COPYRIGHT PROTECTION FOR ARTIFICIAL INTELLIGENCE GENERATED WORK

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❖ **ABSTRACT**

Law in theory and practice, must evolve with changing times. Legal principles must fill lacunae that may arise due to this change and meaningfully adapt. In the present technological age, Artificial Intelligence software, machines and programs are capable of producing creative, independent, and intelligent artistic and literary works. Such works may be created in a spectrum ranging from artificially generated work created with human assistance to works created without any aid from natural persons whatsoever. As a result, computer algorithms, code and machine learning are slowly becoming an emerging source of creativity. The protection of copyrights is traditionally given to the authors of the relevant work. However, the present copyright regime is not sufficient to regulate creative works generated by Artificially intelligent software.

At length, for better understanding, the provoking questions that the paper addresses are two-fold ; firstly, can Artificially Intelligent generated works be deemed to be original ? and secondly, if so, then who is the author or copyright owner of such works?

❖ **Keywords :** Introduction, Artificial Intelligence, AI generated work, Originality of Creative work, Authorship & Ownership Rights, Solutions, Conclusion.

1. INTRODUCTION

400 years after the death of the famous Dutch painter, Rembrandt Harmenszoon Van Rjin, an AI by the name of The Next Rembrandt came into being[3]. The initial project aimed at digitizing the painter's painting method. However, soon, the program learned the style of the painter and was able to create new, unique, independent, and original works of art. Considering the new painting created by Artificial Intelligence, it must be analysed whether such works are capable of being protected by the current regime of copyright laws.

Artificial Intelligence (AI) has already become a significant part of everyday life. A discussion paper released by the Mckinsey Global Institute suggests that AI will soon generate values of 3.5 to 5.8 trillion across multiple sectors[4]. GP2, an AI software created by Open AI which was unreleased because it was reportedly too dangerous to do so, can produce news stories and fiction all by itself[5]. In the music industry, AI software has played a significant role in composition of original music[6]. The present scenario is reminiscent of science-fiction scenes in movies like *Ex Machina* where a robot gives a human an original drawing.

Artificial intelligence[7] programs and software are being developed on an exponential pace. Today, AI software is not solely responsible for derivative pieces of work. AI through its capacity to learn, apply and create is responsible for the creation of original work, independent of its original code. Such a situation concerning Artificial Intelligence Generated Work (AIGW), brings along with it new legal and doctrinal challenges. This paper seeks to analyse whether search works are copyrightable as original work, who would gain ownership of the rights, and who could benefit from the imposition of moral rights.

2. LITERATURE REVIEW

Some Academics have commented on the need to protect works generated by AI. **Guadamuz**[8], in his paper, believes that a refusal to provide protection to AIGW may have a serious commercial effect, particularly in relation to databases. Moreover, progressive scholars like **Ryan Abott**[9] and **Davies**[10] believe that AI should

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[3] See: The Next Rembrandt, Youtube (April 5, 2016), https://www.youtube.com/watch?v=IuygOYZ1Ngo&ab_channel=TheNextRembrandt.

[4] Michael Chui, James Manyika et al., "Notes from the AI Frontier: Applications and Value of Deep Learning" [2018] McKinsey Global Institute.

[5] Steven Poole, "The Rise of Robot Authors: Is the Writing on the Wall for Human Novelists?", Artificial Intelligence can now Write Fiction and Journalism. But does it Measure up to George Orwell – and can it Report on Brexit? [2019] The Guardian accessed from https://www.theguardian.com/books/2019/mar/25/the-rise-of-robot-authors-is-the-writing-on-the-wall-for-human-novelists

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[7] Generally used to connote machines which are capable of exhibiting intelligent conduct, leading to results independent of the original code. Such machines may simulate human like intelligence and creation. See: Joel Shurkin, "Expert Systems: The Practical Face of Artificial Intelligence", [1983] 86 Tech. Rev.72 ; J. Horst, "A Native Intelligence Metric for Artificial Systems" [2002], The Nat'l Inst. Standards and Tech., accessed at , https://tsapps.nist.gov/publication/get_pdf.cfm?pub_id=824478.

[8] A. Guadamuz "AI and copyright", [2017] WIPO Magazine, accessed at https://www.wipo.int/wipo_magazine/en/2017/05/article_0003.html.

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[10] Davies, C.R. "An Evolutionary Step in Intellectual Property Rights: Artificial Intelligence and Intellectual Property", [2011] Computer Law and Security Review 27(6): 601-619.

be considered legal authors within the present legal scheme. The challenges with this approach have been detailed by this author in succeeding sections.

On the other hand, valid arguments have been made on the consequences of granting IPR protection to AIGW. **Michaux**[11] has argued that if such protection were granted, it may lead to a significant increase in the number of protected works and concentration of rights in the hands of a handful of companies, leading to access and incentive concerns. This could also be linked to **Schonberger**[12] who predicts an erosion of incentive for human creators if AIGW is treated in the same manner.

A balanced approach proposed by **Birdy**[13] suggests that copyrights may be passed on from the AI to its human programmer. Similarly, **Hristov**[14] suggests this to be seen in terms of an employer, employee relationship.

3. CAN AIGW BE ORIGINAL AND CREATIVE?

The heart of the copyright regime depends on originality, which is covered by **section 13** of the Indian Copyright Act[15]. This is largely understood as something that is new, and in its primary form[16]. In the case of **Feist Publications Inc. v. Rural Telephone Service Co. Inc.**, it may also be said that the *sine qua non* of copyright is originality[17]. The question then becomes whether an AIGW can be considered to be original.

The standard of 'modicum of creativity' was established in *Eastern Book Company*[18] where the importance of skill and judgment were substantiated. Given the prevalent test of skill and judgment, it would be worthwhile to analyse whether the tests would be satisfied in relation to a hypothetical AIGW. If we take, for example, an AI that authors books. It would be capable of developing unique plotlines, depending on the history of what consumers prefer and what is commercially viable. This hypothetical software has the ability to learn what plotlines are better suited to the characteristics of its protagonist and how stories are structured. It also does not require any significant human input, apart from the genre of the story and its theme. Once this is inputted, the AI surveys fictional work on similar genres and generates characters and a unique story in consonance with the inputs provided.

It is clear, at the outset, that the developer of the AI would have used their skill and judgment to create the original program. It must be analysed whether the AI machine itself had the ability to create its own work. It must be noted here that the AI did not just mechanically take different parts of different novels and piece it together but create a completely new novel using its own words and phrases. If, through a database of stories on the genre and theme, the AI creates a new, unique and meaningful story, it could be said that the AI was

[11] Michaux, B., "Singularité technologique, singularité humaine et droit d'auteur", [2018] in Laws, Norms and Freedoms in Cyberspace = Droits, Norms et Libertés Dans Le Cybermonde, Larcier.

[12] Schönberger, D., "Deep Copyright: Up — And Downstream Questions Related to Artificial Intelligence (AI) and Machine Learning (ML)",[2018] Schulthess Editions Romandes, available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3098315.

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[14] Hristov, K. "Artificial Intelligence and the Copyright Dilemma" [2017] IDEA 57, 431.

[15] Copyright Act, 1957.

[16] Krishna Hariani and Anirudh Hariani, "Analysing Originality in Copyright Law: Transcending Jurisdictional Disparity" [2011] IDEA 51, 3

[17] *Feist Publications Inc.* v. *Rural Telephone Service Co. Inc.*, 1991 SCC OnLine US SC 46 : 113 L Ed 2d 358 : 499 US 340, 345 (1991).

[18] *Eastern Book Co.* v. *D.B. Modak*, (2008) 1 SCC 1.

applying some skill in the development of the novel. Moreover, having the ability to choose plotlines, series of events and phrases over others could indicate the application of judgment. Thus, *prima facie,* the tests may be said to be satisfied.

However, an argument against this analysis would be the Chinese Room Argument which states that since the AI is unable to truly understand the meaning of its output, it cannot assign values or judgment to the material that goes into the end product[19]. Further, the AI may not be able to evaluate why one novel is better or more gripping than the other. Thus, while it may be able to put a string of words together, it may not be able to understand what those words mean. Another similar argument is that all AIGW is derivative of its original code[20]. However, this argument falls short. The very definition of AI suggests that AI are machines that have the ability to do tasks, which if done by a human, can be said to require intelligence[21]. A work is said to be derivative if, it is wholly or significantly based upon someone else's work[22]. As a result, if the AIGW is fundamentally different from the original code, due to the application of machine intelligence, it cannot be said to be derivative of its original code.

In order to assimilate diverging views, some scholars have advocated for the use of the ***Turing test*** as per which the court can only accept AIGW, if objectively, the AIGW contains as much aesthetic value and the same quality and standard, as if it was produced by a human[23]. This is based on Alan Turing's proposal for a machine to have passed that test, if a human cannot determine whether a work was authored by a human or a machine.

Over the years and with the fast-paced development of AI, original and unique AIGW has been developed. This, for example, has greatly impacted the music industry. Today, various programs like the **Magenta NSynth Super** [an open-source experimental musical instrument], **Amper Music** [its an AI music composition company that develops tools for content creators of all kinds], and **Jukedeck** all create music using AI which is completely original and without any user input[24]. Thus, over the next few years, if not already, AIGW is capable of being original, creative and tangible, thereby fulfilling the cardinal tests to copyrightability. The question then becomes, who should the right go to.

4. AUTHORSHIP AND OWNERSHIP OF THE RIGHTS

Under copyright regimes, around the world, it is the author of the product that receives the right. This is also true in India[25]. As per **section 2(d)** of the Copyright Act[26], the term author could have different meanings in accordance with whether the end result is *inter alia* a literary work, musical work, artistic work or a

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[19] Larry Hauser, "Chinese Room Argument", Internet Encyclopedia of Philosophy, accessed at http://www.iep.utm.edu/chineser/.
[20] Darin Glasser, "Copyrights in Computer-Generated Works: Whom, if Anyone, Do we Reward?" [2001] 1 Duke L. and Tech. Rev.24.
[21] Matthew U. Scherer, "Regulating Artificial Intelligence Systems: Risks, Challenges, Competencies, and Strategies" [2016], 29 Harv. J.L. and Tech. 353, 361.
[22] Timothy L. Butler, "Can a Computer be an Author - Copyright Aspects of Artificial Intelligence" [1982] 4 Comm and Ent LJ 707.
[23] Stuart Russell and Peter Norvig, *Artificial Intelligence: A Modern Approach* [2010] 2 (Michael Hirsch et al. Eds., 3rd edn.
[24] Dani Deahl, How AI-Generated Music is Changing the Way Hits are Made, (The Verge 15 feb 2022) accessed at https://www.theverge.com/2022/2/15/17777008/artificial-intelligence-taryn-southern-amper-music.
[25] Section 17 of the Copyright Act states that the author is the first owner of the product.
[26] Copyright Act, 1957.

photograph. This becomes complicated in cases of AIGW when the author is not a natural person. **Tech Plus Media (P) Ltd. v. Jyoti Janda,** Courts in India and elsewhere have observed that juristic persons are incapable of authoring any work that is copyrighted[27].

Additionally, the Practice Manual of 2018 which was issued by the Copyright Office states that only the details of a natural person must be given as the author of the work. In cases where the work is created by the AI with Human interference, it may be easier to state that the rights belong to the individual in question. Courts have a tendency to provide protection by linking it to the nearest natural person available. A larger dilemma arises if AIGW is created without any human input. In such a situation, once the AI software is created by the original programmer, the machine continues learning independent of the code, in order to create the final product. The current legal regime does not give legal identity to AI.

However, there is some evidence of a trend towards legal recognition of machines. An AI robot, Sophia, was given citizenship[28]. Another AI, Shibuya was granted residency in Tokyo, Japan. SAM, an AI robot has its own bank account[29]. With respect to intellectual property rights and thereby copyright, the AI machine is incapable of being the author of the AIGW.

While some arguments have been made towards considering AI to be a legal entity[30] and thereby giving them the ownership to copyrights, such arguments are simplistic and devoid of practical application. Along with protection comes the right to protect the work. An AI would be unable to do so and can only do so through its closest human link. Doing away with the requirement for human authorship, also implies that AI is capable of formulating and expressing ideas. Expression in copyright is not seen as an isolated phenomenon but related to ideas. If mere expressions are held to be copyrightable, the ambit of authorship would extend to any creature that may 'express' in some way. For example, a dog stepping on an ink pad and then onto paper, by chance could be termed to be an expression and thereby copyrightable. As a result, inadvertent expressions may be adopted to meet authorship requirements[31].

The aim of copyright protection is to incentivise authors to create work with the certainty that the work cannot be stolen by others.

However, since the AI machine needs no incentive to continue working, the very motivation behind intellectual property rights is defeated. Additionally, financial motivations or incentives do not play a role in the AI's ability to create. Unless human society comes to a point of extreme anthropomorphism where AI is self-aware and starts responding to financial incentives, there seems to be no practical reason to grant rights of exclusive or joint ownership to the machine.

Finally, even if the AI is given natural/legal status, questions on whether humans will be able to 'own' the AI or merely remain as its trusties would also arise. Thus, all things considered, giving AI

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[27] *Tech Plus Media (P) Ltd*. v. *Jyoti Janda*, 2014 SCC OnLine Del 1819 : (2014) 60 PTC 121; *Camlin (P) Ltd.* v. *National Pencil Industries*, 1985 SCC OnLine Del 378 : AIR 1986 Del 444.

[28] Zara Stone, "Everything You Need to Know About Sophia, the World's First Robot Citizen", (Forbes, 7 November 2017) https://www.forbes.com/sites/zarastone/2017/11/07/everything-you-need-to-know-about-sophia-the-worlds-first-robot-citizen/.

[29] Renske Mehra, 'Robot SAM is now Working for Wall Street', (*Innovation Origins* 12 February 2018) https://innovationorigins.com/robot-sam-now-working-wall-street/.

[30] Ayush Pokhriyal and Vasu Gupta, "Artifical Intelligence Generated Works under Copyright Law" [2020], NLUJ Law Review 6(2) 93

[31] See *Alfred Bell & Co. Ltd.* v. *Catalda Fine Arts Inc.*, 191 F 2d 99 (2nd Cir 1951).

machines/software/programs the right of authorship or the right to own their copyright would be counterproductive.

5. BALANCING PERSPECTIVES: MOVING TOWARDS A SOLUTION

Since giving complete ownership to AI is problematic, other possible solutions must be looked at. One such solution could be disallowing copyrights for AIGW altogether. Such an approach would put all AIGW in the public domain. In *Naruto v Slater*[32], where a monkey had mistakenly taken a selfie, the picture was put in the public domain. Such an approach in relation to AIGW, serves no real purpose. AIGW which satisfies the tests of originality and creativity must be given due protection. AIGW are the result of technological development and must be deemed to be within the flexible scope of copyright laws[33]. Moreover, taking away all copyright protection may disincentivise the programmers of such AI to continue working on the development on similar technologies. It may also lead to market foreclosure for any new entrants. There are more benefits of giving some modicum of protection vis a vis removing all applicability of copyright to the AIGW.

Another approach suggests the utilisation of the employee-employer route[34], by establishing that the AI is and will always be under the employment of the employer. As a result, the term of copyright must be linked to the life of the employer, in a manner similar to natural person generated works. In case the employer is a corporation, and not an individual, perhaps an agreement can be reached on a maximum number of years that the work is copyrightable.

The drawback here is that such a situation envisions employers and employees as both human participants instead of a man-machine arrangement. Usually, an employer can obtain the rights to works authored by an employee within the course of employment[35]. This definition will not apply since there can never be any real contractual relationship between the 'employer' and the Machine. Since the Machine is not a legal person at all, any such relationships would be redundant.

The best possible solution to the dilemma is to state that since the machine, due to the creation of its code, is owned by an individual, any product derived out of that code, albeit original, belongs to the individual programmer along with the user, depending on the circumstances. A practical move towards joint authorship of the creator of the AI and the User of the AI should be able to meaningfully incentivise creators of the AI without dismantling the present copyright structure. The United Kingdom through its Copyright, Designs and Patents Act[36], may provide some assistance on a workable model. The act defines author as any person who makes the necessary arrangements for the creation of the work. This could apply to AIGW in the same way that it applies to the authors of collaborative creations.

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[32] *Naruto* v. *David Slater*, No. 16-15469, 2018 WL 1902414 (9th Cir April 23, 2018

[33] Timothy L. Butler, "Can a Computer be an Author - Copyright Aspects of Artificial Intelligence" [1982] 4 Comm. and Ent. LJ 707.

[34] Hristov, K. "Artificial Intelligence and the Copyright Dilemma" [2017] IDEA 57, 431

[35] S. 17 Copyright Act, 1957.

[36] Copyright, Designs and Patents Act, 1988.

Indian copyright law, as per **section 2(d)**[37] states that for computer generated work, the person who causes the work to be created would be the author. While this is a step in the right direction, the effort of not just the programmer but the user of the AI must be given due credit. Where meaningful inputs are generated by the user leading to the end product, they may have some rights over the product. This is also true if the user uses the material given by the AI and edits, polishes or substantially modifies it into a commercially viable product[38]. Such a system may particularly be applicable where the AI is not exceptionally mature. However, it is also acknowledged that more sophisticated AI's would require lesser human intervention, thereby making it difficult to defend their authorship. Until then, through the concept of a 'fictional author' the owner of AIGW must be the user or the programmer, individually or in part. In general, quality and quantity of the contribution of each author is determined by facts.

Thus, depending on the facts of the case and who had more inputs, the courts may decide whether the copyright of AIGW is given solely to the programmer or whether some part of it is given to the user as well. Such an approach would maintain and even create economic incentives for the creation of such AI software along with potential users. While it is true that due to the emphasis on facts, some legal uncertainty would remain, this must be polished out with time and through effective implementation. In general, an argument against some framework cannot be no framework.

6. CONCLUSION

AIGW is evidence of the ongoing technological age. The pace at which AI is being created has resulted in a lacunae in the current copyright regime. As a result of traditional ideas of authorship and originality, it is unclear whether AIGW can be copyrightable and if so, who owns and can utilise those rights. This paper has first looked at the tests under originality to establish that there may be instances where an AIGW is completely original and independent of its original code. By analysing the current regime on authorship, this paper has concluded that **firstly,** an AI software cannot be the author of a creative work because it is not a natural person.

Secondly, the AI software should not be made the author under a new regime or given the ownership of copyrights. This is because AI does not need any incentive to work and thus giving AI such rights would only be counterproductive.

Finally, this paper analyses possible solutions to AIGW and suggests that under a new mechanism, rights should be bestowed on the original programmer of the AI, and when the facts make it necessary, the user operating it. The field of AI and copyright is an emerging one. Globally, there is a need for states to ensure that their copyright laws conform to the emerging forms of creative works and provide protection where it is needed.

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[37] Copyright Act, 1957.

[38] Atilla Kasap, "Copyright and Creative Artificial Intelligence (AI) Systems: A Twenty-First Century Approach to Authorship of AI-Generated Works in the United States" [2019] 19 Wake Forest J Bus and Intell Prop L 335

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