access to information. This article does not aim to cast doubt on this important role.[27] Rather, before terminating AI's authorship as an unjustifiable work, more careful and in-depth thought is required on this very reason. However, what is unique is that this protection-free practise in the downstream of the algorithmic creative

[26] *Supra* note 21 at 9.
[27] *Supra* note 24 at 11.

process may have an adverse effect on the willingness of upstream creators to add in to the public domain. It is fairly obvious that granting no protection to AI-authored works would increase the influx to the public domain. The "free software movement" frequently explains the highly vibrant vitality of innovation and production occurring in this virtual playing field in the digital world. The fact that all creators who upload their software or programme to the public knowledge reservoir are able to benefit for free from other creators' enhancements or contributions to their programme is the key to maintaining such a practise. Assume, however, that the AI programmer waives any copyright claims in the software that creates the AI if the works produced by AI were not subject to copyright. This would greatly limit their chances or capacity to capitalise on the financial worth of these AI-authored products. The gains from putting the AI programme into the public domain and free-riding on others' contributions may still be outweighed by the potentially enormous market value of claiming copyright over the massive amount of works created by the AI programme, discouraging the programmers from sticking to the traditional pro-public domain practise. The programmer may simply not want to distribute their software for free because they are afraid of losing such more immediate and tangible economic profits. In other words, the "One for all, all for one" ("Unus pro-omnibus, omnes pro uno")[28] circle collapses as a result of a cost-benefit analysis. In fact, it appears like we are stranded in an impasse. The public domain might be reduced if we gave copyright protection to AI-authored works because we would lose these potential upstream creative sources. On the other hand, if we didn't, the creators upstream might stop sharing their AI programmes or software with others, which would also reduce the public domain. This paradox exists, but keep in mind that the value of the public domain cannot be quantified. In fact, the second scenario poses a greater threat to the flow of creation in the public domain because the primary creative value of AI programmes is in their development rather than the products they produce.[29] The various levels of upstream intellectual property protection, particularly for non-European jurisdictions, may nevertheless be ineffectual because data or database protection is sometimes deemed insufficient or non-existent by the law. The idea that the AI created work in a huge quantity would quickly deplete the usable public domain and will make it difficult for creators to stay within the safe area between these copyright anti-commons often overshadows the pro-competitive aspect of this approach. To make matters worse, these AI products frequently fall short in terms of aesthetic quality and conceptual coherence, at least

[28] *Supra* note 2 at 2
[29] Charles Ames *"AI and Music Composition, in the age of intelligent machines*", The MIT Press, Vol. 20, No. 2, Special Issue: Visual Art, Sound, Music and Technology, (1987).

based on where they are in the development process right now. The stories in Talk to Transformer were frequently said to be incomprehensible, and the painting of "Edmond Bellamy" even lacked a nose. But even without the supposed "contribution" of AI, humdrum creativity has long been a part of our culture. And given how far technology has come in its own evolution and in transforming our way of life in the past, AI is unlikely to limit itself to producing items of little value. In fact, due to the extraordinarily low bar for innovation around the world, our world is filled with worthless human-made cultural items that are nevertheless covered by copyright law, ranging from dollar shop magazines to taunting TV ads. Even if it is agreed that works produced by AI are more disruptive in terms of numbers, it is most likely that these algorithmic works will eventually revert to the public domain because copyright only makes sense when the work for which copyright is claimed has some commercial value. Therefore, strategy for the right holder is to give up the entitlement and abandon the work in the public domain in order to benefit more or suffer less loss in maintaining and enforcing copyrights if these works were indeed low in creative value and thus undeserving of commercial exploitation. AI works may well act as a screening mechanism or "bad money". This will support development of a market for creative works. An "accumulationist" concept of competitiveness will simply be irrelevant in the envisioned "post-scarcity" civilization or "AI society." This would help advance the social advancement of the arts and sciences, which is exactly what copyright law is meant to do. We also shouldn't ignore a more nuanced vertical competitive interaction between the AI programmer and the investor, the supporting legal entity, even though it doesn't strictly comply with competition legislation. The intricacy of sophisticated (autonomous) AI research and development programmes frequently necessitates a sizeable investment in, among other things, infrastructure creation and data gathering. This would imply that, in the perspective of the positive law in most nations, the AI developer, who helped to generate the work, is not the creator. Instead, the organisation that hired the programmer is qualified to assert copyright in the AI programme.[30] The modified "work made for hire" doctrine aids in redressing the long-standing distributional disparity between the employer and the employee creator by placing copyright in the works produced by an employer-owned AI system in the hands of the programmer. Although the employee creator may eventually choose to transfer or pre-assign her copyrights in the works produced by the AI programme, at the very least, this legal arrangement gives her a major advantage in the bargaining process. From the viewpoint of the employer, when combined with the unrestricted

[30] *Supra* note 4 at 1.

exploitation of the works produced by the AI as a part of the marketing package, the commercial worth of the AI programme would be at its highest. Additionally, an employer would often agree on ownership of these by-products in advance with the employee creator in order to reduce transactional expenses. It avoids the potential issue of "holdup" by the employee creator and is also simpler to undertake talks at the beginning of the AI project than it is with agreements made after it is finished. With all of this in mind, the employee creator, who frequently finds themselves in a difficult position during negotiations, may very well take advantage of this favourable circumstance and haggle for more favourable conditions for the employee or ownership transfer contract. Additionally, if the AI project showed signs of being innovative and valuable, the company would probably invest more in the employee creator, providing her with yet another motivation to produce more works of greater worth.

The Question of Authorship – Requirement of Human Element in the Copyright Laws

Technology advancements are frequently viewed as an external factor that the law reacts to. However, the only reason a specific feature of a specific technical development -in this case, is work made by AI - it can disrupt the law because the disruptive feature relevant made relevant by the law.[31] In essence, figuring out whether AI qualifies as an author by noting the need of human element in copyright laws. If copyright law characterises creation as obviously requiring human brilliance or intellectual work, the opportunities for AI as inventor cannot be counted. However, if the law switched its attention to the requirements of the viewers to which the piece is aimed (the current focus is on the creator), it will help the AI to be recognized as an author. The ability of copyright law's framework to provide for necessary flexibility, both doctrinally and normatively, to develop itself in a way that is compatible with AI system, is therefore a major worry. As mentioned above, it can be seen that mere doctrinal perspective, neither national laws in significant jurisdictions nor international copyright treaties have completely eliminate the chances of AI or like nature authorship, despite displaying hesitation, to a greater or lesser extent.[32] In the 18th century also, authorship was not made to empower the individual author, this concept was brought into existence by corporates to get the authorship. Although the pre-authorial era's "best exploiter regime," which granted copyrights to the economic actor best positioned to formalistically exploit the underlying work (i.e., a publisher or printer rather than the actual author), was eventually reduced to a single-sided

[31] A-levels and GCSEs: How Did the Exam Algorithm Work BBC News UK August 20, 2020 *available at,* https://www.bbc.com/news/explainers-53807730 , (Visited on June 23, 2023).

[32]Michael W. Hudson *"The Life and Career of William F. Cramer"* Fuller Journal of Historical Research in Music Education, Vol. 41, No. 1 (October 2019).

mediated mechanism for two conflicting demands - acknowledged initial ownership by the author-in-fact on the one hand, and formalised authorship on the other. Unsurprisingly, given the quickly changing economic environments and practises of the period, the powerful non-human operators once again defeated the real-life authors for e.g., production in large quantity. The authorship paradigm hasn't altered all that much from two or three hundred years ago to how we understand it today. In fact, the bias of contemporary copyright law against particular human creative actors is cloaked in a more delicately presented presentation as part of the efforts to adapt classical legal theories to the new market environment of "corporate liberalism." According to "W. M. Geldart," the prevalent presumption in virtually all modern legal realms is that "corporate bodies are essentially like individuals, the bearers of legal rights and duties". In the EU and USA, the corporatism vision, two other tendencies that are gaining traction which may lead to dehumanisation of writing accounts. The first important factor is related to the low standard for originality.[33] Creation is gradually losing interest and being evaluated by their market values than qualities due to the impact of "newly powerful economical actors" for e.g., publishers who require less amount of creativity usually which helps them to get the copyright protection of their products in a larger manner. The creativity of an author is not frequently taken into consideration by the judiciary. Judges in the US are accustomed to justifying their decisions and seeking advice from the social utility of copyrightable works rather than the intrinsic humanity or personhood of those works, so this is nothing new to them. In the EU it can also be observed that the bar for creativity is set so low, it is disappointing their because moral rights have a strong position there.[34] In Infopaq, it was held that an 11-word text fragment may qualify, and in Painer, it was claimed that even a somewhat clear decision in the design, execution, or reduction of an AI-assisted output could be adequate, assuming the photography's novelty and creativity as essentially a given. With the de-centralization of the author's identity from the creative process, as well as the rise of "formalist" and "hand-off" judges, such a subject-matter-focused judicial practise opens the door to non-human authorship. A significant factor in reshaping the idea of authorship is also the growing judicial unwillingness to do evaluations of the works and creative values behind them. The CJEU in the EU has spelled out that the court's approach does not take artistic or aesthetic values of works into account. Fine arts are equally protected by EU copyright law as are less creative intellectual products.[35] Judges in USA usually don't pass aesthetic judgments

[33] *Supra* note 21 at 9.
[34] Thaler v Commissioner of Patents FCA 879 [2021]
[35] *Supra* note 3 at 1.

because firstly, it can showcase judge's personal preferences which can prevent the judicial censorship and secondly, it would be inappropriate to ask judges to decide and evaluate the artistic works which are technical in its own field. The development of a nonhuman copyright protection mechanism is facilitated by this inhibition. The inventiveness of the author would obviously be eliminated from the court' s consideration if judges were forbidden from evaluating the aesthetics of a work. In other words, whether a creative work is eligible for copyright protection would not depend on the humanity of the author. Even if we ignore these doctrinal observations of technical nature, when down to its bare essentials, AI may be just as capable as humans of being creative, if not more so. The idea that algorithmic authorship is impossible is largely held to be due to the rule-bound and deterministic structure of AI. This argument, however, hardly holds water given that computers may now be designed to generate unpredictable outcomes by including aspects of randomness in their data processing. Furthermore, it is difficult to conceive of a production that fully disregards established norms or canons. In actuality, all works are produced using the same procedure, which entails adhering to a guideline. Consider poetry as an example. Each poet would have to analyse already written works, derive rules from examples (such as grammar, syntax, and diction), and then put those principles into practise when they were writing. Most aesthetic theorists would define writing as "something intuitive, immediate, true, and all-embracing that comes out who knows how," but the actual writing process is much less romantic. There is "a continual sequence of tries to make one word stay put after another" by adhering to specific standards underneath the "finding-the-muse" sugar coating. The human brain can be compared to an AI mechanism. It may show an important computational or algorithmic feature. In order to find new styles of writing with self-imposed external limits, "Raymond Queneau" and "Francois Le Lionnais", two well-known avant-gardists, established a specialised writing collective named "Oulipo" in 1960. During the process of creation, Oulipians were required to abide by a variety of strict and peculiar rules that range in complexity from the "S7 method," in which a text is allotted to a noun is provided alternate noun which is 7 places forward in the relevant dictionary, which is opposite to the common belief that rules and restrictions are contrary to creativity. Indeed, creativity is characterised by and exists within those mechanical limitations.

Future developments

AI is going to develop every day. Complex AI-based technologies will inevitably expand the number of potential software solution "inventions" as businesses like GE, IBM, Apple, and

others push forward with their efforts to revolutionise related technology. There exists tremendous possibility for lawmakers to set criteria in determining of such cases, providing it the most adequate form of legal protecting.[36] However, the author does agree with Stephan Hawking when he says that AI can impact human intellect and the ability to invent. A useful and practice alternative would be to offer a patent of collaborative nature to AI created inventions. This is because a human element is needed in administering the rights and obligations related with patents, which cannot be done completely with a machine.

Further, with the possibility of employing multiple AI-enabled networks that work in absence of human intervention or sometimes in its minimum presence, it is necessary to grant some "anthropomorphic agent" patent protection so that they can be recognised in the event that an invention malfunctions or potentially violates the law, resulting in criminal liability. Keeping in mind that the desirable consequences of criminal laws must necessarily depend on human variables being present, one cannot choose to create an imbalance by diminishing their desired effects in the effort to make IP laws flexible to the evolving technology.[37] Additionally, we cannot fully embrace AI technology as that would restrict the function of the human species as a whole.

Conclusion

The current position of AI in the IP law is complicated. However, giving recognition to AI created work is a good step. Execution of all this process is a difficult thing. To aid with the same, the writers provide the following suggestions.

An AI uniform recognition. Despite the fact that AIs are a reality everywhere, are recognized in few states, for e.g., USA, New Zealand and UK. It would be a step in the right direction if all participants in global trade forums started to acknowledge AIs in the same way. If TRIPS Is amended and unified recognition for AI is created then it will be easy for AI developers and users and it will create a safe environment.

The "Artificial Intelligence Data Protection Act" was passed. The AIs of today do tasks which humas perform in every industry. If they could one day execute tasks better than people and make decisions on their own, it wouldn't be funny. To keep track of the same, the "Artificial Intelligence Data Protection Act", a piece of legislation governing AIs, is need of the hour. The Act can provide for civil and criminal sanctions for AI mechanism which committees offences

[36] *Supra* note 21 at 9
[37] *Supra* note 13 at 30.

against human. The Act may also establish a framework of regulatory nature to oversee and judge the actions of AIs and investigate any infractions they may have committed.

Filling up the Gaps in AI Activities' Criminal Liability. Today, an AI's creator has copyright protection. Likely, the criminal responsibility will be of the creator only, there is possibility that he might be ignorant of such actions. This provision will make creators more responsible while developing the AI.

Eliminating any confusion regarding the patent's laws and their application. There exists a separating criterion for "the inventor" from "the invention", as AI systems advance, it is crucial that law making body address the issue of include AI based systems in this class. Protection as a matter becomes a crucial concern with the growing use of these technologies and the wide range of solutions they offer. The need for appropriate rules is especially pressing in the area of encouraging developers to create such systems and the risk of giving freedom to such systems.

***