
Understanding The Necessity Of Rebooting Copyright Laws In Context Of The Advancement Of Artificial Intelligence

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Abstract

John McCarthy coined the term "Artificial Intelligence" in 1956, but this term remains undefined legally. It's machines ability to do clever things and it is the science of letting computers perform tasks that people do with intelligence. AI is the ability of computers to think, perceive, learn, problem-solve, and make decisions. AI has hindered Intellectual Property Rights especially Copyright. When computers were invented, copyright laws were not envisioned. AI now completes task without human intervention. Before then, computers were tools that required human input. Copyright protects human creativity. Copyright protects moral and economic rights. Authors create copyrightable works. There are many restrictions to safeguard human work, but when AI creates copyrightable material, the laws need to be changed. The international community must develop a solution for AI-generated work's authorship and ownership under copyright law. AI-generated works will suffer from non-human authorship. The sui generis system or AI-specific copyright laws may solve this challenge. AI-generated works ought to be more strictly regulated, and human invention should be prioritised above machine creativity. Hence, a comprehensive strategy must be established immediately. This research paper elaborates the necessity of revamp copyright laws for AI and AI-generated works.

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I. Introduction

Copyright is a type of intellectual property that usually belongs to the person who made the work. The name says that the person who owns it has the right to stop other people from using it. In India, copyright is ruled by the Copy Right Act of 1957. The Copyright Act of 1957 was passed to protect the rights of writers, artists, composers, designers, and other creative people who spend time, energy, and money making work. It was also meant to encourage creative people to make more work without worrying about their rights being violated.

The goal of the Copyright Act of 1957 is to protect the rights of both the owner and the creator, whether the work has been published or not. For works that haven't been published yet, the person who made them must be an Indian citizen or have a permanent home in India at the time they were made. It's important to remember that copyright only applies to works that were made by the author. On the other hand, a work can only be copied or changed if the right licences have been obtained. In the past few years, Artificial Intelligence (AI) has become more important, and most technological applications need to use it. AI has changed our lives in many ways, including health, transportation, aviation, space, education, and the entertainment industry (music, art, gaming, and cinema, to name a few). All countries tend to automate most processes and reduce the amount of work done by people. This is done to make sure things work well and avoid mistakes.¹

Professor Stephen Hawking once said, "The arrival of real AI could mean the end of the human race." "It would take off on its own," he said, "redesigning itself at an ever-increasing rate." "Humans, whose biological growth is limited," he added, "would be pushed out."² It's important to note that Google's AI system has grown so much that it now has its own child. The parent AI is teaching the child AI to "perform at a level so high that it is better than every other AI system made by humans." The parent AI, which also acts as a controller, looks at how well the child AI does. The data collected will be used to improve how well the young AI does its job.³

¹ V.K. Ahuja, "Contemporary Developments in Intellectual Property Rights: A Prologue" in V.K. Ahuja and Archana Vashishtha, *Intellectual Property Rights: Contemporary Development* 3-18s (Thomson Reuters, 2020)

² Rory Cellan-Jones, "Stephen Hawking warns artificial intelligence could end mankind", BBC News, December 2, 2014, available at: <https://www.bbc.com/news/technology-30290540> (last visited on March 8, 2023).

³ Aatif Sulleyman, "Google AI creates its own 'Child' AI that's more Advanced than Systems Built by Humans", Independent UK, December 5, 2017, available at: <https://www.independent.co.uk/life-style/gadgets-andtech/news/google-child-ai-bot-nasnet-automl-machine-learning-artificial-intelligence-a8093201.html> (last visited on March 8, 2023)

This method is used millions of times to improve the effectiveness and complexity of the AI. AI is becoming more and more important in fields like creativity and innovation. GPT-3 is a new artificial intelligence system made by Open AI, an AI lab in the US. It took months for GPT-3 to "learn the ins and outs of natural language by analysing thousands of digital books, the length and breadth of Wikipedia, and nearly a trillion words posted to blogs, social media, and the rest of the internet." The GPT-3 can, among other things, write poetry, tweet, answer trivia questions, summarise emails, "translate languages," and "even write its own computer programmes." It can understand both "human skills" and "various forms of human language."⁴

AI could also use recordings of local news stories, artwork, short novels, and music to make things like these. Video games can also make good use of AI. In the area of copyright law, AI has caused a lot of trouble and problems. This article looks at how artificial intelligence affects the creation of art, music, and poetry. The study will also look into concerns about authorship and "deep fakes" in AI-made work.⁵

II. Artificial Intelligence And Its Impact On The Existed Laws

The field of intellectual property has been thrown into disarray ever since the advent of artificial intelligence (AI). The year 2010 marked the beginning of a period of rapid development and expansion for AI. It is reasonable to state that the quality of work produced by AI is comparable to that produced by humans in terms of the work's overall quality. Consider also the question of whether or not the laws that are now in place are capable of controlling the operation of AI. The correct response to this inquiry is not going to be "yes." The restrictions that are now in place, particularly those pertaining to copyright, are sufficient to safeguard the material that is created by individuals. Certainly not those that are manufactured in factories. The topic of whether or not the work done by robots should be protected by intellectual property laws is now the most pressing one. The term "artificial intelligence," or "AI," is becoming more common as the way technology functions rapidly evolves. The use of AI has resulted in a variety of challenges for the intellectual property (IP) laws that are designed to safeguard works.

⁴ Cade Metz, "Meet GPT-3. It Has Learned to Code (and Blog and Argue)", The New York Times, November 24, 2020, available at: <https://www.nytimes.com/2020/11/24/science/artificial-intelligence-ai-gpt3.html> (last visited on March 8, 2023).

⁵ *Ibid*

Although computers have been around for quite some time, when they were initially developed, no one imagined that they would ever be subject to copyright regulations. This is due to the fact that a human gave the computer instructions before it carried out the task. People were the ones who instructed the computer that it could only do a single function. People back then considered computers to be tools that required the involvement of a human operator.

The legal concept of copyright refers to the protection of an original creative work that was produced by the mind and brain of an individual. The protection of intellectual property is granted for ethical as well as financial considerations. The term "author" refers to the individual who is responsible for creating a work that can be replicated. When it comes to copyrightable work created by AI, there are a lot of difficulties with the laws that apply, and it is necessary to update the present intellectual property laws. On the other hand, there are many restrictions in place to protect work that was created by humans.

The copyright legislation in India tries to safeguard the author's financial interests. Section 57 of the Act⁶ was used in the case of *Amarnath Sehgal v. Union of India*⁷ in order to recognise the author's moral rights. In the context of artificial intelligence, the issue that has to be answered is whether or not the work that was produced by developing AI with some input from humans can be regarded the work of an author. Because of the growing significance of artificial intelligence across all types of organisations, both public and private ones, these issues need to be resolved. This indicates that new rules and amendments to existing laws are required in order to fill up any gaps that may exist.

III. Copyrightability of AI

Since the 1970s, numerous copyrighted works protected by intellectual property laws have been produced with the assistance of computer programmes. Because of AI, computer programmes are no longer only tools; they now have the ability to create their own works independently, depending on what they consider to be most effective. The quantity of work that can be accomplished by AI in a very short period of time and with relatively little effort is staggering. Because AI's creations are one of a kind, it's possible that copyright laws throughout the world will safeguard them.

⁶ The Copyright Act, 1957, s.57

⁷ 2005 (30) PTC 253 (Del)

It's possible that people will conclude that the programming and parameters on which such AI really builds and develops the work satisfy the skill and judgement required for originality. If artificial intelligence is responsible for producing the work, on the other hand, there will be no author. The involvement of humans is required for the completion of any projects using AI. Therefore, in the second scenario, the person who made the work with the assistance of artificial intelligence may claim that they are the piece's inventor. This is not the case, however, if the work was produced purely by AI without any assistance from human beings.

It has been difficult for governments all across the globe to determine who was responsible for writing anything like this. When it comes to determining who the author of anything is, there are primarily three options: It is necessary for the copyright system to acknowledge AI as an author. The work that is produced by AI should not have an author, and it should be deemed to be in the "public domain." It is recommended that sui generis legislation be used to protect these sorts of works rather than copyright law.⁸ The preservation of an author's copyrights motivates the author to produce more creative works by requiring him or her to use their knowledge, effort, and judgement. The terms "human creativity" and "machine creativity" will have the same meaning if artificial intelligence is acknowledged as an author and its works are afforded the same degree of legal protection as those created by humans.

Putting artificial intelligence in control of the work it produces might result in a great deal of complications. There is a possibility that AI will not always perform perfectly. The artificial intelligence has the potential to employ language that is malicious and deceptive, which might result in defamation or obscenity, provoke violence based on caste, creed, or religion, or for any other negative event to take place. Given that the AI in question has not been accorded the status of a person, it will be challenging to determine the scope of its legal and criminal duties. It is possible that this sort of work may be wiped out, or in the worst case scenario, AI software could be deemed illegal; but, by that time it could be too late, and the harm might have already been done permanently.

⁸ Veronica Acevedo, "Original Works of Authorship: Artificial Intelligence as Authors of Copyright", *Erepository*, Seton hall law university, https://scholarship.shu.edu/student_scholarship/1272/, (last visited March 9, 2023)

Another thing that gives rise to concern is how the AI will be held accountable for its actions in the event that the work it produces is "substantially similar" to an already existing work that may be subject to copyright protection. If AI is considered to be the creator of a piece of work, then it cannot transfer ownership of that work to another party since AI is not a human.⁹ The concept that works should bear the "personal mark of the artist" is one that originates in nations with civil law, such as Germany, France, and Spain. It is inappropriate to give AI credit for things that it creates on its own since AI does not have a personality of its own. If AI were to be regarded as a legal person, it would have the ability to enter into binding agreements with other individuals. In addition to this, it will be required to comply with the law and will be accountable for its actions. The most essential need is that it should be able to "sue and be sued" at the same time. The concept of providing legal standing to artificial intelligence is not well received by most countries.¹⁰

When "computer programming" was the primary concern, the problem of who owned the copyright to a work was not a significant one. This was due to the fact that computers were only seen as instruments to do certain jobs, just as they are in other fields and regions of the globe. Things have become somewhat more challenging with the advent of artificial intelligence, which has the knowledge and capabilities necessary to operate independently and produce things without the assistance of humans. It works really fast, it doesn't take up much time, and it doesn't cost too much money, all of which have contributed to its growing popularity.¹¹ The work produced by AI is judged to be worthy of copyright protection and is thus safeguarded by the law. However, it has to be creative and it needs to match the two most crucial requirements of "skill and judgement," both of which can be observed in the algorithm and programming that AI uses to generate the job. On the other hand, Artificial Intelligence cannot claim that it is an author if it is the sole entity to have created the work in question. If a human was involved in the creation of the work, then that individual is considered to be the author. This topic has been discussed by quite a few different nations. There are a lot of different aspects to take into consideration, such as whether or not to give AI work authorship, whether or not to give AI work authorship and place it in the public domain, and whether or not to protect AI work under a legal system or regime that is distinct from copyright law.

⁹ *Ibid*

¹⁰ Jim Goodnight, "Artificial Intelligence: What it is and Why it Matters", SAS, available at: [https://www.sas.com/en_in/insights/analytics/what-is-artificialintelligence.html#:~:text=Artificial%20intelligence%20\(AI\)%20makes%20it,learning%20and%20natural%20language%20processing](https://www.sas.com/en_in/insights/analytics/what-is-artificialintelligence.html#:~:text=Artificial%20intelligence%20(AI)%20makes%20it,learning%20and%20natural%20language%20processing) (last visited on March 9, 2023).

¹¹ V.K Ahuja, "Artificial Intelligence and Copyright: Challenges and Issues", *ILI Law Review*, 272-274 (2020)

When individuals who are against granting copyright protection to work produced by artificial intelligence argue that doing so would make people less inclined to create their own unique works that utilise all of their talents, effort, and judgement when an AI can simply do it for them, they have a valid argument. People have always been motivated to produce high-quality work as a result of copyright protection.¹² Giving work done by AI the same prestige and protection as work done by humans, on the other hand, diminishes human intellect and takes away all of the hard work that humans have put in. However, if the work done by AI is not protected by copyright, it will be seen as a prejudice against the creative abilities of humans. The fact that AI is not human and cannot comprehend emotions is a serious problem that might lead, among other things, to insults, hate speech, unlawful discrimination, and the use of anti-national phrases. AI is not human since AI cannot grasp emotions. Since Artificial Intelligence is not human, it cannot be held responsible for anything; thus, it is up to the legal system to determine who should be held accountable for what happened.¹³

There is nothing extra that can be done on our end, however in the future we may be able to eliminate this kind of work or prevent AI from performing it. There will be no compensation or pursuit of civil or criminal justice for the victim. No one, however, may be held liable in the event that the work is not taken down in a timely manner and the original author sustains an injury or loses something that cannot be replaced. Additionally, if Artificial Intelligence is the creator of the work, the authorship right cannot be transferred to another person.¹⁴

IV. Impact of AI on the Society

Artificial intelligence (AI) has had a significant impact on society as a result of its ability to do a variety of tasks that were previously performed by humans, including creative writing. The discovery that humans aren't the only creatures capable of producing creative work led to improvements in the dependability of machines and technology. The development of Artificial Intelligence, which is gaining in popularity, has devalued people's labour in certain respects, which has led to the opposite of the intended effect.

¹² *Ibid*

¹³ Lucy Rana and Meril Mathew Joy, "India: Artificial Intelligence And Copyright – The Authorship", Mondaq, December 18, 2019, available at: <https://www.mondaq.com/india/copyright/876800/artificial-intelligence-andcopyright-the-authorship> (last visited on March 10, 2023)

¹⁴ *Ibid*

V. Artificial Intelligence Generated And Assisted Work

It does this with the use of something called an artificial neural network, which is part of its AI system. Technology like this makes it simpler to access more information, which in turn boosts overall productivity. In this way, an artificial intelligence may assist a machine in doing all of its tasks independently or with just little assistance from a human. It is possible to break apart artificial intelligence into its component pieces, such as robotics, machine and deep learning, language processing, and others. The computer performs tasks in accordance with a predetermined set of instructions, often known as an algorithm. These enable it to draw its own inferences from the data and learn from its experiences.¹⁵ Therefore, at initially, the artificial intelligence is dependent on what the researcher or programmer teaches it; nevertheless, in the end, it makes its own judgments and generates new things using the same old data. Therefore, these technologies have received enough instruction or training to do the necessary tasks. AI is capable of producing AI-generated work as well as AI-assisted work. AI-generated work doesn't require any aid from humans, but AI-assisted work does.¹⁶

VI. Recent Land Mark Rulings With Regard To AI

In the next part, I will discuss the administrative and judicial AI rulings that I believe to be the most significant in 2019 and 2020. After providing a brief summary of the intellectual property protection systems in China, the European Union, and the United States, I will discuss the factors that are considered when determining whether the individuals in question are eligible to be recognised and protected as writers or inventors.

A. China

The Shenzhen Nanshan District People's Court issued its ruling in December 2019 that an article authored by Tencent's Dreamwriter¹⁷ AI system should be protected by copyright laws.

¹⁵ *Ibid*

¹⁶ Brigitte Vézina and Brent Moran, "Artificial Intelligence and Creativity: Why We're against Copyright Protection for AI-Generated Output", Creative Commons, August 10, 2020, available at: <https://creativecommons.org/2020/08/10/no-copyright-protection-for-ai-generated-output/> (last visited on March 10, 2023).

¹⁷ Shenzhen Tencent Comput. Sys. Co. v. Shanghai Yingmou Tech. Co., People's Court of Nanshan District, 2019 Guangdong 0305 Minchu No. 14010. (Nov. 24, 2019)

Tencent developed Dreamwriter, a sophisticated suite of writing assistance tools that are based on data and algorithms. According to Dreamwriter, "Tencent initially issued a financial report on the Tencent Securities website on August 20, 2018." Tencent filed a lawsuit against Shanghai Yingxun Technology Company for copyright infringement in the Shenzhen Nanshan District People's Court. The lawsuit was filed after Yingxun posted the identical item on its own website on the same day as Tencent's without first obtaining permission from Tencent.¹⁸ According to Article 2 of the Regulation for the Implementation of the Copyright Law, a work that is copyrightable is a one-of-a-kind intellectual creation that "may be reproduced in a physical form" in the domains of literature, art, or science ("Implementation Regulation"). Due to the fact that the Tencent piece was in the literary sector and may be replicated, the court had to examine the uniqueness of the work in two stages. The judge began by examining the news report to see whether or not it included even a trace of originality.

The committee concluded that it fulfilled the formal standards of a literary work and that its content demonstrated the selection, analysis, and assessment of pertinent stock market data and information on the day in issue. The organisation of the paper was also done in a manner that was logically sound. Secondly, the court concluded that the manner in which the new piece was created displayed Tencent's distinctive judgments, abilities, and capabilities. The piece was crafted by the primary creative team working for the plaintiffs in four stages: data service, triggering and writing, smart verification, and smart dissemination.

During these stages, the team that was responsible for the creation of the Tencent product oversaw "the input of data types, the processing of data formats, the setting of trigger conditions, the selection of article frame templates, the setting of the corpus, and the training of intelligent verification algorithm models."¹⁹ The creation of Dream writer then took place, which took a total of two minutes. According to Article 3 of the Implementation Regulation, the Copyright Law applies to intellectual pursuits that directly result in works of literature, art, or science.²⁰

¹⁸ *Ibid*

¹⁹ He Huifeng, "End of the Road for Journalists? Tencent's Robot Reporter 'Dreamwriter' Churns Out Perfect 1000-Word News Story-In 60 Seconds", *South china morning post*, (Sept. 11, 2015).

²⁰ *Artificial Intelligence And Copyright Protection-Judicial Practice In Chinese Courts*, [https://www.wipo.int/export/sites/www/aboutip/en/%20artificialintelligence/conversation_ip_ai/pdf/ms-chinai%20en.pdf%20\[https://perma.cc/M2TM%20N4%20WQ](https://www.wipo.int/export/sites/www/aboutip/en/%20artificialintelligence/conversation_ip_ai/pdf/ms-chinai%20en.pdf%20[https://perma.cc/M2TM%20N4%20WQ), (last visited March 10, 2023)

It is necessary to consider whether the conduct in question is an intellectual one and if there is a direct connection between the act in question and the manner in which the work is represented when determining whether or not the Copyright Law applies. Throughout the course of the four processes, the organisation and selection made by the Tencent team were "intellectual activities closely related to the one-of-a-kind manner the work was presented." If the two minutes that a computer programme automatically generates a news story are considered the creative process, then no one needs to be involved because during this time "the computer programme runs the set rules, algorithms, and templates" to make the piece. If this is considered the creative process, then there is no need for anyone to be involved. According to the court's findings, Tencent's staff was responsible for establishing the manner in which Dreamwriter operates automatically. To believe that Dreamwriter is capable of completing the whole creative process on its own is naive and foolish.²¹

B. European Union

The European Patent Office (EPO) handed out two significant judgements on AI-related discoveries in the year 2020. The first one concerned patentability requirements, while the second one investigated whether or not AI systems may be deemed inventors under the law.

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In the first instance, the European Patent Office did not grant a patent for a device that requested protection for the use of an artificial neural network to calculate cardiac output. An artificial neural network is a kind of system for artificial intelligence that is modelled after the way in which the human brain performs its functions. "Artificial neural networks consist of groups of interconnected layers of algorithms that feed data into each other and can be trained to do tasks by changing the relevance of data as it passes between layers," just like the human brain is a complex network with billions of interconnected neurons. "Artificial neural networks consist of groups of interconnected layers of algorithms that feed data into each other and can be trained to do tasks by changing the relevance of data as it passes between layers,"²²

²¹ Sylvia Polydor, Martyna Czapska and Karen Roberts, *Chinese Dreamwriter Decision: A Dream Come True for AI-Generated Works?*, BAKER McKenzie: connect on tech, [https://www.connectontech.com/chinese-dreamwriter-decision-adream%20come-true-for-ai-generated-works%20\[https://permacc/L5%20QTgXPD\]](https://www.connectontech.com/chinese-dreamwriter-decision-adream%20come-true-for-ai-generated-works%20[https://permacc/L5%20QTgXPD]), (Last visited March 9, 2023)

²² *In re ARC Seibersdorf Rsch*, <https://www.epo.org/law-practice/case-lawappeals/recent/ti8oi6idui.html> (Last visited March 9, 2023)

Until it is able to do the task at hand, the system assigns a different amount of weight to each input variable as it goes through the training process. The mathematical translation of a "blood pressure curve recorded at the peripheral... into the corresponding aortic pressure with the help of an artificial neural network whose weighting values are decided by learning" was stated to be the claimed innovation. This was accomplished with the assistance of an artificial neural network.

The European Patent Office did not grant the requested patent for two main reasons. In the first place, it was determined that the invention did not fulfil the criteria for disclosure that were outlined in Article 83 of the European Patent Convention ("EPC")²³. According to Article 83, a patent application must include information that is sufficiently clear and full concerning the invention in order for a person who is competent in the relevant area to be able to utilise it. Even when programmers have access to those parameters, it is nearly hard to trace how their millions of parameters combine to generate an output. This is because artificial neural networks are built up of layers upon layers of interrelated variables. In this particular scenario, the training data has to comprise a diverse assortment of individuals with a broad variety of ages, genders, and health problems. However, the application did not specify any features of the input data that would be good for training the AI dataset, or at least a data record that would be good for training the AI dataset. This is because the application did not specify any features of the input data that would be good for training the AI dataset.²⁴

Dabus:

In the second case, the EPO decided that an AI system could not be listed as an inventor on a patent application.²⁵ The applicant, Dr. Stephen Thaler, is in the business of creating and using sophisticated AI systems that can produce patentable output without the help of a human. He put in applications at the EPO and the UKIPO at the same time in 2018 and 2019, naming the AI system DABUS as the inventor and saying that it recognised the uniqueness of its own concept before a normal person.

²³ European Patent Convention, 1973.

²⁴ Ryan Abbot, "The Reasonable Robot: Artificial Intelligence And The Law", *University of Chicago Law Review* JSTOR, <https://www.jstor.org/stable/26747441> (Last visited March 9, 2023)

²⁵ *EPO Refuses DABUS Patent Applications Designating a Machine Inventor*, European Pat. Off. (Dec. 20, 2019), <https://www.epo.org/news-events/news/2019/20191220.html> (Last visited March 9, 2023)

DABUS uses artificial neural networks to come up with new ideas, which are then looked at to see if they are "original or valuable."²⁶ DABUS was listed as an inventor on patent applications for a fractal-based beverage container that made shipping safer and an emergency beacon that "flickered in a way that mimicked neuronal activity to better get people's attention." The EPO turned down the application because it didn't meet the requirements of Article 81 of the EPC²⁷ and Rule 19(1) of its Implementing Regulations, which both say that an inventor must be named.

The EPO decided that the EPC's legal framework requires inventors to be real or legal people, so it didn't recognise DABUS as an inventor. This was because Rule 19(1) says that the designation must include the inventor's last name, first name, and full address. Names given to natural persons, whether they are made up of a given name and a family name or are just one name, serve not only to identify them but also to let them use their rights and be a part of who they are says the EPO. Because machines don't have legal personhood, they can't use the rights that Article 62 of the EPC gives to inventors,²⁸ like the right to be named on patent applications. For the same reason, DABUS could not be considered a worker for Dr. Thaler. The EPO went on to say that the EPC's legislative history shows that lawmakers agreed that only natural people can be recognised as inventors. For example, a debate about whether legal people could be recognised as inventors led to a similar rule.

In the United Kingdom, too, the name was turned down. The UKIPO decided that section 13(2) (a) of the UK Patents Act²⁹ requires the applicant to name the "person or persons" considered to be the invention. This means that the EPC does not apply to non-human inventors. Even if the AI machine could be considered the inventor, the applicant would have trouble getting ownership of the innovation, since the machine can't hold or transfer any rights. The courts have never said that this is the wrong way to read it, and it is law that an inventor cannot be a business, the UKIPO said. The applicant agrees that DABUS is an AI machine and not a person, so it cannot be considered a person as required by the Act, the UKIPO said. In September 2020, the UK High Court upheld the UKIPO's decision to reject DABUS's patent claims.³⁰

²⁶ "Can Artificial Intelligence Systems Patent Their Inventions?", *Denmeyer - The IP group*, Lexology (Nov. 22, 2019), <https://www.lexology.com/library/detail.aspx?g=5b476088>, (Last visited March 9, 2023)

²⁷ *Supra* note 85

²⁸ *Ibid*

²⁹ Patents Act of UK, 1977.

³⁰ Joel Smith, Rachel Montagnon & Laura Adde, "EPO Publishes Reasons for Rejecting AI as Inventor on Patent Application", *Herbert Smith freehills* (Feb. 4, 2020), <https://hsfnnotes.com/ip/2020/02/04/epo-publishes-reasons-for-rejecting-ai-as-inventor-on-patent-application> (Last visited March 9, 2023)

C. United States

In 2019, Dr. Thaler submitted patent applications for two DABUS innovations to the United States Patent and Trademark Office (USPTO), alleging once again that DABUS was the original creator of the ideas. Both patent applications were denied by the United States Patent and Trademark Office (USPTO) for a total of three primary reasons, one of which was that neither one listed an actual person as the inventor.³¹ First, the United States Patent and Trademark Office (USPTO) determined that the law requires inventors to be actual individuals. After looking over a number of different laws, we decided to go with this option.

According to section 100(a) of Title 35 of the United States Code, a "inventor" is defined as a person or organisation that "invented the subject matter of the patent application."³² According to the USPTO, the phrase "anyone" in section 101, which states that "whoever invents or discovers any new and useful technique, machine, manufacturing, or composition of matter" can get a patent, suggests that the inventor must be a real person. This is because section 101 states that "whoever invents or discovers any new and useful technique, machine, manufacturing, or composition of matter" can get a patent. In a similar manner, section 115(b) "refers to a natural person" and employs pronouns such as "himself" and "herself" to speak about the person who claims to be the original inventor of an invention in an application. This language is quite similar to the language used in section 115(a).³³

A patent application is required to provide the name of the inventor for the claimed invention, as stated in section 115(a) of the patent act. According to subsection (h) (1) of section 115, an inventor who takes an oath or makes a statement shall be considered a "person." Inventors are recognised as persons under various sections of Title 35 of the United States Code.³⁴ One example can be found in the Patent Act's section 102(a), which states that "If a person meets all of the requirements listed below, then they are qualified to apply for a patent.

³¹ In re Application of Application No.: 16/524,350, 2020 WL 1970052,

³² The Patent Act of USA, 1970.

³³ *Ibid*

³⁴ *Ibid*

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Because "only natural beings can be innovators," the Federal Circuit ruled in the case *Beech Aircraft Corp. v. EDO Corp.*³⁶ that corporations cannot be inventors because "only natural beings can be inventors." The need of conception, which was described in *Townsend v. Smith*³⁷ as "the complete execution of the mental component of the creative art," is not something that can be satisfied by a state, a company, or a machine. This criterion must be satisfied by an individual. Third, the United States Patent and Trademark Office (USPTO) said that the process of generating new ideas needs conceptualization, which is something that machines are unable to achieve. The "development of a distinct and enduring notion of the innovation" is at the core of conception, which is then followed by the process of making the idea a reality. What differentiates conception from other sorts of patentability is the fact that it is an intellectual process. Therefore, a common human, as opposed to a computer, is required to think up a fresh concept. The United States Patent and Trademark Office (USPTO) came to the conclusion that the applications did not adhere to the requirements outlined in 35 U.S.C. 115(a)³⁸, and as a result, they chose to reject Dr. Thaler's patent applications that designated DABUS as the inventor. During the month of August in the year 2020, Dr. Thaler filed a lawsuit against the USPTO in the United States District Court for the Eastern District of Virginia. At the time that this article was published, the court had not yet made a decision about what course of action to take.

³⁵ Univ. of Utah v. Max-Planck-Gesellschaft Zur Forderung Der Wissenschaften e.V., [1993] 734 F.3 d 1315, 1323.Fed. Cir.

³⁶ *Beech Aircraft Corp. v. EDO Corp.*, [1993] 990 F.2d 1237, 1248, Fed. Cir.

³⁷ *Townsend v. Smith*, [1993] 36 F.2d 292, 295 C.C.P.A.

³⁸Burroughs Wellcome Co. v. Barr Lab'ys, Inc., 40 F. 3 d 1223, 1227-28

VII. AI- Debates on Authorship and Ownership

Is it possible to track down the creators and owners of the things that AI systems make? The most difficult and controversial parts of copyright law that have to do with AI are authorship and ownership. Even though there has been a lot of policy and intellectual discussion about these problems, there is no agreement on them.

Authorship

Scholars have said that the human-centered idea of authorship makes it impossible to protect works made by AI with copyright laws. The argument is that copyright rules in almost all countries only let people own copyrights because copyrights are meant to protect human creativity.³⁹ The basic ideas of copyright law are based on this focus on the author as a person. The personality theory says that copyrighted works are expressions of the personality and will of the author. So, authorship is a way for humans to express themselves and reach their full potential. It is a social activity that is tied to "humanness" and human communication.

The labour theory, on the other hand, says that a person owns something if he or she works for it and does not pay for it. Based on this premise, judges have agreed for a long time that "an author should get the economic benefits of his own invention and work."⁴⁰ International copyright law supports the idea that authorship is about people. A person must be an author, according to the Berne Convention for the Protection of Literary and Artistic Works. It says, "The author should be the only one who can put together a collection of his works." It also says that moral rights include "the right to claim authorship of the work and to object to any distortion, mutilation, or other change to the work, or any negative action related to the work that would hurt his honour or reputation."⁴¹

³⁹ James Grimmelmann, "There's No Such Thing as a Computer-Authored Work-And It's a Good Thing", *Too*, 39 Colum.J.L. & Arts 403,403 (2016)

⁴⁰ William Fisher, "Theories of Intellectual Property, In New Essays In the Legal And Political theory of property" 168, 171, (2001) available at: <https://cyber.harvard.edu/people/tfisher/IP/Fisher%20IP%20Theory.pdf> (Last visited March 9, 2023)

⁴¹ Berne Convention for the Protection of Literary and Artistic Works, September 9, 1886, as revised at Paris July 24, 1971.

Copyright is a human right that needs to be protected. The Universal Declaration of Human Rights says, "Everyone has the right to the protection of moral and material interests that arise from any scientific, literary, or creative work that he creates."⁴² Domestic copyright rules are also based on the idea that the author is a person. The Supreme Court of the United States says, "As a general rule, the author is the person who really makes the work, that is, the person who turns an idea into a real, physical thing that can be protected by copyright."⁴³ Legal problems with the idea of authorship have been thrown out by the courts. For example, the appearance of computer-generated works brought up the question of whether or not computers can be thought of as writers of these works. In *Goldstein v. California*,⁴⁴ the Supreme Court "interpreted [the authorship requirement] to include any physical rendering of the fruits of creative intellectual or aesthetic labour." They did this because they thought that for a computer to make any kind of copyrightable work, it would usually need a lot of help from an author or user.

Monkey Selfie Case:

In the *Naruto v. Slater* case⁴⁵ (Monkey Selfie Case), the Ninth Circuit Court of Appeals recently looked into whether animals who "produce" works can be seen as the authors of those works. "Naruto was a seven-year-old crested macaque" that used wildlife photographer David Slater's unattended camera to take many pictures of itself in Indonesia. People for the Ethical Treatment of Animals sued Slater on behalf of Naruto because he used these pictures in a book without permission. Taking the Copyright Act at face value, the Ninth Circuit decided that Naruto did not have the right to sue. It made the following argument: "Animals have legal standing if an Act of Congress says they do, but they don't if the act doesn't say they do."⁴⁶ The court went on to say that there was language in the Copyright Act that showed what the lawmakers were trying to do.

⁴² Universal Declaration of Human Rights, 1948, art. 27(2).

⁴³ *Burrow-Giles Lithographic Co. v. Sarony*, 113 U.S. 53, 61.

⁴⁴ *Goldstein v. California*, (1973) 412 U.S. 546, 561.

⁴⁵ *Naruto v. Slater*, 888 F. 3d 418, 420 (9th Cir. 2018).

⁴⁶ Paul T. Babie, "The 'Monkey Seijies': Reflections on Copyright in Photographs of Animals", 52 U.C. Davis L. Rev. Online 103, 116 (2018). <https://www.flickr.com/photos/tags/True%20Crime%20Narratives/> (Last visited March 10, 2023)

It said that the words "children," "grandchildren," "legitimate," "widow," and "widower" all refer to people, so animals that don't marry or have legal heirs must be left out. This finding doesn't mean that non-human animals can't own copyright. Instead, it shows that the court thinks it's possible, but only if the legislature passes a new law.⁴⁷

The idea of authorship in EU law is also based on people. The EU Copyright Term Directive says that photographic works are "original" if they are the author's own creative work that shows who he is, regardless of value or purpose. Some academics say that the EU Software Directive and Database Directive make it clear that a human author is needed. Using these rules as a basis, the European Court of Justice (ECJ) has applied this criteria to all kinds of works, defining a copyrightable work as "the author's own intellectual production" and saying that "the author may put his or her own mark on the work created."

Even though AI is getting better and better at coming up with new ideas, some state officials have refused to protect AI-made works with copyright, saying that the idea of authorship is based on humans. Because Section 306 of the Copyright Act only protects original works of authorship, the US Copyright Office has said that it will not register works made by nature, animals, plants, machines, or mechanical processes that don't need any creative input from a human author. The 2020 EU report on IP and AI says that "the copyright concept of originality is related to a real person," and that intellectual works show a person's personality. The paper says that human writers and producers must be at the centre of the IP rights system, and a human-centered approach to AI is needed to make sure that it stays a tool for the common good.⁴⁸

The preservation of works made by AI systems continues to have widespread acceptance. Some people think that the laws of the UK, Ireland, and New Zealand already cover these works. When computers were first used as tools for making art in the middle of the 20th century, copyright laws were made to protect computer-made works. According to UK copyright law, a computer-generated work is one that was made by a computer in such a way that no human was involved in making it.

⁴⁷ *Ibid*

⁴⁸ Directive 2006/116, of the European Parliament and of the Council of 12 December 2006 on the Term of Protection of Copyright and Certain Related Rights, Art. 6, (2006). <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:372:0012:0018:EN:PDF> (Last visited March 10, 2023)

The law says that "the author must be assumed to be the person who makes the arrangements necessary for the production of the work." Such clauses could be used to give credit to AI creators for works made by AI."⁴⁹ Copyright restrictions on computer-generated works were mostly about figuring out who the author was, not about the fact that there was no human involvement. Opponents of copyright protection for AI works may point out this difference, but supporters say that focusing on the need for "human input" has made it harder for copyright laws to change in the past. The argument says that this kind of progress would be stopped again if AI creations didn't get copyright protection because they didn't meet this criterion.

European lawmakers have in the past agreed that algorithm-generated works, like "traditional" inventions, have the potential to add to cultural heritage and, as a result, deserve some kind of copyright protection. Other people who want copyright protection for AI-generated works have outright rejected the human-centered idea of authorship, saying that AI artists need to be recognised because of technical advances. As copyright moves forward, the idea of authorship should be updated to reflect technical advances, making it possible to recognise AI authorship.

Annemarie Bridy, for example, says that as the state of the art in AI and related fields improves, we are slowly but steadily moving into an age of digital authorship, in which digital works (i.e., software programmes) will produce other works that can't be told apart from works by human authors. Because of what AI has done, the question of how copyright laws should change to protect AI's work comes up. Margot Kaminski agrees with a similar possibility, saying that "the United States' copyright system has already moved far enough away from romantic authorship for algorithmic authorship to be, maybe surprisingly, not fundamentally disruptive."⁵⁰

Some supporters also say that the labour and personality ideas of intellectual property rights shouldn't completely rule out protecting works made by AI. They say that ignoring the work done by human programmers during the development stage would oversimplify the creative process. They also point out that the lack of a human element wouldn't matter in the case of rights not based on the classic paradigm of romantic authorship that are close to each other or related.

⁴⁹ *Ibid.*

⁵⁰ Vitor Palmela Fidalgo, "Worldwide: Copyrights Protection of Works Generated by Artificial Intelligence", *Mondaq* (<https://www.mondaq.com/new-technology/790660/copyrights-protection-of-works-generated-by-artificial-intelligence>) (Last visited March 10, 2023)

This has led to a proposal for a new type of adjacent right that covers all forms of artificial creation, especially when the degree of genuine creativity is high, like in AI art and music, to stop AI works from being used for profit. A horizontal, evidence-based, and technology-neutral approach to [the current] copyright regulations that apply to AI-generated works" is what the EU study mentioned above suggests. The 15-year protection given to databases is used as a "eligible parallel" in the paper. It says that "the most important criteria for protection would be the presence of an autonomous artificial creation. Some supporters say that, from a utilitarian point of view, copyright protection for works made with AI would provide the incentive needed to make sure they are made and shared. W If you only look at freedom of access, you ignore the public's interest in dynamic efficiency, which would make sure that new creative works are always being made." Even though making AI works freely available would create static efficiency because maximum supply means minimum prices, focusing only on freedom of access ignores the public's interest in dynamic efficiency, which would ensure "the continuous production of [new] creative works."⁵¹ In response to the claim that protecting AI-generated works would double the reward for AI developers, supporters of protection point out that "the expected monopoly rent must reach at least the amount of investment" and that not protecting these works could lead to a big drop in overall investment in this area. Also, it is thought that protecting the works would encourage the owners to keep proper control over them, as well as encourage the development of AI systems. Firms would do this to get the most money out of their AI systems, but the control they have over them could also stop the systems from being used for bad, copyright-violating things like making copies of existing works.⁵²

Ownership

Policymakers and pundits disagree about who owns the rights to an AI-generated work, even if they agree on who wrote it. Based on the EU's "human-centered" approach to copyright, the European Parliament should think about whether the rights to these works should automatically go to the owner of the rights to the AI programme (such as the AI developer). From the point of view of labour theory and personality theory, the AI and its works are the result of the programmer's intellectual work or a reflection of their personality.

⁵¹ Madeleine de Cock Buning, "Artificial Intelligence and the Creative Industry: New Challenges for the EU Paradigm for Art and Technology by Autonomous Creation", *Research Handbook On The Law Of Artificial Intelligence* 511, 533, Woodrow Barfield & Ugo Pagallo eds, (2018).

⁵² *Ibid.*

Because of this, the programmer should have a copyright property right to the AI's creations.⁵³

From a utilitarian point of view, giving copyright to programmers would encourage them to keep exploring and improving AI and take responsibility for what it produces. The idea is that machines are made by people to do certain jobs and are, therefore, the "perfect agents" of the people who made them. When figuring out who owns an AI work, it's important to see if there's a link between the AI developer and the AI work. The labour or personality approach is only right if there is a strong link between the programmer's intellectual work and the development of the AI. If AI programmes use unaccounted-for input data to make unexpected outputs, the link between the two won't be clear enough for the creator to claim ownership of the AI systems. In 2017, for example, a system was made that could learn how to rewrite its own code by stealing from other systems. There is also the possibility of "artificially intelligent Creative Agents"⁵⁴ in the future, which wouldn't need any help from humans in the creative process and would make it impossible to link an AI coder to AI work. Another option is to include AI's work in the "work-made-for-hire" idea.⁵⁵ Commentators have said that the doctrine could be used for this purpose because AI creativity and work-made-for-hire are similar. However, they also say that the United States Copyright Act would need to be changed to cover AI because the rule cannot be used in a similar way. The work-made-for-hire doctrine says that the copyright goes to the author's employer or commissioner right away, even if the employer or commissioner had nothing to do with making the work. This is true even if the employer or commissioner had nothing to do with making the work. This idea would "incentivize the employer at whose request, direction, use, commercial goals, or risk the work is done and give them control over the commercial force"⁵⁶ of the work while keeping the employer responsible for the work.

⁵³ Matt Reynolds, "AI Learns to Write Its Own Code by Stealing from Other Programs", *Newscientist* (Feb. 22, 2017), <https://www.newscientist.com/article/mg23331144-5o0-ai-learns-to-write-its-own-code-by-stealing-from-other-programs> [<https://perma.cc/3V2C-EJBD>], (Last visited Jul.23, 2022, 08. 40AM)

⁵⁴ Lance Whitney, *Are Computers Already Smarter than Humans?*, *Time* (Sept. 29, 2017, .10:09 AM), <https://time.com/4960778/computers-smarter-than-humans>, (Last visited Jul.23, 2022, 08. 47AM)

⁵⁵ *Ibid*

⁵⁶ Sik Cheng Peng, "Artificial Intelligence and Copyright: The Author's Conundrum", *WIPO-WTO Colloquium Papers*, 181 (2018).

VIII. AI: - The Copyrightability and Various judicial Responses

Since the 1970s, many copyrighted works have been made with the help of computer programmes. With AI, computer programmes are no longer just tools; they can now make works on their own, based on what they think is best. AI can do a huge amount of work in a short amount of time and with little effort. Since AI's works are unique, they may be protected by copyright laws in all countries. People may decide that the "programming and parameters on which such AI actually compiles and develops the work" meet the "skill and judgement" requirement for originality.⁵⁷ If, on the other hand, work is made by AI, there will be no author. Projects that use AI need to be done with the help of people. So, in the second case, the person who used artificial intelligence to make the work may claim to be the creator. However, this is not the case if the work was made entirely by AI without any human help.

Governments all over the world have had trouble figuring out who wrote something like this. When it comes to who wrote something, there are three main options: - The copyright system should recognise AI as an author. - AI-generated work shouldn't have an author, and it should be considered "public domain." - Instead of copyright law, sui generis law should protect these kinds of works. Copyright protection encourages the author to make more creative works by putting his skills, effort, and judgement to use. If AI is recognised as an author and its works are protected by copyright laws, "human creativity" and "machine creativity" will be on the same level.

Putting AI in charge of the work it makes could cause a lot of problems. AI might not always do a perfect job. The AI could use twisted and harmful language that could lead to slander or obscenity, incite violence based on caste, creed, or religion, or cause any other bad thing to happen. Since the AI has not been recognised as a person, it will be hard to figure out what its legal and criminal responsibilities are. This kind of work could be destroyed or, in the worst case, AI software could be made illegal, but by then it might be too late and the damage might be done for good. Another worry is how the AI will be held responsible as an offender if the work it makes is substantially similar to an existing work that may be protected by copyright. Also, since AI is not a person, if it is thought of as an author, it won't be able to give away ownership of the work.

⁵⁷ Veronica Acevedo, Original Works of Authorship: Artificial Intelligence as Authors of Copyright, eRepository at Seton Hall Law University, 2022.

The idea, which comes from countries with civil law like Germany, France, and Spain, says that works should have the "personal stamp of the creator." Since AI doesn't have a personality, it shouldn't be given credit for works it makes on its own. If AI were considered a legal person, it would be able to sign contracts with other people. It will also have to follow the law and be held responsible for what it does. The most important thing is that it should be able to "sue and be sued." Most governments don't like the idea of giving AI legal status.⁵⁸

When "computer programming" was the only issue, copyright ownership wasn't a big deal because computers were just seen as tools to do certain tasks, just like in other industries and parts of the world. With the rise of Artificial Intelligence, which has the skills and ability to work on its own and make things without the help of people, things got a little harder. It has become more popular because of how quickly it works, how little time it takes, and how little money it costs.⁵⁹ The work made by AI passes the copyright test and is therefore protected by the law. However, it must be original and meet the two most important criteria of "skill and judgement," which can be seen in the algorithm or programming used by AI to make the work.

Artificial Intelligence, on the other hand, can't claim to be an author if it's the only one who made the work. If a human helped make the work, that person is the author. Quite a few countries have talked about this. There are a number of things to think about, such as giving AI work authorship, not giving AI work authorship and putting it in the public domain, and protecting AI work under a different legal system or regime than copyright law.⁶⁰

People who are against copyright protection for work made by artificial intelligence have a good point when they say that doing so will make people less likely to make their own original works that use all of their skills, time, and judgement when an AI can do it easily for them. Copyright protection has always pushed people to make high-quality work. However, giving AI work the same status and protection as human work undermines human intelligence and takes away all of their hard work. But if AI work is not protected by copyright, it will be seen as a bias against human creativity.

⁵⁸ *Ibid*

⁵⁹ Edward Klaris and Alexia Bedat, "Copyright Laws and Artificial Intelligence", American Bar Association, November 16, 2017, available at: <https://www.americanbar.org/news/abaneews/publications/youraba/2017/december-2017/copyright-laws-and-artificial-intelligence/> (last visited on march 9, 2023)

⁶⁰ Ayush Pokhriyal and Vasu Gupta, "Artificial Intelligence Generated Works under Copyright Law", 6(2) NLUJ Law Review 116 (2020).

The fact that AI is not human and can't understand emotions is a major flaw that could lead, among other things, to insults, hate speech, illegal discrimination, and the use of anti-national terms. Artificial Intelligence can't be held responsible because it's not human, so it's up to the courts to figure out who should be held responsible.⁶¹ We might be able to delete such work or stop AI from doing it in the future, but there is nothing else we can do. The victim will not get civil or criminal justice or compensation. But no one can be held responsible if the work isn't taken down quickly enough and the original author gets hurt or loses something that can't be fixed. Also, if Artificial Intelligence is the author, the right of ownership cannot be transferred.

IX. Judicial Responses

In *Amar Nath Sehgal v. Union of India*,⁶² the Delhi High Court said, "In the real world, laws are meant to protect the right to equal pay." But life is more than just a bunch of stuff. It is also about time. Many of us believe that the soul is real. The moral rights of the author are what keep his works alive. The author has the right to keep, defend, and grow his works because of his moral rights." Moral rights are tied to the feelings and emotions of the person who wrote them. Artificial intelligence is not meant to have these rights.

In *Express Newspapers Ltd. v. Liverpool Daily Post & Echo*,⁶³ the court said that a computer is a tool just like a pen. Even in the U.S., the creator of a work made with the help of AI can get copyright if he or she can show that the AI programme was used as a tool or medium in making the work.

In *Naruto v. Slater*,⁶⁴ which is sometimes called the "Monkey Selfie" case, a court in the United States ruled that the monkey could not be held responsible for the selfies it took. Copyright for a work can only be given to a human in the U.S., not to an animal or a robot.

In *Camlin Pvt. Ltd. v. National Pencil Industries*,⁶⁵ the Delhi High Court made clear what the word "author" means. Since the creator of a "mechanically reproduced printed carton" could not be found, the courts decided that copyright did not apply to it.

⁶¹ Pamela Samuelson, "Allocating Ownership Rights in Computer-Generated Works" 47 *University of Pittsburgh Law Review* 1185 (1986).

⁶² (2005) 30 PTC 253 (Del).

⁶³ [1985] FSR 306.

⁶⁴ (N. D. Cal. Jan. 23, 2016).

⁶⁵ (AIR 1986 Delhi 444)

The Court said, "Copyright is only given to the person who wrote the work or the natural person from whom the work came." Because the work can't be said to have come from the author, the plaintiff can't claim copyright on any box that was made by copying it with a machine, like printing. A computer can't make a piece of art, and it can't own the rights to it either."

In *Tech Plus Media Private Ltd. v. Jyoti Janda*,⁶⁶ the Delhi Court said, "The plaintiff is a legal person and is not able to be the creator of any work that may be protected by copyright." The Court says that the plaintiff could get the owner of the work's copyright by making a deal with the creator.

X. Conclusion

Artificial Intelligence is gaining momentum and will soon be widely prevalent in all walks of life. Despite all the debates and arguments, the fact that Artificial Intelligence has and will play a vital role in the field of copyright cannot be changed. However, the problems relating to authorship and ownership of work created or produced solely by an Artificial Intelligence does make it necessary to come up with an amicable solution which can extend to all the states. There is no particular law on this and many loopholes can be found in the existing laws. If the Artificial Intelligence produced work is available in public domain it will subsequently lead to less investment by the people involved in programming or corporations in that field. The world intellectual property organization is doing its best in finding a way out. To reiterate, 'sui generis' system is thought to be the best solution so far as it will ensure that there is a new regime in place for Artificial Intelligence and no confusion with the copyright laws will exist. Moreover, the already existing copyright laws can be amended to incorporate clauses specifically dealing with Artificial Intelligence. However, it is very important to not lose the balance between humans and machines with respect to creativity and that can be achieved only by covering or giving more preference to human creations rather than the work produced by Artificial Intelligence.

⁶⁶ 2014 (60) PTC 121 (Del).