

Artificial Intelligence: Copyright and Authorship/Ownership Dilemma?

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Abstract

Along with new creative opportunities, various new legal challenges have been created with the introduction of sophisticated Artificial Intelligence (AI). Computer programs like Google's Deep Dream create unique and intricate artworks, which is hard to distinguish from human creations.

The law is not unaware of artificial intelligence problems; our legal framework is not developed to resolve AI's rapid development issues. The problem is that our legal system has no answers to apparently uncomplicated questions such as "Who is the creator of a machine-produced painting using AI?"

The law does not ignore artificial intelligence problems; our legal framework has not been developed to resolve concerns relating to rapid AI development.

Modern copyright laws have been drafted in such a fashion as to take originality into account as a manifestation of the author's identity, while originality is one of the necessary conditions for copyright subsistence. So, what if we get the personality out of the equation? Do machines create works without copyright? Do we have to amend the copyright law in order to incorporate AI under its ambit? This article will explore these and other questions and potential solutions to the existing problem at hand; who is the author in the case of AI-generated works?

Keywords: *Artificial Intelligence, Copyright, Copyright Law*

I. INTRODUCTION

"Sometime early in this century, the intelligence of machines will exceed that of humans. Within a quarter of a century, machines will exhibit the full range of human intellect, emotions, and skills, ranging from musical and other creative

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aptitudes to physical movement. They will claim to have feelings and, unlike today's virtual personalities, will be very convincing when they tell us so.” – Ray Kurzweil.²

Regardless of whether it is the Indian Copyright Act, 1957 or the Patents Act 1970, most Indian legislations trace their foundations in the British colonial administration.³ Then, technology was not as mature as it is today. Machines have always been used to assist people with their jobs. However, with the growing usage of Artificial Intelligence (AI) in our everyday lives, reality has shifted radically. As applications such as Prisma and Google Deep Dreams operate on robust neural networks to generate beautiful designs or low-key AI's composed of chat-bots like Siri and Alexa, technological creativity is always around us and AI plays an important role.

The notion of human beings granted copyright, or other intellectual property right centres around the traditional approach, and all the current laws accordingly drafted. However, with the evolution of our world, non-human beings are producing original works, and this makes the notion of 'authorship' and 'copyright ownership' more complicated. When we see the famous 'Monkey Selfie'⁴ case in which the monkey unintentionally clicked on a selfie from a camera of a photographer and PETA went to the court on behalf of the monkey for awarding him selfie copyright, issues like these become apparent. While there was an out-of-court settlement of the current issue, what the court may have ruled on the matter remains unresolved.⁵

Artificial Intelligence, which was fiction in the 1950s, is more science and less fiction these days. AI can already compose music, write lyrics, write scripts for movies, and can paint too. Recently, Nature Morte Gallery in Delhi hosted India's

² Olga Fesenko, *Intellectual Property Rights in Artificial Intelligence*, UNIVERSITY OF TARTU, SCHOOL OF LAW DEPARTMENT, (2017), https://oigus.ut.ee/sites/default/files/oi/o_fesenko_d_kovaevi_it_law_lab_intellectual_property_rights_in_artificial_intelligence.pdf.

³ *History of Indian Patent System* CONTROLLER GENERAL OF PATENTS, DESIGNS AND TRADEMARKS, INTELLECTUAL PROPERTY INDIA (December 19,2019), <http://www.ipindia.nic.in/history-of-indian-patent-system.htm/>.

⁴ *Naruto v. Slater*, No. 16-15469 (9th Cir. 2018) (*hereinafter* Naruto).

⁵ Dani Deahl, *How AI generated music is changing the way hits are made*, THE VERGE (August 31, 2018), <https://www.theverge.com/2018/8/31/17777008/artificial-intelligence-taryn-southern-amper-music/>.

first artwork exhibition created by Artificial Intelligence⁶. As the artworks created by AI are becoming ubiquitous, the question arises, who holds the authorship of the work, creator of the machine, the human, or the machine itself?

II. ARTIFICIAL INTELLIGENCE AND COPYRIGHT

AI was famously described as “the science of making computers do things that require intelligence when done by humans” by Ray Kurzweil⁷. Although it has widely been acknowledged that machines can be capable of performing mathematical and science activities, creativity has long been thought to be a uniquely human ability. However, 30 years after Kurzweil’s concept, computers produce all sorts of original works, including visual, literary and musical works.

Henceforth, artificial intelligence systems over the past one decade have gained a rapid momentum within this extremely tech-savvy world. With highly technical and sophisticated technologies being used for developing ingenious, intelligent as well as intellectual AI systems. Therefore, that day is not far away when these smart bots will start producing useful and spectacular inventions without really taking the help of human intelligence.

This ability of AI in producing and generating information, content, inventions, technology, etc., has raised a big question concerning the challenges and problems that it can give rise to concerning Intellectual Property Rights. Therefore, IPR law of most countries will not be sufficient enough to deal with content that is generated through AI since it places the traditional notions linked with patents and copyrights under doubt of whether or not such inventions or copyrights generated through the machine which can be treated equivalent to those created by a human.

Therefore, this paper aims at analysing both national as well as international IPR laws to determine the validity of IPR content created through artificial intelligence and that whether such material can be treated as the content which is created by humans (considering these AI software’s and bots are ultimately created or developed by humans).

⁶ Radhikha Iyenger, *Inside India’s first AI Art Show*, MINT (August 17,2018), <https://www.livemint.com/AI/GUhjytNccrVRTrMCYknjaI/Inside-Indias-first-AI-art-show.html>.

⁷ RAY KURZWEIL, *THE AGE OF INTELLIGENT MACHINES* (MIT Press 1990).

The whole concept of artificial intelligence and IPR has led to significant assumptions in the minds of legal practitioners and IPR professionals all around the world, while one popular opinion concerning AI and its entry in the world, IPR is to be seen as a positive shift that can help in accelerating the growth and development of humans by generating such significant innovations, which are far beyond the intellect of human beings, Thus, allowing all the human to experience the most advanced, efficient as proficient innovations in a minimal period. However, the second popular opinion about AI is different and is quite contrary in terms of the impact of AI upon humanity. As per this opinion, AI or artificial intelligence shall not be allowed to surpass human intellect by letting it enters into the field of IP, since this way AI will soon take over the world and will reprogram itself in a manner that it can put the existence of humans under significant threat thus, leading to an end of homo sapiens on earth, with the only surviving entities being machines, robots, and bots.

As per a draft report submitted by the European Parliament to the Commission on Civil Law Rules on Robotics⁸, it mentioned how artificial intelligence would soon take over the world by leaving no stratum untouched. The report⁹ also suggested providing for sufficient criteria through which the copyrighted works of AI shall be classified under the standards of ‘own intellectual creation.’ Furthermore, the report also questioned whether such copyrighted work, which is generated by a machine, will be valid copyright, or will it be stuck off as invalid copyright since a human being did not initially create it. Not only this but, under the scope of patent law, the entire international community has gotten into the debate of whether such high degree inventions undertaken by AI’s be treated as patents or not.

A very recent judgment given by the San Francisco court outright denied the validity of a copyright to a picture taken as a selfie by a monkey called Macaque monkey.¹⁰ Therefore, taking this judgment as an example, the international legal community is now considering the validity of AI granted copyright and inventions. Not only this, but there are also some legal practitioners, courts as

⁸ European Parliament resolution of 16 February 2017 with recommendations to the Commission on Civil Law Rules on Robotics [2015/2103(INL)].

⁹ *Id.*

¹⁰ Naruto, *supra* note 3.

well as other IPR professionals who have started rejecting claims for patents and copyrights generated through IPR.

Various international copyright houses strictly mentioned¹¹ how they would not accept any such work which is created through machines or generated using any AI. Similarly, concerning AI-generated patents, there are several issues and potential challenges that may arise in terms of the valid owner of such inventions. Therefore, mainly because there is no human intervention in such AI-generated patents, it is even more difficult to register the real owner, which is not a human but a machine. However, if these rights are given both to the machine and the human who created such a machine, the next central question that will come into existence is the use of such rights? Thus, whether or not both the entities shall get the right to use the innovation or only the human can solely be determined through an in-depth discussion upon the said subject matter within the international community.

Another significant aspect that the international community needs to deal with is the fact that if in case an AI produces or generated an invention that already belongs to someone else, then in that case, who will be liable with damages¹². Therefore, it is quite clear that we cannot ask the machine to pay costs, and so considering such an innovation is not created by a human, so he or she can also not be charged with costs.¹³

Copyright protection has historically been applicable in situations where technology has been used as a medium to assist an individual in doing a job (for example, utilising a camera to take a photograph). In these cases, the individual was recognised by being the artistic mind who defined or created the scenario resulting in the initial script. Recent developments in machine learning and the rise of computer resources have ensured that AI can now build works that are, no doubt, independent of human imagination. This raises the question of whether these AI-created works can be protected by copyright?

¹¹ Monika Shailesh, *Artificial Intelligence: Facets & Its Tussle With IPR*, MONDAQ (Oct. 10, 2020), <https://www.mondaq.com/india/new-technology/740638/artificial-intelligence-facets-its-tussle-with-ipr>.

¹² Gyandeep Chaudhary, *Artificial Intelligence: The Liability Paradox*, SUMMER ILI LAW REVIEW 144 (2020) (*hereinafter* Gyandeep).

¹³ *Id.*

Henceforth, even though these questions at first may seem to be quite confusing still with the growing pace of AI inventions, it has become the need of the hour for us to draw specific legal solutions to these complex questions. Furthermore, therefore, the researcher has further provided for an in-depth analysis of the Indian legal framework concerning IPR and how it is to be interpreted as to construe answers to these complex questions highlighted by the international community concerning the use of AI for generating relevant IPR content.

III. POLICY REGIME- GLOBAL AND DOMESTIC POSITION

Copyright is part and parcel of intellectual property rights. The author of original work has a legal right, which allows him/her to use and distribute the work exclusively. The reason and rationale for this was the notion that the author is a source of the possessive individualism economic theory of Locke¹⁴. In general, two important features are necessary for granting copyright. The work should, firstly, be tangible and secondly original.

Generally, the copyright is being granted to literary and artistic works. Since development of literary works is AI's new areas of applicability, the study of copyright is essential vis-à-vis to AIs. Therefore, for in order to further determine the validity of IP generated through AI, this proposed research will provide for a detailed analysis of the national and international legal framework, along with the analysis of various landmark precedents, for understanding the future scope of intellectual property generated through Artificial entities machines, software and robots. To better understand this proposition, few landmark cases could be analysed such as *Burrow Gilles Lithographic Co. v. Sarony*¹⁵, *Bleistein v. Donaldson Lithographing*¹⁶ and *Alfred Bell & Co. v. Catalda Fine Arts*¹⁷.

Burrow Gilles Lithographic Co. v. Sarony

The emphasis of this case was on whether an image/photograph could obtain copyright protection.¹⁸ It was an interesting case because it addressed the separation of mechanical and artistic work. Court addressed whether or not a

¹⁴ Diane Leenheer Zimmerman, *It's an Original! (?): In Pursuit of Copyright's Elusive Essence* 28(2) COLM J L & ARTS 187,194, (2005).

¹⁵ *Burrow Gilles Lithographic Co. v. Sarony*, 111 U.S. 53 (1884).

¹⁶ *Bleistein v. Donaldson Lithographing*, 188 U.S. 239 (1903).

¹⁷ *Alfred Bell & Co. v. Catalda Fine Arts*, 191 F.2d 99 (2d Cir. 1951).

¹⁸ *Burrow Gilles Lithographic Co. v. Sarony*, 111 U.S. 53 (1884).

product which is machine-generated should be given copyright protection. By maintaining that solely mechanical labour is not artistic per se, the court has limited the extent of its protection.¹⁹ Consequently, copyrights for their works cannot be granted if the AI systems are subject to a rigid approach such as this.

Bleistein v. Donaldson Lithographing Co.

Here also the issue of law discussed in the previous case followed. Court specifically discriminated against the work of a human and anything abstract or artificial. Speaking for the majority, Justice Holmes established the human personality's singularity and held out the same as a requirement for copyright.²⁰ In using this phrase, the court made its position clear "something irreducible, which is one man's alone," implying that anything that is not a result of human imagination was not eligible for any protection.²¹

Alfred Bell & Co. v. Catalda Fine Arts, Inc.

This ruling saw a softer approach towards copyright being adopted by the courts. The court lowered the criteria of originality and decided that, in order for the work to be original, it must not be copied from any other similar artistic work.²² It also held that an author could claim unintended or incidental variations as his own. This decision was also a relief to people who asserted copyrights of the work created by AIs, although some programming and algorithms did not replicate it.

To a certain degree, these three decisions resolve the uncertainty surrounding the protection granted to AI systems. The prospective right holders still have an impact due to lack of a definitive position.

IV. ANALYSIS OF INTERNATIONAL SCENARIO CONCERNING ACCEPTABILITY OF AI IN IPR

Uncertainty over the applicability and stance of AI is not new founded as the one of reports by CONTU ("The National Commission on New Technological Uses of Copyright Works") in year 1974 indicated that it is theoretical and not practical

¹⁹ *Id.*

²⁰ *Bleistein v. Donaldson Lithographing*, 188 U.S. 239 (1903).

²¹ *Id.*

²² *Alfred Bell & Co. v. Catalda Fine Arts*, 191 F.2d 99 (2d Cir. 1951).

to develop the AI with the capacity to create an independent work.²³ In its evaluation of the impact of fast progress on interactive Intellectual Property computing, OTA²⁴ (“Office of Technology Assessment”) re-examined the issue again in the year 1986 where the OTA deviated with CONTU and recommended that AIs should be legitimate co-authors of works protected by copyright.²⁵ Thirty years later, the debate about AI is paramount, whereas on one side, computers cannot be as creative as humans, and on the other side, they disagree with the excuse of creativity.²⁶

Even if countries are permitting copyrights in an AI’s work, the question as to who obtains copyright is cryptical and hard to understand as the current legal regime requires a right holder’s legal personality.²⁷ However, there is an ambiguity therein, which alludes to what occurs when the AI system is bought, whether the developer of AI or the purchaser has copyright. Some countries like England and New Zealand, which grants copyright to program makers for works created by AI, by legal fiction in creator’s favour. Legal support is provided by expanding the copyright definition to include works created by computer (which lack the author of a human being, i.e., AIs).²⁸ However, the above question has still not been answered.

The nature of criminal liability of AIs is also a problem with the current system²⁹. Nobody considered the wonders they would achieve while creating the AI, and never expected that the same would rise when AIs grow into an autonomous entity in the future. A pertinent question will then arise concerning an AI’s possible

²³ *Final Report of the National Commission on New Technological Uses of Copyrighted Works* NATIONAL COMMISSION ON TECHNOLOGICAL USES OF COPYRIGHTED WORKS, Washington D.C, (1978).

²⁴ An office of United States Congress from year 1972-1995.

²⁵ *Intellectual Property Rights in an Age of Electronics and Information*, U.S. OFFICE OF TECHNOLOGICAL ASSESSMENT (1986).

²⁶ DAVID GELERNTER, *THE MUSE IN THE MACHINE: COMPUTERS AND CREATIVE THOUGHT* (Fourth Estate, 1994).

²⁷ James Boyle, *Endowed by their Creator? The Future of Constitutional Personhood*, *The Brookings Institution Future of The Constitution Series*, 70 NCLREV 1231 (1992).

²⁸ Copyright, Designs and Patents Act, §§ 178, 1988 (UK); Copyright Act, § 2, 1994 (New Zealand).

²⁹ Gyandeeep, *supra* note 11.

criminal liability.³⁰ If the present position continues, the designer has responsibility, even though he lacks *mens rea* or *actus reus*. There are, therefore, certain loopholes in the current position of AIs under IP law.

V. DAMAGES IN CASE OF PLAGIARISED INNOVATION

Another significant aspect that the international community really needs to deal with is that if an AI produces or generated an invention that already belongs to someone else, then in that case, who will be charged with damages. Therefore, it is quite clear that a machine cannot be made to pay damages, so considering such an innovation is not created by a human, so they cannot be charged with damages.

Henceforth, even though these questions at first may seem to be quite confusing still with the growing pace of AI inventions, it has become the need of the hour for us to draw specific legal solutions to these complex questions. Thus, the researcher has further provided an in-depth analysis of the Indian legal framework concerning IPR and how it can be interpreted to construe answers to these complex questions raised by the international community concerning the use of AI for generating relevant IPR content.

VI. ANALYSIS OF INDIAN LEGAL SCENARIO CONCERNING AI-GENERATED IPR

India is slowly but gradually pushing forward in the AI market, with big companies including Apple and Salesforce acquiring Indian AI-powered companies. Not only this, but the increase in AI start-up in India has been massive, with increasing amounts of funds being invested into research and development of the same. One of the most notable facts is that how an AI space, Sentient, received an investment amount of 143 Million USD in its initial years³¹. Therefore, there is no doubt that with such a massive increase in AI within the country, the scope of such AI innovations touching upon the stream of IPR is not surprising. So, this raises the need for understanding the IPR legal framework of India, to determine whether or not such IPR innovations through AI are valid or invalid under the Indian legal framework:

³⁰ Gabriel Hallevy, “AI v. IP- Criminal Liability for Intellectual Property IP Offenses of Artificial Intelligence AI Entities”, SSRN (18 November 2015) https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2691923.

³¹ Gyandeep, *supra* note 11.

A. AI-Generated Copyright under Indian Law

Copyright is a law which safeguards the human mind and intellect's original creations. Indian copyright grants protection to creations, which is not a mere concept, so if creation is the author's expression and not merely a thought, such work can be protected.

Section 14³² defines "Copyright" which states that copyright is the exclusive rights of the author to do or to delegate any act concerning his work such as reproduction, publication, adaptation and translation of work. Also, Section 17³³ of the Act stipulates that the author shall be the first copyright owner however if the contracted work is performed by an employed individual for consideration, that in this case, the employer is the owner of the created work.

Section 2(d) of Copyright Act 1957 provides an elaborate definition of "Author" and in the case *Rupendra Kashyap v. Jivan Publishing House Pvt. Ltd.*,³⁴ it was held that

*...in the context of question papers for an examination, that the author of the examination paper is a person who has compiled the questions; the person who does this compiling, is a natural person, a human being, and not an artificial person; Central Board of Secondary Education is not a natural person and it would be entitled to claim copyright in the examination papers only if it establishes and proves that it has engaged persons specifically for purposes of preparation of compilation, known as question papers, with a contract that copyright therein will vest in Central Board of Secondary Education.*³⁵

Likewise, the courts have maintained in light of various other decisions that a legal person cannot be granted authorship any work involving

³² The Copyright Act, No.14 of 1957 INDIA CODE (1957), § 14.

³³ The Copyright Act, No.14 of 1957 INDIA CODE (1957), § 17.

³⁴ *Rupendra Kashyap v. Jivan Publishing House Pvt. Ltd.*, 1994 (28) DRJ 286.

³⁵ *Navigators Logistics Ltd. v Kashif Qureshi*, 254 (2018) DLT 307.

copyright.³⁶ Copyright Office's Practice and Procedure Manual (2018)³⁷, also explicitly states that only the information of a natural person to be provided as the author of the work during the copyright application.

The rationale of the author as a natural person was based on the findings made by courts, which decide the copyright of work in various jurisdictions, which be summarised as follows,

- 1) The first owner of the copyright is always the author.³⁸
- 2) To protect a compilation, authorship elements in the selection, coordination, and arrangement of materials are required.³⁹
- 3) Authorship elements are needed to select, coordinate, and arrange the materials to protect a compilation
- 4) Compilation created by dedicating money, skill, labour, and time is a scholarly work in which copyright vests with the author.⁴⁰
- 5) Copyrightability work is to be tested on the basis of author's skills and judgement being applied in the original work.⁴¹

B. Possible Issues if Artificial Intelligence Granted Protection under Copyright Act

Compilation of existing content –

As we discuss about AI-created work, we need to consider that AI-created work would be focused on the content or factor, or the amount of knowledge that the algorithm enables it to delve into. To produce a result, AI relies on its programming and algorithm. The AI may explore and analyse already available information, and so the creation of it is based on publicly available information or already copyrighted material. AI cannot produce original material because its work consists of a modification or an updated version of the existing data.

³⁶ Tech Plus Media Private Ltd. v Jyoti Janda, (2014) 60 PTC 121 see also, Camlin Pvt. Ltd. v National Pencil Industries, AIR 1986 Delhi 444.

³⁷ Practice And Procedure Manual 2018, COPYRIGHT OFFICE GOVERNMENT OF INDIA https://copyright.gov.in/Documents/Public_Notice_inviting_reviews_and_comments_of_stakeholders_on_draft_guidelines/Literary_Work.pdf.

³⁸ The Copyright Act, No.14 of 1957 INDIA CODE (1957), § 17.

³⁹ Feist Publications v. Rural Telephone Service Co., 499 U.S. 340 (1991).

⁴⁰ Burlington Home Shopping Pvt. Ltd. v. Rajnish Chibber, 61 (1995) DLT 6.

⁴¹ Eastern Book Company v. D. B. Modak, (2008) 1 SCC 1.

Consequently, acknowledging AI as an independent entity and the separate protection of work can lead to infringement of the copyright of holders.

Originality -

While examining copyright under the Indian Copyright Act, we look into section 13⁴² of the Act, which defines “works in which copyright subsists.” This provision explicitly specifies that the creation must be original if it is to apply for literary, artistic, dramatic, and musical work. However, given that the word “original work” is not defined anywhere in the Act, courts typically review the following parameters when determining originality⁴³:

- 1) Whether the expression and idea are inherently linked. (**“Doctrine of Merger”**)
- 2) Whether the author applied expertise and effort. (**“Sweat of the Brow Doctrine”**)
- 3) Whether the least possible level of imagination is present in work. (**“Modicum of Creativity Doctrine”**)
- 4) Whether the resultant work is a product of only work and skill, the author’s judgment and skills are involved. (**“Skill and Judgment Test”**)

In order to assert copyright ownership or authorship by AI, the work developed must be original and suitable for the testing of originality, whether it is the work of literature, dramatics, music or art. However, it remains debatable whether AI can create original work. The Copyright Act of 1957 recognises compilations of literary work, and the work so created by AI can qualify as a compilation because the AI relies on existing knowledge and visibility of the programming and, therefore, may qualify to be copyright protected. Alternate claims, however, state that such work is merely a compilation without expertise, judgement and skill.

Contemplating the court’s decision in *Eastern Book Company v. D.B. Modak*⁴⁴ where it was observed by the court that,

⁴² The Copyright Act, No.14 of 1957 INDIA CODE (1957), § 13.

⁴³ Lucy Rana, *Artificial Intelligence And Copyright – The Authorship*, MONDAQ (December 18, 2019), <https://www.mondaq.com/india/copyright/876800/artificial-intelligence-and-copyright-the-authorship>.

⁴⁴ *Eastern Book Company v D.B. Modak* (2008) 1 SCC 1.

To claim copyright in a compilation, the author must produce the material with exercise of his skill and judgment which may not be creativity in the sense that it is novel or non-obvious, but at the same time it is not a product of merely labour and capital. The derivative work produced by the author must have some distinguishable features and flavour.

So, demonstrating “skill and judgement” is an essential prerequisite for any derivative work or compilation.

Infringement

When an AI is acknowledged as the owner and author of the resulting creation, an essential question arises, who is liable for any violation or infringement by AI? Section 51⁴⁵ states:

51. When copyright infringed. — *Copyright in a work shall be deemed to be infringed—*

(a) when any person, without a licence granted by the owner of the copyright or the Registrar of Copyrights under this Act or in contravention of the conditions of a licence so granted or of any condition imposed by a competent authority under this Act—

(i) does anything, the exclusive right to do which is by this Act conferred upon the owner of the copyright, or

(ii) permits for profit any place to be used for the communication of the work to the public where such communication constitutes an infringement of the copyright in the work, unless he was not aware and had no reasonable ground for believing that such communication to the public would be an infringement of copyright; or

(b) when any person—

(i) makes for sale or hire, or sells or lets for hire, or by way of trade displays or offers for sale or hire, or

(ii) distributes either for the purpose of trade or to such an extent as to affect prejudicially the owner of the copyright, or

(iii) by way of trade exhibits in public, or

⁴⁵ The Copyright Act, No.14 of 1957 INDIA CODE (1957), § 51.

*(iv) imports 2*** into India, any infringing copies of the work*

Provided that nothing in sub-clause (iv) shall apply to the import of one copy of any work for the private and domestic use of the importer.

On analysing it could be said that “person” is capable to infringe upon the copyright. Since AI’s status as a legal entity is still not classified, any violation by AI becomes a serious problem. For AI, liability for any infringement caused by AI becomes much more difficult. As the AI does not have its own legal status, the problem of AI and copyright might therefore decline if a proper network and sequence are not formed for the creation of liabilities for AI’s actions.

C. Obstacles Associated with AI as Copyright Holder

To examine the complexities accurately associated with the recognition of AI as an author, we have to check if AI can, under Indian Copyright law, be recognised as author. Let us look at a few situations to examine existing provisions of copyright law *vis-a-vis* AI:

- 1) Under section 17⁴⁶, transferring copyright is also provided for under the employer-employee relationship, where the creative work did by the employees under the contract for consideration, the employer would be deemed to be the holder of the copyright. Now, in the situation of AI systems, since AI is not looked upon as separate entities, the employer-employee relationship would be hard to established in order to grant the ownership to the employer. The creator (programmer/owner/user) or any others cannot, therefore, be executed or authorised by the AI to become the owner of that work.
- 2) Under section 57⁴⁷, the special rights or also known as moral rights of the author can be challenged. These special rights comprise of the “right to paternity” (“the right to work and to be acknowledged”), “right to integrity” (“right of withholding or seeking compensations from all acts which could damage the dignity or reputation of the author”). Therefore, on recognising AI as the author of such work, such rights become superfluous, since AI cannot verify whether the dignity or reputation of the original work has been affected by any act. The right specified as the

⁴⁶ The Copyright Act, No.14 of 1957 INDIA CODE (1957), § 17.

⁴⁷ The Copyright Act, No.14 of 1957 INDIA CODE (1957), § 57.

moral right have more human feeling and emotions attached to creation, and ever since emotional quotient is absent in AI systems, it would be inappropriate to enforce such right.

- 3) The author is permitted to claim royalty⁴⁸ under the existing copyright laws in India which cannot be waived off. Hence, when the author of work is an AI system, then several questions would arise such as, who determines AI royalty, how this royalty is paid to AI, and in a specific scenario where if AI can determine the royalty, then should that amount be determined based on reasonability.
- 4) For any AI work, it will be difficult to impose the accountability of AI over any development. For example, in a possible scenario, what if the creation of AI is derogatory, slanderous in nature or contrary to the public morale, then except for taking down the relevant work from the public domain, no other plausible could be taken against the AI.

Therefore, on analysing existing Indian legal framework for IPR, it can be said that just like other countries, India too does not have any specific law or legal provision that could effectively deal with the IP that may be generated by Indian companies using AI-powered machines, bots or technologies.

VII. WOULD COPYRIGHT SUBSIST IN AI-CREATED WORKS?

The next question to be explored is whether copyright should remain in the works created by AI. Answering this question involves a discussion of copyright theories.

A. Utilitarian Theory

The Utilitarian theory is said to form the backbone of the protection of intellectual property.⁴⁹ To “foster the creation of artistic or useful works that benefit

⁴⁸ The Copyright Act, No.14 of 1957 INDIA CODE (1957), § 31D.

⁴⁹ Amir H Khoury, *Intellectual Property Rights for “Hubots”*: On the Legal Implications of Human-Like Robots as Innovators and Creators 35(3) CARDOZO ARTS AND ENTERTAINMENT LAW JOURNAL 635, 652, (2017).

society,”⁵⁰ these theories conceptualise the copyright as a utilitarian device. The promotion of artistic or useful works involves the incentive for innovation that is inherent in utilitarian theory. Without such a stimulus for innovation, the utilitarian theory suggests that authors may not invest the time, energy, and money needed for these works. They are readily and cheaply copied by freeloaders, thus eliminating the authors’ capacity to reap their works’ benefits.⁵¹

An application of utilitarian theory to works produced by AI is fundamentally based on the fact that ‘AI systems do not need to be encouraged to produce work from artworks.’⁵² AI systems are not vulnerable to short-term memory loss, overloading of information, deprivation of sleep, or distractions that humans are sensitive to and require encouragement to overcome.⁵³ Consequently, when considering AI as an object of copyright protection, the utilitarian theory’s motivational argument is redundant.

On the other hand, even where an AI system is involved, people are always indispensable to creating works. First, a human being, usually a team, builds AI systems. Secondly, human action is necessary for the creation of works by the existing AI system. A user (a human being) will either submit input data or, at a minimum, activate the AI system needed to start work generation.

In a similar vein, in *Telstra Corporation Ltd. v. Phone Directories Company Pty Ltd*⁵⁴ case, the applicant contended “human authorial contributions in the entire continuum of production should be considered, not just the human involvement at

⁵⁰ Roberto Garza Barbosa, *The Philosophical Approaches to Intellectual Property and Legal Transplants. The Mexican Supreme Court and NAFTA Article 1705* (Summer 2009) 31(3) HOUSTON JOURNAL OF INTERNATIONAL LAW 515, 517, (2009).

⁵¹ Jeanne C Fromer, *An Information Theory of Copyright Law* (2014) 64 EMORY LAW JOURNAL 71, 74-75, (2014) *see also*, Alina Ng, *The Author’s Rights in Literary and Artistic Works*, 9 J. MARSHALL REV. INTELL. PROP. L. 453, 453 (2009); Symposium, *The Constitutionality of Copyright Term Extension: How Long Is Too Long?*, 18 CARDOZO ARTS & ENT. L.J. 651, 676 (2000) (statement of Wendy Gordon).

⁵² Shlomit Yanisky-Ravid, *Generating Rembrandt: Artificial Intelligence, Copyright, and Accountability in the 3A Era – The Human-Like Authors are Already Here – A New Model*, (4) MICHIGAN STATE LAW REVIEW 659, 668, (2017).

⁵³ Shlomit Yanisky-Ravid, Luis Antonio Velez-Hernandez, *Copyrightability of Artworks Produced by Creative Robots, Driven by Artificial Intelligence Systems and the Originality Requirement: The Formality-Objective Model*, 19 MINN. J.L. SCI. & TECH. 1, (2018).

⁵⁴ *Telstra Corporation Ltd v Phone Directories Company Pty Ltd*, (2010) 194 FCR 142.

the final point of materialization.”⁵⁵ This line of reasoning can be applied to AI works. While a human’s intervention cannot be pinpointed in the final point of materialization of a work created by AI, human intervention is easily identifiable earlier in the production continuum. For example, humans are behind the code that trains AI to make decisions and use the AI system. While no one holds the “proverbial pen” to do the actual writing,⁵⁶ there are humans that can be identified as contributing to the works of AI in earlier stages of the production continuum and could be held ‘responsible for the arrangements further up the chain.’⁵⁷

Therefore, it could be argued that human beings, who in a certain way, contribute to the production of AI-generated works, need to be allowed to promote such a contribution. If human beings are in no way compensated for such an endeavor, if they do not obtain any benefits from creating AI systems or triggering them to create works, they will not make their indispensable contributions, and the world community will end up with less (if any) creations created by AI.

At the same time, it is questionable whether copyright protection is, in all cases, indispensable to promote the production of works for works generated by AI. Firstly, concerning human participation in AI development, developers of AI-based software have already been incentivised by copyright legislation. It is questionable whether an additional level of protection awarded for software developers would lead to additional incentives and increased outputs.⁵⁸ Therefore, according to utilitarian theory, vesting rights for AI-generated works in software developers may be unjustified. There is no evidence that the second layer of copyright protection will contribute to the development of more AI systems and, as a result, more works. However, as shown in a subsequent section, the natural rights theory could justify additional copyright protection for AI works.⁵⁹

⁵⁵ Jani McCutcheon, *The Vanishing Author in Computer-Generated Works: A Critical Analysis of Recent Australian Case Law*, 36 MELBOURNE UNIVERSITY LAW REVIEW 917, 942, (2013).

⁵⁶ Annemarie Bridy, *Coding Creativity: Copyright and the Artificially Intelligent Author*, STANFORD TECHNOLOGY LAW REVIEW 5, 21, (2012).

⁵⁷ Ana Ramalho, *Will Robots Rule The (Artistic) World? A Proposed Model for The Legal Status Of Creations By Artificial Intelligence Systems*, 21(1) JOURNAL OF INTERNET LAW 12, 13, (2017).

⁵⁸ Hristov, n 34.

⁵⁹ See below Natural Rights Theory.

One more concern is whether people who cause AI systems to build works, i.e., users of AI systems, must always be encouraged to do so. The answer will probably depend on the degree and form of effort that has been made. If the person simply switches to the AI scheme or makes a sheer effort or not of an intellectual nature, it might not be necessary to merit copyright protection. Also, minor operations, such as the AI system's activation, are indispensable for the AI system's start-up, but it would be disproportionate and unnecessary for users to be given exclusive rights over the produced works. On the other hand, if users are engaged in a sufficiently significant intellectual effort that contributes to the development of a work, that commitment could be worth promoting and, thus, copyright protection may serve as a mechanism to promote such efforts on the part of users.

This reasoning is based on the utilitarian approach to copyright: only when no exclusive control leads to a lack of incentives for making an effort and creating works, leading to fewer artistic goods that enter society, the exclusive right to work should be given.⁶⁰ Except where required to encourage innovation but not in such an excess to preclude fair access by the public to works, exclusive rights must also be given.⁶¹ The utilitarian theory could explain the protection of works created by AI only if there is a sufficiently substantial human contribution to those works' production. In other words, there is no point in encouraging users to contribute little when they need minimal effort and are likely to be made in any event. According to utilitarian philosophy, only efforts that humans can probably do without enough compensation are worth rewarding.

B. Natural Rights Theory

Natural rights theory provides another rationale for justifying copyright in works created by AI.⁶² Simply stated, the natural rights theory refers to the notion of basic rights that cannot be denied. Philosopher, John Locke, recognises property as a fundamental natural right because "people are entitled to own both what they

⁶⁰ Miranda Forsyth, *The Digital Agenda Anti-Circumvention Provisions: A Threat to Fair Use in Cyberspace*, 12 AUSTRALIAN INTELLECTUAL PROPERTY JOURNAL 82, 84, (2001).

⁶¹ *Id.*

⁶² Owen Morgan, *Graffiti – Ownership and Other Rights*, 12 MEDIA AND ARTS LAW REVIEW 167, 179, (2007).

produce employing their own efforts and whatever they have laboured on.”⁶³ This theory’s contextual development is essential to consider, as it evolved when intellectual property laws were not implemented and, therefore, only refers to a tangible property if strictly applied. Despite the intangibility of intellectual property, successive scholars have consistently applied natural rights theory to intellectual property. Subsequently, intellectual property rights, such as copyright, have been considered by some as equal to property rights in all types of assets.⁶⁴ Therefore, an author is entitled to copyright protection as a natural right because it protects the “fruits of his labour.”⁶⁵

Will the principle of natural rights justify granting copyright over AI-created works? The situation is more complicated than it may seem at first glance, as in the case of incentive theory. First, natural rights principles do not justify granting the AI system copyright because only human beings, not machines, have natural rights. We should also question whether, as ‘fruits of their labour,’ people who contribute to works produced by ai may assert property rights over those works.

A metaphor can help to clarify the situation’s ambiguity. When a tree has lemons grown, the farmer, while not growing the lemon, earns property rights in the lemon due to his labor. The tree carried out the process of growing a lemon directly, but no one can refuse the farmer the “fruits of his labor.”⁶⁶ Similarly, one might argue that the AI performs explicitly producing the work in material form (‘lemon’) rather than the human one. However, since the human-produced the AI system in the first place and/or activated it to produce works (compared to planting and watering the lemon tree), the human should have a natural right to the work created by AI.

However, is the labor performed by human beings always involved sufficient and not too remote from the final output for them to claim ownership of the works created by AI? In some instances, humans developing the AI may consider what

⁶³ JANICE GRAY ET AL, PROPERTY LAW IN NEW SOUTH WALES (LexisNexis Butterworths, 4th ed, 2018) 14.

⁶⁴ Adam Mossoff, *Why Intellectual Property Rights? A Lockean Justification*, LAW & LIBERTY (May 4, 2015) <https://www.lawliberty.org/liberty-forum/why-intellectual-property-rights-a-lockean-justification/>.

⁶⁵ Joseph Savirimuthu, *John Locke, Natural Rights and Intellectual Property: The Legacy of an Idea*, 8(11) JIPLP 892, 892, (2013).

⁶⁶ *Id.*

kind of performance the AI system would generate. For example, in the *Meandering River*⁶⁷ case, individuals who programmed an AI system to capture satellite images and bring them together in a real-time implementation may have had a general view of the type of work that AI would create as an output. In such a case, where coders had a general view of output, it would be fair to attribute copyright in the artwork created by AI to persons who developed the AI system in the first place.

Likewise, the courts in certain jurisdictions have recognised that the graphical user interface (GUI) is separately protected from the underlying software.⁶⁸ The main reason for granting such protection is that software developers can view how the GUI looks when writing code. Therefore, it is fair to grant them exclusive rights over the GUI and prevent others from creating identical or very similar GUIs by merely writing another source code. Similarly, in the case of computer games, software developers not only own rights to the underlying software but also to the result of the software, i.e., the audiovisual expression of the game; they may be protected as audiovisual works or other types of work (musical, graphical, etc.).⁶⁹ In these cases, software developers acquire rights to both the GUIs and the audiovisual expression of video games since they have envisaged them as the final output that the software will produce; therefore, they count as ‘fruits of their labour.’ A similar rationale would apply to AI works as long as AI developers have a specific vision of the works that AI will produce.

The AI system can be designed to accept various input data in other scenarios, so that system developers cannot even imagine what kind of outputs this can lead to. Building on the example of *Portrait of Edmund Belamy*⁷⁰, a group of researchers fed their data set consisting of over 15,000 portraits dating from the 14th to 20th centuries into an AI program code, which they downloaded online to shape the rough idea of the painting to be produced by the AI. Therefore, it is likely possible

⁶⁷ *Work – Meandering River*, ONFORMATIVE, <https://onformative.com/work/meandering-river>.

⁶⁸ See EU case law: *Bezpečnostní Softwarová Asociace - Svaz Softwarové Ochrany v Ministerstvo Kultury* (C-393/09) [2011] E.C.D.R. 3 (22 December 2010).

⁶⁹ ANDY RAMOS ET AL, *THE LEGAL STATUS OF VIDEO GAMES: COMPARATIVE ANALYSIS IN NATIONAL APPROACHES* (WIPO Report, 2013).

⁷⁰ Amanda Turnbull, *The price of AI art: Has the bubble burst?*, *THE CONVERSATION* (Jan. 7, 2020), <https://theconversation.com/the-price-of-ai-art-has-the-bubble-burst-128698>, (*hereinafter* Amanda).

that the person who created the AI program code, which the French researchers downloaded online, might not have envisaged what kind of data could be the input nor the output it would have produced.⁷¹

In such a case, when output is very remote from the work of AI developers, and they do not have a vision of the kind of work that AI is going to produce, it becomes unwise to give them exclusive control over such works. In comparison, MS Word developers cannot claim ownership of all texts written when using this application, even if they were very innovative and thoughtful when writing the software. Similarly, while developers of AI have certainly done considerable intellectual work to create an AI system, in *Portrait of Edmund Belamy's*⁷² case, it is unlikely that developers have planned this type of output. It can therefore be argued that the results are too distant from the work of developers and cannot claim copyright over them.

As far as the AI user is concerned, the question is whether the 'labor' they contribute is sufficient to give them ownership of 'fruits.' In some cases, users may have a creative intellectual contribution to the type of input data that will be fed into the AI system. If the contribution is sufficiently significant and not merely mechanical, it may be sufficient to justify the outcome's ownership. Following the same example of *Portrait of Edmund Belamy*,⁷³ it was the idea of the user, the French artist, to feed the AI algorithm with a specific data set. Such a creative idea and effort to implement it is likely sufficient to give rise to copyright protection over the output that the AI system subsequently generated.

On the other hand, if the user contributes little or no intellectual effort to the generation of the work, it is questionable whether that contribution would be sufficient to allow the user to own the final result generated by AI. For example, feeding a single word to the AI system, which then generates a poem, is likely insufficient to protect the user's copyright who contributed that single word.⁷⁴

⁷¹ *Is Artificial Intelligence Set to Become Art's Next Medium?* CHRISTIE'S (Dec. 12, 2018), <https://www.christies.com/features/A-collaboration-between-two-artists-one-human-one-a-machine-93321.aspx>.

⁷² Amanda, *supra* note 71.

⁷³ *Id.*

⁷⁴ Es Devlin, *Poem Portraits*, ARTS EXPERIMENTS, https://artsexperiments.withgoogle.com/poemportraits?_ga=2.33161846.992826029.1556786810799000725.1554196893.

Also, returning to the lemon example, if the neighbor waters the lemon plant several times, this effort is insufficient to claim ownership of the lemon fruit; the lemon tree owner still owns the lemon tree. This is in line with the arguments put forward in the utilitarian theory that it is worthwhile to encourage users to grant copyright protection only if their contributions are sufficiently significant.

As a result, according to the theory of natural rights, the answer as to whether copyright protection should be granted to AI-created works depends on the nature and significance of the work performed by human beings. If the labour force is not too distant from the final output and demonstrates sufficient intellectual effort, it can be reasonable, under the theory of natural rights, to allow those human beings with property rights over the final product produced by AI.

In particular, it appears from the foregoing that, in the case of particular works created by AI, granting exclusive rights over works may be justified, e.g., where the individual contribution is significant and where the contribution is not too distant from the final output. However, in other cases, where such criteria are not met, works may not deserve copyright protection at all. For example, if the works created were not envisaged by the developers and did not require any significant input from the user (i.e., were created virtually independently by the AI system), there seems to be no reason to grant exclusive rights to any of the people involved in the process. If their contribution was insignificant, there is no incentive to provide protection. If the AI system's output is too remote from human individuals' input, the theory of natural rights would not require the granting of property rights over that output. This type of work would then fall into the public domain and could be used.⁷⁵

VIII. COPYRIGHT- AUTHORSHIP/OWNERSHIP CONUNDRUM: A POSSIBLE SOLUTION

For over 200 years, a significantly debated subject has been the authorship of creative works. Until this time, it was not so difficult to grant authorship, since most modern inventions like cameras and computers that helped create copyright work were merely instruments, and people have been the real brains behind the production. However, due to the exponential growth of AI and modern machine

⁷⁵ Kalin Hristov, *Artificial Intelligence and the Copyright Dilemma*, 57 IDEAS: THE JOURNAL OF THE FRANKLIN PIERCE CENTER FOR INTELLECTUAL PROPERTY 431, 431, (2017).

learning strategies, an AI system without human intervention is producing more and more work.

For a work to be copyrightable, it has to conform with the “modicum of creativity,” a requirement formed in *Modak*⁷⁶ case; where the court, asserted that there should be a minimum degree of creativeness. Another critical element is the presence of human talent since imagination is perceived to be a human activity. In the Ninth Circuit Decision, where a monkey took its selfie⁷⁷, the court stated that the monkey could not be granted copyright for the photographs it took, the reason given was, “any claim can be refused for registration by the US Copyright office if it determines that a human being did not create the work.” Court added that “it will exclude works produced by machine or mere mechanical process that operates randomly or automatically without any creative input or intervention from a human author.” Hence, the decision elicited the question as to who owns the copyright of art created by an AI.

Although humans program the algorithms, it is from the AI-powered by that algorithm the decision making, the imaginative work originates. Considering the recent expressions made by AI, it is infallible that there is a work of creativity in them. For example, an AI at Google created unheard sounds by merging sounds of two different instruments and opening up a whole new toolbox for musicians to explore⁷⁸; this is just one model in a series of creations that AIs have made. In 2016, a novelette authored by a Japanese computer machine entered into the second round of a national literary competition⁷⁹.

Section 2(d) of The Copyright Act, 1957, defines ‘author’, the main issue is in the definition “the person who causes the work to be created.” To decide who “causes” work to be done, the proximity of a natural or lawful person to the “expression or the work” in question to be looked as closer a person is, the more he adds to it, and the more likely he or she is to call himself a person “who causes

⁷⁶ Eastern Book Company v. D. B. Modak (2008) 1 SCC 1.

⁷⁷ Naruto, *supra* note 3.

⁷⁸ Cade Metz, *Google’s AI Invents Sounds Humans Have Never Heard Before*, WIRED (May 15, 2017), <https://www.wired.com/2017/05/google-uses-ai-create-1000s-new-musical-instruments/>.

⁷⁹ Natalie Shoemaker, *Japanese AI Writes a Novel, Nearly Wins Literary Award*, BIG THINK (Mar. 24, 2016), <https://bigthink.com/natalie-shoemaker/a-japanese-ai-wrote-a-novel-almost-wins-literary-award>.

the work to be created.” Therefore, under the present arrangement of the Copyright Act, it cannot be feasible for the creation of works in which the “original author” is not an individual or a legal entity as a matter of fact as mentioned above.

Thus, their creation will be problematic under Indian copyright laws concerning works created by AI. In the beginning, the AI system would eventually involve human intervention, but the way of deciding who the maker/owner is when AI is under the spotlight while doing a job is still in a hazy place. At present, the European Commission is working on a directive⁸⁰ that aims at defining ‘legal personality’ with primary concern for AI. Copyright laws can either revoke copyright rights for works where there is little or no human intervention, or they can grant authorship to the software designer.⁸¹ This could proceed to another dilemma in regard to the application designer or the application user. It is like wondering who is the owner of the copyright, pen, or writer.

Things will likely become even more unforeseeable because artists use AI’s more often now than ever, and the AI system show signs of change when they replicate imagination, making it harder to see when a human or machine creates a work of art. We have not yet begun the debate as to what happens when personhood is extended to AI; it is a whole different matter. Copyright refusal culminated in the publishing of works produced by AI in the public domain, and the laws must be readjusted or newly created immediately to appropriate work produced independently by AI, as granting proprietary control to works would serve as a significant motivation for AI creators.

While glancing through the question of authorship, another question arises that are we even looking at the right question, and if not, then what is the right question? It is the researcher’s view that determining the copyrightability of the works produced by AI is the wrong place to start with to contemplate that can an AI can be considered an author of a work? We must concentrate on writing rather than on writers and ask whether an AI can produce a work fit enough to be granted copyright instead of asking whether it can be an author. Therefore, a reinterpretation of the terms “employer” and “employee” could be made for

⁸⁰ *Supra* note 7.

⁸¹ Andres Guadamuz, *The Monkey Selfie: Copyright Lessons for Originality In Photographs And Internet Jurisdiction*, 5(1) INTERNET POLICY REVIEW (2016).

“Work Made for Hire Doctrine” to classify AI as an employee instead of redefining the term “authorship” to include non-humans.

A. Work Made for Hire Doctrine

Since AI creators and corporations have no active role in the production of work by the AI, copyright protection cannot be granted to them under existing copyright laws. Nevertheless, the “Work Made for Hire” doctrine could provide a solution in order to achieve it. This doctrine states that, if an employee hired by the employer makes a work, then the employer would be deemed to be the author even though the employee created the work.⁸² Therefore, this doctrine could be applied to the existing AI industry.

This doctrine act as an exception to the general principles of copyright, wherein the ownership of copyright vests with the original creator of the work, thereby providing an ideal pretext to regulate the works of AI systems. Secondly, the Indian Copyright Act, 1957, provides for the employer to be the author⁸³ as it not only provides incentive and commercial control over the work, but it also ascertains liability for the actions of creators, *i.e.*, employees.

Section 17 provides that the original owner of the copyright would always be the author. However, there are certain exceptions to this provision, and section 17(a)⁸⁴, 17(b)⁸⁵ elaborates about certain situations wherein the first owner of the copyright is being assigned to the employer under whose employment the employees have created that work. Section 17(c)⁸⁶ is a residuary provision that incorporates all other types of works that are not explicitly covered under clause (a)⁸⁷ or (b)⁸⁸.

Someone else is hired to work by the employer to decide the job’s time to be completed and the methods of getting the work to an end, and how the work is performed, so the contract is a “contract of service”. On the contrary, one person

⁸² US Copyright Office, *Circular 9: Works Made for Hire (Sept. 2012)*, (Apr. 20, 2020), <https://www.copyright.gov/circs/circ09.pdf>.

⁸³ *The Copyright Act, No.14 of 1957 INDIA CODE (1957)*, § 17.

⁸⁴ *The Copyright Act, No.14 of 1957 INDIA CODE (1957)*, § 17(a).

⁸⁵ *The Copyright Act, No.14 of 1957 INDIA CODE (1957)*, § 17(b).

⁸⁶ *The Copyright Act, No.14 of 1957 INDIA CODE (1957)*, § 17.

⁸⁷ *Id.*

⁸⁸ *Id.*

hires a particular person to do certain work but leaves the other party to determine how the work is to be accomplished and what action is taken to accomplish the desired result, the contract is “contract for service”. In *Beloff v. Pressdram*⁸⁹, the court said that whether work was done during employment is a question of whether the employee created the work as a component of the employer’s business or whether the employee, in his individual capacity, did it. In the first instance, it is a “contract of service”, and for the second, it is a “contract for service.”⁹⁰ Therefore, in situations when the AI system is working autonomously, the work done by it may be treated as a contract for service.

When applying the WMFH model on AI systems, several issues remain unanswered. “Are the works copyrightable to begin with”? In addition, can the employer possess copyright via WMFH doctrine if they are not copyrighted? What if an AI device goes beyond its “employment” competence?⁹¹ An AI developed work must be viewed differently from work performed by an employee when evaluating the work made for hire doctrine. There is no human author behind an AI, while employees construct work according to their prior agreement with the employer in a conventional employer-employee relationship, and employees create such involving the employer’s active participation.⁹² The justification for granting employers copyright is to explain the high cost of training qualified employees and building intellectual property rights work.

Unless there is new legislation or amendments to existing regulations, it is impossible to implement this doctrine in the current copyright regime. Work created independently by an AI is not subject to the “WMFH” because the correlation between the developer and the AI system is not an agency relationship

⁸⁹ *Beloff v. Pressdram* (1973) 1 All E.R. 241 (Ch. D.)

⁹⁰ Sanjeev Malhotra, *Right of ownership under Indian copyright law*, LEGAL SERVICES INDIA (FEB. 13, 2020), http://www.legalserviceindia.com/articles/copy_owner.htm

⁹¹ Kartikeya Prasad, *Looking For The Authors Behind Works Created Autonomously By AI Machines*, MONDAQ (Mar. 21, 2019), <https://www.mondaq.com/india/copyright/792184/looking-for-the-authors-behind-works-created-autonomously-by-ai-machines>.

⁹² E Jordan, *Employment Relations Research Series 123 Employment Regulation Part A: Employer Perceptions and the Impact of Employment Regulation Executive Summary*, <http://www.bis.gov.uk/assets/biscore/employment-matters/docs/f/11-1308-flexible-effective-fair-labour> (Mar. 30, 2020).

in the employer employee's essence. Section 2(d)(vi)⁹³ states that "the author is someone who did computer-generated works." If the courts wish to view it liberally or an amendment to the existing Act is done extending the concept and definition of an author, in that case, creators of the AI systems may be given ownership of the copyright in the works created by the AI machines autonomously.

IX. CONCLUSION

Presently there is a vast void between the existing copyright regime and the emerging AI technologies, and very much like in the era of the internet's emergence where the laws were playing catch-up, presently it is almost the same scenario with the AI. This approach could potentially lead to adverse outcomes, as the pace of development and AI implementation is very rapid. Therefore, lack of action in this domain could leave various creative industries vulnerable when it comes to creating copyright-protected works by the AI system and could also jeopardize the protection of such created works of AI by not offering them sufficient incentive to continue the development of these platforms.

As mentioned above, any future legislation must balance developers' interests and protect authors who do not prefer to use machine assistance to create their works. Since the development of these new legislative schemes seems to be moving at a snail's pace, however, the future of law in this regard looks uncertain, but the endeavors of the EU will undoubtedly lead the way in the future.

Advances in computation will mean that we cannot distinguish between human and machine, generated works soon. Therefore, it is our prerogative to decide what kind of protection we should provide to work created by AI with minimal or no human interference. The most reasonable arrangement is by all accounts to concede copyright to the individual who made the AI produced work conceivable, with the Work Made for Hire doctrine looking the most effective. The advantages of such an approach would ensure that AI systems developers would continue to invest in the development of technology, confident that their investment would yield a return to them.

⁹³ The Copyright Act, No.14 of 1957 INDIA CODE (1957), § 2(d).