Autonomous Artificial Intelligence and It's Creativity: Addressing the Question of Copyright via Legal Personality

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Introduction

Artificial Intelligence machines are autonomous, inventive, reasonable, emerging, competent, and can collect data. Just like humans, Artificial Intelligence (AI) is capable of creating works independently and can autonomously generate creative works. The term Artificial Intelligence was originally coined in 1956 by John McCarthy at a conference at the Massachusetts Institute of Technology, he defined AI as the Science and Engineer of making intelligent machines[1]. While we are attempting to understand the origin of AI, it's also vital to learn about the Alan Turing test wherein he provides the method of determining whether a machine is an AI. He proposed that a machine could be called intelligent if a human could not tell it apart from another human being in a conversation[2]. The notion of Artificial Intelligence is not novel, for the readers of science it has been persisting for a long time however it has we look around, even the simplest of human tasks are now being performed by robots/computers. In simple terms, AI can be defined as the ability of a machine or a computer to replicate a human's 'intelligent behavior'. Although

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[1] Nishith Desai & Associates, 'The Future Is Here: Artificial Intelligence and Robotics' (2018).

[2] 'Subhalakshmi - 2019 - Man and Machine: A Discussion on Artificial Intell'.

AI in itself is a broad term that comprises numerous technologies such as natural language processing, machine learning, machine reasoning, computer vision, etc….[3]

It has always been challenging to put AI in a defined container; developments in the field of AI have been such that it attracts attention nevertheless we must be cautious of not taking its scope too far. Stanford University had organized a study panel as a part of the University's 'One Hundred Year Study of Artificial Intelligence'. The Study Panel's consensus is that attempts to regulate AI, in general, would be misguided, since there is no clear definition of AI (it is not any one thing), and the risks and considerations are very different in different domains. Hence, it is problematic to lay down a defined scope of AI. One of the recognized definitions of AI is: "Artificial intelligence is that activity devoted to making machines intelligent, and intelligence is that quality that enables an entity to function appropriately and with foresight in its environment"[4]. Further, the frequent advancement in the field of AI poses another challenge in providing a precise definition for AI. However, for regulations, AI should be defined based on its practical applications.

Lately, artificial intelligence has become a burning issue of discussion. Owing to the recent glitzy stories and news featuring creative machines, machine learning algorithms & self-driving cars, policymakers, scholars, and consumers have now become aware of both the advantages and necessities for Al. The latest dissemination of AI also illustrates that humans are not the sole source of creativity anymore and like humans, computers too are capable

[3] Nishith Desai & Associates (n 1).

[4] AMITAI ETZIONI and OREN ETZIONI, 'Should Artificial Intelligence Be Regulated?' Vol. 33, University of Texas at Dallas, 32 <https://www.jstor.org/stable/44577330>.

of generating creative and artistic works whether with or without aid from humans[5]. AI systems have now ventured into the arena of creating original art, literary works, poems, music, etc. Nowadays digital means and methods have become crucial in the creation of any art form, it would be unimaginable to fashion artistic or literary works without assistance from the digital world. Soon, the artists, creators, and producers will be substituted by automated systems. But, the relevance of AI is not limited to this, there are some conspicuous uses of autonomous systems and one such example is Machine Learning (ML). Machine learning denotes the capability of a machine to automatically learn and improve on its action based on its experience without the help of any particular programming, we will see illustrations of ML in this paper[6].

This multiplication and refinement of AI have led us to very straightforward issues concerning copyright law i.e., Who will own the copyright in the work generated by an Autonomous Artificial Intelligence (AAI)? Simply put, which person will own the copyright in the work created by a machine, when a machine gains the learning and thinking capacity of a human and acts autonomously without human input?

Examples of AAI

In this part of the paper, we will take you through certain real-life examples of AI. As mentioned above, autonomous artificial intelligence need not have any inputs from humans and it works, thinks, learns & acts independently, resembling a human. The story of AlphaGo Zero is such that it is comparable

[5] Kalin Hristov, 'Artifical Intelligence and Copyright Dilemma' (2017) 57 IDEA- The Journal of the Franklin Pierce Center of IP 431.
[6] 'Subhalakshmi - 2019 - Man and Machine A Discussion on Artificial Intell.Pdf' (n 2).

to a child, initially, it is extremely innocent and unable to perform menial tasks. It attempts to execute a task but doesn't succeed, however, it learns from the experience just like a child. This happens again and again, after a while the machine becomes an expert in the task, and not only that it becomes one of the finest in the world. In its inception, AlphaGo Zero was only aware of the rules of the game GO and did not possess any other preceding knowledge. However, subsequently, it played against itself for about forty days and was able to outperform and defeat the best human Go player in the world. The AAI was able to understand the algorithm which helped it in mastering the game[7].

Likewise, in the year 1996, a supercomputer by IBM known as Deep Blue was first defeated by the then world's best chess player, Garry Kasparov, nonetheless when a rematch took place between them in 1997 Deep Blue was able to defeat him using calculated tactics and rose victoriously[8][9].

While we are discussing AAIs, authors also experimented with the trending AI ChatGpt. When questioned- 'Is ChatGpt an Autonomous Artificial Intelligence?', it answered 'I am designed to operate autonomously in the sense that I can generate responses and carry out various language-related tasks without direct human input. However, I do not have agency or consciousness'. On further questioning 'Does ChatGpt have intelligence?' it answered - "It is capable of generating human-like responses to text-based inputs and can understand natural language to a certain degree". However, it is important to note that ChatGPT's intelligence is different from human

[7] Victor M Palacet, 'WHAT IF ARTIFICIAL INTELLIGENCE WROTE THIS? ARTIFICIAL INTELLIGENCE AND COPYRIGHT LAW' (2019) 71.

[8] Varsha Jhavar, 'ChatGPT and the Underlying Copyright Malady' (*Spicy IP*, 2023) <https://spicyip.com/2023/03/ai-and-copyright-law-analysing-the-impact-of-chatgpt.html>.

[9] Nishith Desai & Associates (n 1).

intelligence.[10] The answers given by ChatGpt symbolize that ChatGpt may require human assistance to some level but it is still capable of working from its intelligence even though it might be different from those of humans.

Thus, we have been struggling with the question of creativity through artificial intelligence for approximately 170 years now. The first computer programmer of the world and a mathematician, Lady Ada Lovelace, in the year 1843 penned down that a computer could not be said to have intelligence like humans if it only does things that it was purposely programmed to do. It must be capable of creating original ideas for it to be called intelligent[11].

Although these arguments have been put forward concerning the works created by AI, there are several examples of AAIs that can create work autonomously. One such example is the Painting Fool, which is a computer programmed to paint. It has been designed to exhibit attributes like "imaginative" and "appreciative", also it has been programmed to be receptive to emotions to create art. There was an instance where the Painting Fool read a news article in the Guardian regarding the war in Afghanistan and selected words like 'troops', 'NATO' and 'bombing' and created a water-color painting that mirrored the mood of the news article. In another instance of Painting Fool in Paris, 2013 it painted the exhibition visitors in different moods and for that purpose found keywords from the 10 articles of Guardian corresponding to their moods. However, when the total count of negative keywords went beyond the brink, the machine denied making the paintings, imitating the erratic personality of an artist[12].

AAI has not been limited to just paintings; its horizon has been expanded to literature too. Recently, in Japan, there was an uproar about a novel written

[10] Jhavar (n 8).

[11] Nishith Desai & Associates (n 1).

[12] *ibid.*

by an AI known as The Day a Computer Writes a Novel. The novel nearly secured a literary award in Japan. Firstly, a novel was written by the research team which was fed into the AI by breaking it into component portions. Then the AI worked on the parts and arranged them in a certain way to produce "another story similar to the sample novel," based on the plots, characters, outlines, and phrases provided to it[13].

Music and lyrics are also not lagging in terms of AI technology. David Bowie, a rock star, co-wrote a computer program that created ideas related to lyrics. Some of his songs were inspired by this computer program. It used a technique called the 'cut-up' method wherein it produced random sentences and sometimes generated a whole song around the thoughts communicated to it. Lately, a couple of tracks were created with the help of software called Flow Machines by researchers at Sony's Computer Science Laboratory, in Paris. They have shared a pair of tracks created with the assistance of software Flow Machines. By analyzing the prevailing database of songs the program learned varied musical styles and identified harmonies, then produced something distinctive.

AAI has also contributed to the making of Cinematographic films. In September 2016 IBM's Watson created a film trailer and became the first AI to do so. It was fed with trailers of more than a hundred horror movies cut into parts and components. Watson analyzed the visuals and sound of each scene, part, and composition to obtain an understanding of 'how to create the dynamics of a trailer'. Nowadays, chefs are also using Watson to come up with new and exciting recipes, this AI proves helpful, especially in terms of dietetic restrictions and handling shortages of foods. Watson just requires the name of ingredients and choice of cuisine and it comes up with new and

[13] Blaseetta Paul, 'Artificial Intelligence and Copyright: An Analysis of Authorship and Works Created by A.I.' (2021) 4 International Journal of Law Management & Humanities.

unique recipes[14]. Some other examples of such AAIs are StyleGAN, Amper Music, AIVA, Deep Dream, ArtBreeder, etc.

Therefore, it can be observed that the work AAI can produce ranges from Paintings to recipes to movies. However, the question remains as to how AI is still not considered to be creative or possesses ownership of the copyright in these works. The answer unfolds in the beginning point only. In all the aforementioned activities initial human input was imparted based on which the rest of the work has been generated by AI. This initial feeding of data can be considered exhaustive. Now, the fact persists that as far as it has not originally originated from AI, it cannot be deemed creative. But the progress in AI is continuing, However, of late news has reported that Google's AI 'DeepMind' is now learning without any input from humans based on the knowledge and information it already possesses. That being said, the leading researcher in the field of creativity and AI, Margaret Boden, recently said that humans cannot be replaced in terms of creativity because the natural language processing of an AI is immensely inadequate due to the blindness of relevancy'. Artificial Intelligence is still incapable of comprehending 'what is relevant' the way human beings can. Hence it is unable to yield results that convince the creativity so requisite by humans[15].

This article wishes to contribute to this debate, addressing two major questions: (a) whether works independently created by artificial intelligence systems are eligible for copyright protection under the existing legal framework and (b) whether assigning copyright to the artificial intelligence itself is an appropriate solution.

Current legal framework in various jurisdictions

[14] Nishith Desai & Associates (n 1).

[15] *ibid.*

India

Currently, due to the fractured jurisprudence on copyright law, certain legal questions will pose a daunting challenge for legal institutions. If the innovation of AI is to be sustained and developed, clarity in regulation is the first important leap forward which is deliberated in this part of the paper. In India, apart from certain reports, the law to regulate the emerging field of Artificial Intelligence and the ownership of the work created by it and its copyright aspect are not addressed by any institution or any authority established under the law. Under the existing landscape, it is important to survey the existing legal framework on Artificial Intelligence and its autonomous creation in India. In this part, we will not only examine the Indian legal framework but we will also survey the regulations in other jurisdictions. This will help us arrive at a legal vantage point to identify the need for regulations and flaws in the existing approach of the authorities and interested parties towards AI and its Copyright-related aspects. And as the regulations are still in the stage of development we will include guidelines, national policy papers, and institutional approaches toward the same[16].

At the very outset, it can be stated that in India there is no law or even a regulatory guideline for the work created by Artificial Intelligence and its infringement. Moreover, forums like NITI Aayog, and the Artificial Intelligence task force (established to suggest AI regulation) have completely ignored addressing the issue of Copyright protection for the work autonomously created by the AI. If we analyze the Indian Copyright Act regarding ownership of copyrighted work, Sec 17 of the Act talks about the first owners of the copyright, herein the term ‘owners’ has to be construed as

[16] V Kamakoti, ‘Artificial Intelligence Task Force’ (Ministry of Commerce and Industry, Government of India 2018).

a 'human' as mandated under Sec 16 of the Act which mentions that "**No person** shall be entitled to copyright…." Further, the form for Copyright Registration (Form XIV) also confirms this by requiring the name, address, and nationality of the applicant. However, Sec 2(d) of the Act cannot be eliminated while discussing authorship as it mentions the meaning of authorship & under sub-clause (vi) which mentions that "in relation to any literary, dramatic, musical or artistic work which is computer-generated, the person who causes the work to be created" is the author. But a person (user) who has simply provided the input cannot be considered to have created the whole output[17]. Thus, the status of ownership of the work created by AI, especially AAI is unclear under the Copyright Act. The status is confusing to the Copyright Office too which is denoted by one such incident of "Raghav Artificial Intelligence Painting App" wherein the applicant listened to AI (Raghav) as the sole author of the artwork, this application was rejected, however, the application was accepted when a human and Raghav (AI) were listed as co-authors in the application, the reasoning behind the grant is unclear and even though the withdrawal notice was sent to the applicant it remains in the register[18]. Thus, it is safe to say that Copyright law has no legal recognition of AI either as a 'person' or a 'legal person'. Hence to answer the question we have to evolve a normative argument for the recognition of AI as a 'Legal Person'. Other laws such as the Indian Constitution which is the basic framework to recognize and sanction rights and duties for persons or citizens in India have also not provided any recognition to AI. Also, no other statute

[17] Jhavar (n 8).

[18] Aparajitha Lath, 'AI Art and Indian Copyright Registration' (*Spicy IP*, October 2022) <https://spicyip.com/2022/10/ai-art-and-indian-copyright-registration.html>.

and Courts of Law have not adjudicated the status of AI in India. This leaves a clear gap in the existing legal framework.[19]

In 2018, under the leadership of V. Kamakoti, a Professor at IIT, published a Report titled "The Artificial Intelligence Task Force", which deliberated on the relevance of AI and related issues in India and provided comprehensive recommendations for the future roadmap of AI in India. Despite such elaborate recommendations, surprisingly the Task Force bypassed the issue of Copyright protection and the question of ownership of work created by it. The only reference where the issue was addressed is under the head: Department of Industrial Policy and Promotion, sub-head 'Enabling Policies', where it has recommended drafting a policy dealing with Ownership, sharing rights, and usage of data[20].

Recognition of AI is very important to decide the question of Rights and Liabilities. In the absence of any Data Protection Law, it is very important to regulate AI-based technologies as they are increasingly penetrating the common household of India e.g., ChatGpt, Alexa, Cortana, and FBlearner which have learning capabilities and subsequent usage of the data for commercial advantage. Moreover, after the decision of Puttaswamy[21], recognizing the 'Right to Privacy' as a fundamental right and subsequent establishment of a commission[22] to recommend a framework for data protection it is imperative to decide the status of AI under the law to address

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[19] Paul (n 13).

[20] Kamakoti (n 16).

[21] *KS Puttaswamy v Union of India* (2019) 1 SCC 1 (Supreme Court).

[22] Chairman and Justice B.N. Srikrishna, 'WHITE PAPER OF THE COMMITTEE OF EXPERTS ON A DATA PROTECTION FRAMEWORK FOR INDIA' (Government of India 2018) <https://www.meity.gov.in/writereaddata/files/white_paper_on_data_protection_in_india_18122017_final_v2.1.pdf>.

the issue of authorship (under copyright law) of the work created by AI and its ownership. Recognition of AI is necessary for providing copyright protection to the work created by AI and assigning liability to it for either commercial benefits or to grant damages for infringement. It was stated by a judge that "robots cannot be sued even if they are capable of inflicting devastating damage"[23]. With the advent of autonomous machines capable of acting without human inputs, this above-stated rule must be revisited.

China

China has taken the lead to become a flag-bearer in Artificial Intelligence. They have drafted several policies to develop a roadmap for the technologies driven by AI to address economic, social, ethical, and legal concerns. In 2017 China came out with an ambitious policy titled "A Next Generation Artificial Intelligence Development Plan", the objective of which was "The swift advancement of artificial intelligence (AI) is set to have a profound impact on human society, transforming our way of life and reshaping the world. To harness the significant strategic potential of AI development, establish China's leadership in AI progress, to expedite the creation of an innovative nation and a global technological powerhouse aligning with the directives of the CCP Central Committee and the State Council, this plan has been devised."[24] The policy addressed major areas like strategic objectives, strategic situation, concern areas, focus tasks, Intellectual Property System, etc. Under the same policy, it has dealt specifically with the changing contours of intellectual property rights regimes. It states "enhance the safeguarding of intellectual property within the realm of AI, elevate

[23] *United States v Athlone Indus INC* [1984] 3rd Circuit, District of Pennsylvania 83-5822.

[24] Graham Webster, 'China's "New Generation Artificial Intelligence Development Plan"' (*Stanford Cyber Policy Center*, 2017) <https://digichina.stanford.edu/work/full-translation-chinas-new-generation-artificial-intelligence-development-plan-2017/>.

innovation in AI technology, bolster patent protection, and develop standardized support systems to stimulate the advancement of AI-related intellectual property rights. Establish public patent pools dedicated to AI to encourage the utilization of AI and the dissemination of novel technologies."[25] Moreover, a substantial legal opinion on the application of Copyright Law on work created by AI came to the doorstep of the Beijing Internet Court (BIC), China, where it was stated that "the protection of Copyright Laws cannot be extended to the text created by AI as under the Chinese Copyright Law the protection can be awarded to only humans or legal personalities or entities and currently AI has no recognition whatsoever"[26]. Even though part of the work created by AI was held to be 'original', but due to non-recognition of AI under law excluded it from the protection of Copyright Law. In another judgment by the Shenzhen Nanshan District Court in the case Shenzhen Tencent v. Shanghai Yingxun,[27] in 2019, the Court upheld the judgment of the Beijing Internet Court and further developed it recognizing the infringement of copyrighted works created by AI.

In this case, Tencent fashioned an intelligent writing assistant system called 'Dream Writer', which they utilized to produce a financial report article titled "Noon Review: Shanghai Index Slightly Rise by 0.11% and Closed at 2691.93 points, Leading Sectors including Telecommunication Operation, Oil Exploration, etc". The article was initially published on Tencent's website called "finance-stock"; the article was signed at the end stating that the article was generated by their Dream Writer robot. Yingxun Corporation copied and

[25] *ibid.*

[26] *Beijing Feilin Law Firm v Baidu Corporation* [2019] Beijing Internet Court 239.

[27] Yue 0305 Min Chu No. 14010 Civil Judgment

republished the article on their website, "Home of Internet Loan", without any authorization from Tencent[28].

Considering the aforementioned facts, the Nanshan Court addressed two major issues: first, whether copyright can exist in works created by AI, and second, whether the Tencent Corporation which facilitates the creation of articles by AI can own the copyright in the said article.

Addressing the first issue, the Nanshan Court ruled that the subject matter of the article demonstrated the creators' assessment, selection, and analysis of the appropriate stock market information and data. The article displayed originality in terms of its structure and presentation. The article was a result of the creators' individual choices and arrangements and the Dream Writer software served as a tool to aid them in the creative process. The article met the criteria for literary works protected under the Copyright Law and therefore should be safeguarded as such. Attending the second issue, the Court determined that the said article was produced by the Tencent team through the use of intelligence, judgment, and efforts. It conveyed the intention of Tencent Corporation to produce finance-stock review articles and was therefore considered to be a work created by a legal person and hence copyrightable by Tencent Corporation. This is one of the first verdicts by courts in China which recognizes the copyrightability of works created by AI; however, the judgment recognizes the extensive human involvement in the creation of the work. Thus, leaving out the scope for work created by AAI[29].

Germany

[28] Paul (n 13).
[29] *ibid.*

Under the German Copyright Law, which is anthropocentric, a work must be awarded Copyright Protection only if it is the author's personal individual creation. Section 2(2) of the Act makes it clear that work created must have a certain level of human involvement thereby excluding the work autonomously created by the AI from the protection of the Copyright Act[30]. However, the work created with the aid and assistance of AI or computers is still granted protection under the law.

United Kingdom

UK Copyright, Designs, and Patent Act, 1988 under section 9(3), section 178 explicitly provides for copyright protection to computer-generated works, even if such work is created without the involvement of a human author. But these provisions when enacted were only limited to the pictures taken by satellites. This Act offers no clarity on the position of work autonomously created by AI. A preliminary reading of the provisions suggests protection for work created by AI but, when in action, it does not provide any protection to work created by AI. Hence, a conclusion can be drawn that the law enacted in 1988 had a limited application to the pictures only and was not intended to extend protection to the work created by AI. Moreover, there is no clarity on the position of the author and the test for the originality of the work[31].

United States

[30] Peifer, FS Walter, 2018, p. 222 (226 seq.); Loewenheim, in: Schricker/Loewenheim, Urheberrecht, 5th ed. 2017, Sec. 2 para. 45; Bullinger, in: Wandtke/Bullinger, UrhR, 4th ed. 2018, Sec. 2 para. 15 et seqq. with regard to the Berne Convention Ginsburg, 49 IIC 131 passim (2018).

[31] Bently/Sherman/Gangjee/Johnson (supra note 34), p. 117; König, Der Werkbegriff in Europa, 2015, p. 160.

The US Copyright Office has clarified its position on the matter, stating that copyright ownership in the USA can only be granted to works that have been authored by humans. This viewpoint is based on the ruling in Feist Publications[32]., which established that copyright law only safeguards "the fruits of intellectual labor that are founded in the creative powers of the mind". The United States Court of Appeals upheld the previous legal stance in the New Idea Farm Equipment Corp. Case[33]., which stated that works generated by a machine or mechanical process will not be eligible for registration under copyright law unless there was some level of creative contribution or involvement from a human being[34]. The concept that non-human entities cannot possess the copyright and therefore cannot file for copyright infringement was further reinforced in the Naruto[35] case, where the US Court ruled that a monkey cannot be considered an "author" and consequently cannot claim copyright over a photograph. The Court thereby reaffirmed the link between humans and original work[36]. Recently, on March 15, 2023, the U.S. Copyright Office issued a statement stating that works generated with the help of artificial intelligence may be eligible for copyright protection, but only if there is sufficient human authorship involved. According to the policy statement, works created solely by AI without any human involvement still

[32] *Feist Publications v Rural Telephone Service Company, Inc* [1991] Supreme Court of USA 499 US 340.

[33] *New Idea Farm Equipment Corp v Sperry Corp* [1990] United States Court of Appeals, Federal Circuit 87-1216.

[34] Gautam Razdan, 'Artificial Intelligence And Copyright Law-The Authorship Quandary' (*Mondaq*, September 2022) <https://www.mondaq.com/india/patent/1231844/artificial-intelligence-and-copyright-law-the-authorship-quandary>.

[35] *Naruto v Slater* [2018] UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT 16-15469.

[36] Manika Sharma, 'Intersection of Artificial Intelligence and Copyright Law' (*The Contemporary Law Forum*, July 2020) <https://tclf.in/2020/07/13/intersection-of-artificial-intelligence-and-copyright-law/>.

cannot be protected under copyright law, as they fall short of the requirement of human authorship[37].

From the above analysis, a general conclusion can be drawn that, contemporarily, the majority of the jurisdiction around the world does not provide copyright protection to the work solely created by an AI. This very fact creates a gap that must be addressed through further research and deliberation. On one hand, it can be stated that the objective of Intellectual Property Rights laws is to reward human intellectual creativity, and granting the same protection to the work created by AI will challen get the very existence of IP Laws. On the other hand if the protection is extended to work created by AI it will lead to investment, development, and innovation in the field of AI which will be beneficial to humans at large[38].

Ownership of Work Created by Artificial Intelligence without Human Involvement

Under this head, we provide a progressive argument for recognition of the work autonomously created by AI and how such an approach may be realized. Recent development in AI has challenged the existing laws of Copyright defining the term "Author" and consequential protection to "work created using intellectual faculties". The anthropogenic approach followed by various jurisdictions while providing copyright protection must be reconsidered and modified. There must be immediate deliberation on the question of when a machine creates work by thinking and learning without any human

[37] US Copyright Office, 'Can Works Created with AI Be Copyrighted?' (March 2023) <https://www.ropesgray.com/en/newsroom/alerts/2023/03/can-works-created-with-ai-be-copyrighted-copyright-office-issues-formal-guidance#:~:text=On%20March%2015%2C%202023%2C%20the,by%20Artificial%20Intelligence%2C%2088%20Fed.>.

[38] *ibid.*

involvement, who will be awarded the ownership of the said work? Under this head, we will explore the possibility of legal recognition of AI as a legal personality to address the issue of copyright ownership[39].

Legal Recognition of Artificial Intelligence:

Ascribing legal personality to AI is the first step towards seeking copyright protection for the work independently created by it. As Indian Copyright law, protects the work that is 'original' and is created by a 'natural person' using its cognitive faculties, an amendment to include AI as an 'author' under Sec 2(d) of the law will provide impetus to our argument for granting copyright protection to the work created without human inputs. Alan Turing laid down the substantial groundwork for realizing the ultimate capability of computers, He is credited with the development of symbolic computing which is central to AI. In 1936, Turing developed a machine that was capable of computing anything, however complex, which may be computed by a machine in those times. AI simply means computers that can think, learn, adapt, and perform accordingly. As computers become more like humans, we are unable to maintain our distinctiveness and this calls for an inquiry to locate the human traits in the AI. Scientists have argued in favor of thinking machines by stating "Mind resides within the confines of the human brain and may potentially manifest within artificially programmed machines. When these machines eventually materialize, their ability to influence events will stem from their design and the software operating within them, rather than the materials comprising their physical form. To ascertain their capacity for causation, we will have to understand it through conversations with them and attentively

[39] Samuelson Pamela, 'Allocating Ownership Rights in Computer-Generated Works' (1986) 47 University of Pittsburgh Law Review 1185.

heeding their responses"[40]. A machine will be equivalent to humans if not only they think but also are aware that they are thinking. Can a computer ever understand things like humans do?

One can draw great inspiration from the work of John Chipman Gray's "The Nature and Source of the Law" to attribute legal personhood to AI[41]. In normal terminology, a person means a human being but under the technical legal jargon 'a person' means, one who may be subject to legal rights and duties[42]. The question of whether an entity must be considered as a legal personality can be framed otherwise as, whether the entity must be made subject to legal rights and duties. This must be decided upon the nature of the entity as can be seen that the law in older times has granted legal personhood to many entities which were otherwise incapable of exercising legal rights and liabilities. In comparative terms, it can be stated that both a natural person and an incorporated corporation are legal persons but possess different sets of rights and liabilities. In essence, a common right to own property and the right to sue or be sued are generally bundled with legal personality[43].

Legal personality is a legal fiction created by the law for the identification of the entity and to ascribe to it, rights and liabilities. Some examples of such legal fiction are Temples in Ancient Rome, Churches in the Middle Ages, A ship under admiralty law, an idol[44] under Indian Law, etc. To make it clearer the most common example of such legal fiction are Government Entities and

[40] A Turing, 'Computing Machinery and Intelligence' [1950] Mind 433.

[41] Arnold B Hall, 'The Nature and Sources of the Law by John Chipman Gray' (1911) 5 The American Political Science Review 645.

[42] *ibid.*

[43] *ibid.*

[44] *Pramatha Nath Mullick vs Pradyumna Kumar Mullick* (1925) 27 Bombay Law Review 1064 (Bombay High Court).

Business Corporations[45]. Gray's discussion is critical on the issue of legal personality being provided to the objects. He argued that corporations can be reduced to persons who own the stocks and who manage them and so forth. Thus, a conclusion that can be vividly drawn from Gray's discussion is, that unless an entity possesses will and intelligence, legal personality is merely a fiction created by law. And in our case, the above discussion is central to our argument while arguing legal personhood for AI. To understand the arguments in favor of legal personhood for AI for copyright ownership, the explanation is divided into two parts. The first part addresses the 'intelligence' question and the second part, is the 'will' question[46].

The Intelligence:

Is it possible to create a computer system that is capable of performing complex tasks? In other words, can a system be developed which can perform without human involvement? We can draw a corollary from the 'program trading' where a specialized AI invests the funds in publicly traded stocks and can also make decisions of selling the same based on the condition of the market[47]. Nowadays one can easily get a computer program that can manage one's revenue and expenses. In today's world, it is very easy to develop an expert system that can perform the above-stated tasks by combining them all, in a manner similar to one performed by a human trustee or a simple trustee. Such an autonomous program may be developed in three stages, in stage I, the system aids the administration of simple trust by the human, even though the human is the ultimate decision maker it can rely on the advice tendered

[45] David Millon, 'Theories of the Corporation' (1990) 2 Duke Law Journal 201.
[46] Hall (n 40).
[47] Christina Toh-Pantin, 'Wall Street Sees Tide Turing on Program Trading' (1989) Reuters Financial Report.

by the AI and daily task of investing the funds and transferring benefits to the beneficiaries is done by the system. In the initial stage, AI takes a prominent role but still humans are the ultimate decision maker. In the second stage, AI takes a more prominent place where the human is bound to abide by the advice of AI while deciding to invest in trust assets. The instruction to abide is made based on experience where AI decisions are more profitable and human decisions less lucrative. Consequently, the role of humans diminishes but still humans are required to make decisions when the trust is sued for non-payment or breach of reasonable duty etc. Repeated instances of using develop the understanding of the system and gradually it learns to handle such instances, further diminishing the human involvement. Third and the last stage involves non-engagement of the humans totally for either to save costs or to avoid poor decision-making by humans. This is the stage where the system autonomously functions without human involvement. Does this stage demand the answer as to who will own the copyright in the work created by AI? If we assign a legal personality to it, will it hold entitlement to the hardware and software that enables it to function? At this stage, such a conclusion is pre-emptive as it requires thorough examination but to proceed further let's assume such software and hardware are owned by another legal personality i.e., a corporation. The law in its current state is unable to address the issue of legal personhood for the AI for the ownership of copyright over works created by it. The Trust scenario gives us unclear answers as the trustee could be a person other than a natural person. But even legal persons like Corporations have a Board of directors or CEO to satisfy the requirement of a natural person. Hence the pertinent question is whether AI can be a trustee. The answer can be in affirmation only if the duty of the trustee is limited to

making decisions that do not involve moral faculties[48]. Here it can be assumed AI could be a trustee for its good decision-making and sound investment knowledge. But the two objections to AI being a trustee are as follows:

- AI is incapable of being held liable for the actions it commits and neither it can compensate for the loss. If legal personhood is accorded to AI can it be held liable for its actions? Initial inquiry suggests AI could not be held liable for Civil or Criminal actions as it does not satisfy the requirements under the law to be held liable.
- AI cannot make certain decisions that are beyond its acquired knowledge. Even if the AI functions on a complex and comprehensive program it does not have discretion. In scenarios where either there is a change in circumstance or which requires moral choices or legal choices, AI is not capable of making a necessary decision.

Hence, a derivation from the above explanation is that law does not allow an AI to be a trustee as it lacks the bare minimum criteria of decision-making and competence. To be a trustee, AI must satisfy the bare minimum criteria and such is possible only if there is an AI that is capable of clearing the Turing test. This thought experiment depicts that the AI is incapable of deciding on unanticipated events. For 'trustee' AI, in its current stage, falls short of the recognition but for Copyright Protection AI does present a strong argument as the only requirement under law is "originality" and "subsequent variation". If the work created by the AI satisfies the legal requirement it must be granted authorship of the same and personhood must be granted to it either in a full

[48] George Bogert, *Trusts* (6th edn, West Academic Publishing 1987).

or partial sense to decide the ownership of the work and its consequential authorship[49]. The person has not been defined; it must be expanded to include the personhood of AI for copyright protection. Even in the US case[50], the court noted that "the Constitution does not require copyrighted material to be exceptionally unique or groundbreaking. To fulfill both constitutional and statutory requirements, all that's necessary is for the "author" to contribute something beyond a merely insignificant modification, something distinctly reflective as "his own". In this context, originality mainly signifies a prohibition against direct copying. Regardless of the artistic quality of the author's addition, it suffices as long as it is uniquely their own". Hence, it can be stated that as long as originality is ascribed to the work created by AI, it may be granted protection under copyright laws. The absence of legal recognition must not hinder the protection of work created by AI[51].

The Will Question:

This part is more philosophical than the previous one as it involves the borderlines to identify personhood. This part is a thought experiment to understand the inert criteria required to claim personhood as presently no AI could stake a claim for personhood. But in the future if AI can make decisions without human involvement, in fact, better decisions than humans, can it be granted Constitutional Rights or to be more precise Fundamental Rights? Such a question raises several objections like AI, as is not a natural person cannot be granted such rights, moreover, AI lacks some of the critical components of personhood like consciousness and as AI is a human creation

[49] *Eastern Book Company v DB Modak* [2007] Supreme Court of India 6472 of 2004.
[50] *Alfred Bell Co v Catalda Fine Arts* [1947] United States District Court, SD New York 74 F. Supp. 973.
[51] *ibid.*

it can never be more than human property. It is well stated that under Indian Law non-natural persons are not granted FRs and hence granting it to AI is not possible under the current legal regime. Further, it was stated that "We are humans. Even if AIs have all the qualities that make us moral persons, we shouldn't allow them the rights of constitutional personhood because it isn't in our interest to do so[52]." Moreover, it is a possibility that AI might turn out to be better than humans and as they are immortal, they could pose an existential threat to human beings, granting them legal personhood might be disastrous as they could take over. One can draw a conclusion from a corollary, can whales or dolphins who possess intelligence be granted personhood? Such is difficult to answer as to date no one other than humans have claimed such rights. As this is a perpetual debate it's better to decide when we locate a serious contender for personhood[53]. Hence under the current circumstance where no AI is capable of making decisions fully independently without human involvement, providing it with personhood does not seem to be a viable option.

To sum up the question of personhood we must draw some conclusions which are relevant to our research. From the above discussion, one will agree that the criteria to grant full personhood requires daunting questions to be answered which under the present legal framework is an unfathomable task. But, the relevant question of partial personhood can be answered in the affirmative, to the extent of addressing the question of authorship under copyright laws. Partial personhood will settle the question of authorship which must be evaluated by the authorities tasked to regulate AI. With the development taking place, the law must recognize AI as a 'person' for

[52] Edward Wilson, *Sociobiology: The New Synthesis* (25th ed, Harvard University Press 1975).
[53] Anthony D. Amato, 'Whales: Their Emerging Right to Life' (1991) 85 The American Journal of International Law 21.

Intellectual Property Laws. Partial Personhood for AI will restrict legal recognition to a very limited extent but at the same time, it will address the existing gap in copyright laws. As we have seen from the above discussion the AI's creation satisfies the originality requirement, the only hindrance is the 'person' who created the work or caused it to be created. If the law recognizes AI as a partial person for the protection of its work under copyright law this will prove beneficial for the future development of AI. Once we settle the position of law on the aspect of 'author', we can address the ownership issue and the related issues. With the recognition of AI under copyright law, it can be provided the ownership of the work created and the consequential benefits associated with it. As it is rightly stated computers need no economic incentives but electricity to process and generate output[54]. However, legal recognition of AI and consequential limited personhood will clear the ambiguous position of law. Nevertheless, the 'mistake' made by the Indian copyright office while granting copyright to the joint-authorship application of "Raghav Artificial Intelligence Painting App" could after all be an answer to the daunting question of AI authorship[55].

Conclusion

To organically conclude our argument, we would like to state that the emergence of AAI has challenged the legal fraternity with the question of recognition, regulation, and adjudication of copyright-related aspects. All the actors involved in the legal process i.e., legislators, registering authorities, and judicial authorities are awe struck with the swift development in the field

[54] Pamela (n 38).
[55] *ibid.*

of AAI. Through our paper, we have demonstrated that AAI is capable of learning and adapting, giving them the cognitive abilities to develop and create without human assistance. Through illustrations, it is aptly clear that the AAI creates new literature, composes music, and creates art through its cognitive adaptability which poses a certain question on the copyrights of the work created by AAI. Our appraisal of various jurisdictions has provided a clear picture that the Chinese Legislators and Judicial Authorities are flag-bearers when it comes to regulation and recognition of the work created by the AAI. In clear ascertainment, we can state that the Chinese regulations and judicial decisions have provided a normative standard for the recognition and regulation of work created by AAI. But until now, the Chinese have not provided sole copyrights to work created by AAI, like other jurisdictions. The other jurisdiction also has made progress but only partial recognition of creativity by AAI just like China. This brings us to the last and most important question of legal recognition of AAI by fiction. In the last strand of our paper, we have explored the possibility of providing legal recognition to AAI-like corporations with limited rights and liabilities. Our analysis and research have illustrated that full recognition will complicate the problem rather than resolve it and hence our argument that the ascribing of legal personality to the AAI will at the least address the problem of copyrights and the question of commercial incentives. After evaluating all the aspects discussed above, we put forth the following concluding points:

- Firstly, Countries must move with the development in the field of Science and Technology and provide a lucrative and conducive framework for the creativity of AAI.
- Secondly, develop a normative judicial standard for adjudication of copyrights-related aspects of work created by AAI. This will ensure uniform and conducive exploitation of work created by the AAI.

- Lastly, the countries must take positive steps to recognize the AAI as a legal person with limited rights and liabilities so that the rights can be commercially exploited and liabilities can be fixed in case of infringement.