FROM HUMAN INPUT TO AI OUTPUT: DETERMINING AUTHORSHIP AND COPYRIGHT RIGHTS

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ABSTRACT

The advent of Artificial Intelligence (AI), and generative AI systems, which can generate text, images, music, software code, and other expressions of creative work, has radically changed the conventional conception of creativity and authorship. Even though traditional instruments simply support the activities of human creators, novel AI systems work using sophisticated machine learning models that process large amounts of data and produce results that can even be considered similar to the works of human creators. This technological revolution is of great challenge to the prevailing modes of copyright that were historically based on the fact that it is human intellect and conscious decision that has been the source of the so-called creativity. This article is a critical analysis of the law of the AI-generated works and especially how to establish authorship and ownership of copyright rights.

It discusses the principles of the copyright law such as originality, fixation, and the idea of the author, and evaluates the application (or non-application) of these principles to AI-generated material. The study question explored is the possibility of AI systems being identified as an author, whether copyright law ought to belong to the human user, the developer or the entity using the AI system, or whether these works should be considered a part of the public domain.

It suggests legislative clarification that should determine the extent of human input in protection and discusses the likelihood of other models of protection or sui generis models of protection. In the end, the article suggests a middle ground that ensures the anthropocentricity of the copyright law and its adjustment to the presence of the quickly developing artificial intelligence technologies.

Keywords: Artificial Intelligence, Copyright, Authorship, Originality, Indian Copyright Act 1957, Training Data, Sui Generis Rights

I. INTRODUCTION

In its broad sense, Artificial Intelligence (AI) can be defined as a scientific and technological project aimed at designing machines that do not need human intelligence to perform specific tasks, such as reasoning, learning, perception, understanding of a language, problem-solving, etc. The philosophical roots of AI date further to the first philosophical efforts to consider the possibility of mechanised reasoning and formal logic, specifically the writings of Alan Turing, who doubted whether machines could think or not.[1] Another benchmark of this field was set by Turing in 1950 in the seminal paper, in which he suggested that a machine could be thought of as intelligent, so long as its answers were so similar to those of a human being that it could not be distinguished in any way. This theoretical investigation was the basis of the current AI research. Official AI as a scholarly field dates to 1956 with the Dartmouth Summer Research Project on Artificial intelligence during which John McCarthy and other academics expressed the vision of building machines with the ability to emulate human intelligence.[2] The initial programs in AI resembled symbolic reasoning and rule-based programming to a significant extent, sometimes known as Good Old-Fashioned AI (GOFAI). They used these systems by applying rules of logic to formatted inputs, and had applications in fields like game playing, theorem proving and expert systems. Nonetheless, they were inflexible since their dependence on explicit programming failed to combine effectively with complex environment or uncertain situations.

The advancements on this linear path of automation by rules to self-learning, adaptive monomaterial systems have far-reaching effects on the creative industries and the intellectual property law. In the past, the technological tools that served as a camera, word, or design programs of such software worked as nothing more than a tool in the hands of human designers. In comparison, contemporary AI systems display the level of independence in the formation of outputs, often with the minimum human interference other than the receipt of prompts or initial instructions. This development obscures the role of human actor and technological instrument.

Legally, however, the concept of copyright law has always been based on human inventiveness and intellectual work. The case laws in different jurisdictions point out the originality as a result of human skill, judgment, and creativity. But with the continued development of AI systems

[1] Alan M Turing, 'Computing Machinery and Intelligence' (1950) 59 *Mind* 433.
[2] Dartmouth Summer Research Project on Artificial Intelligence; John McCarthy et al., 'A Proposal for the Dartmouth Summer Research Project on Artificial Intelligence' (1955).

that produce expressive works which look original and creative, the initial premise that human beings were the creators is questioned. The development of AI thus requires a critical review of legal established rules with regards to authorship, originality and ownership.

Simply put, the historical evolution of AI itself as a concept of speculative thought and figurative logic to deep learning and generational systems offers the necessary technological context within the context of which the modern issues of copyright can be observed. It is important to comprehend this evolution in order to assess whether current intellectual property frameworks are able to accommodate AI-generated works, or that they might need revision by law in order to account rising overlap between human contribution and machine-generated output.

The discussion herein follows in six parts. The focus of part II is an inquiry into the basic principles of originality and authorship and how they do and/or do not operate in the context of works generated by an AI. Part III analyzes the key issues that arise, i.e., authorship of AI-generated output; ownership of such output; liability for the AI-generated infringing work; and the appropriate position under Indian law regarding training a computer on a copyright-protected work. The most prominent Indian debate currently on AI-copyright: the proceedings before the Delhi High Court in ANI Media Pvt. Ltd. V. OpenAI Inc, is explored in part IV. Part V provides a specific comparative analysis of U.S., U.K., E.U. And Chinese legal approaches with the lessons that could be learned for Indian reforms. Part VI offers concrete suggestions for reform and the conclusion in part VII.

II. AUTHORSHIP, ORIGINALITY, AND THE HUMAN CREATIVITY REQUIREMENT

Authorship is a concept which forms the core of the law of copyright. The concept of copyright protection is always based on the fact that human creator is present who works on an original product utilizing skills, judgment and intellectual effort. The author is thus not just considered the original owner of the copyright but the creator of the expression being patented in intellectual terms.

In the context of the Indian legal system, the copyright act of 1957 under section 2(d) defines an author in different ways, based on the nature of that work.[3]

[3] Copyright Act 1957, s 2(d).

In USA, Supreme Court in Burrom- Giles Lithographic Co. V Sarony has said that an author is "he to whom anything owes its origin" and copyright protection exists for "original intellectual conceptions of the author".[4] The 9th Circuit Court of Appeals in Naruto v Slater[5] said that the non-human entity can not be an author of copyright works; that rule has now been applied to AI systems by the D.C District Court in Thaler v Perlmutter .[6] The Copyright, Designs and Patents Act 1988 in the United Kingdom gives an alternative approach of making 'the person who causes the work to be created' its author of computer generated work.[7] This section is similar to Indian Copyright Act 1957 but its usefulness is diminishing with increasing complexity and inscrutability of AI generation.

B. Originality: From Sweat of the Brow to the Modicum of Creativity

The sine qua non of a copyright is its originality. Earlier there was a school of thought that applied the "sweat of the brow" principle where copyright protection was granted for the labor and effort expended by an author regardless of whether the work possessed any creative element.[8] In the U.S., the Supreme Court abolished this doctrine in Feist Publications, Inc. V. Rural Telephone Service Co. And established the two-part originality test which requires 'independent creation plus a modicum of creativity'; "copyright rewards originality not effort".[9] Court of justice of the European Union accepted a similar standard and stated that the work is the author's "own intellectual creation", indicating that it is a creation reflecting free and creative choices. Similarly, in India the sweat of the brow doctrine was abandoned in Eastern Book Co. V. D. B. Modak in which the Supreme Court held that the originality requirement needs at least a minimum degree of creativity, application of mind and does not mean mere mechanical process of writing.[10]

It is evident that all the above tests hinge upon human intellectual input and creative decision-making. Since AI systems do not posses consciousness or intellectual reasoning, it becomes difficult to determine if they can meet the originality criteria as laid down by various juristions.

[4] Burrow-Giles Lithographic Co. v. Sarony, 111 U.S. 53 (1884).
[5] *Naruto v. Slater*, 888 F.3d 418 (9th Cir. 2018).
[6] *Thaler v. Perlmutter*, 687 F. Supp. 3d 140 (D.D.C. 2023).
[7] Copyright, Designs and Patents Act 1988, § 9(3) (U.K.).
[8] *Walter v. Lane* [1900] AC 539 (HL).
[9] *Feist Publ'ns, Inc. v. Rural Tel. Serv. Co*., 499 U.S. 340, 345 (1991).
[10] *Eastern Book Co. v. D.B. Modak*, (2008) 1 SCC 1 (India).

C. Ownership Vs Authorship, Work-Made-for-Hire etc.

While authorship determines who is the creative agent, ownership determines who has legal rights over the work. Usually, the copyright ownership rests initially with the author but in few exceptions it is also enjoyed by an employer for a work created by an employee under employment contract or under a specially commissioned contract.

According to section 17 of Indian Copyright Act, 1957, the first owner of copyright is author, but in case of work created by an employee in the course of employment, the employer would be the first owner, unless otherwise specified.[11] Similar to this is section 11 of UK's Copyright, Designs and Patents Act 1988 which makes employer the first owner for works produced in course of employment.[12]

In the USA, under section 101 of 17 U.S.C., "a work made for hire" means, a work prepared by an employee within the scope of his employment or prepared by independent contractor, if that work falls in a few categories and it has been signed.[13] Supreme Court in Community for Creative Non-Violence v. Reid laid down that the employer/employee relationship would be based on traditional agency law tests; but a creative analogy may be drawn for AI as a tool or employee but in that case the owner would be a legal person and not a mere program that can form employment relation.[14]

III. AI-GENERATED WORKS-LEGAL CATEGORISATION

A. Definition of AI Generated Content

AI generated content comprises of any artistic, literary or other form of work produced by the operation of AI. Such content is neither a reproduction nor a new product of human conscious effort.[15] Therefore, it does not easily fit into existing copyright law concepts established for a non-mechanistic environment. The term AI generated works are not explicitly defined under Indian Copyright Act, 1957. It indirectly refers to "computer generated work" whose author is "the person who causes the work to be created", thus implying human involvement in process.

[11] Copyright Act, 1957, § 17 (India).
[12] Copyright, Designs and Patents Act 1988, § 9(3) (U.K.).
[13] 17 U.S.C. § 101.
[14] Annemarie Bridy, Coding Creativity: Copyright and the Artificially Intelligent Author, 5 Stan. Tech. L. Rev. 1 (2012).
[15] WIPO, WIPO Technology Trends 2019: Artificial Intelligence (2019).

However, modern AI do not operate under the direct control and command of the user but act more autonomously thus leading to a conflict in relation to the application of this test.

B. The Significance of the Prompt

The significance of human input or 'prompt' used in generating the AI output determines whether it qualifies as an authorial work under copyright law. Indian Supreme Court's decision in the case of Eastern Book Co. V. D. B. Modak held that in order to be an authorial work, it requires minimum creativity and application of mind; this criteria is rarely met by a simple, undetailed prompt. Copyright protection under the Copyright Act 1957 is for the expression and not for ideas, and where the human involvement only provides the concept and rest of the expression is purely AI-based, copyright protection can not be claimed.

On the other hand, iterative prompting and further refinement by a user could lead to claiming authorship, as the AI can then be seen as an assistant to the human writer.

C. Fully Autonomous vs. AI-Assisted Creation

It is crucial to analytically distinguish fully autonomous AI generation from AI-assisted production. In the former instance, no "meaningful human authorship" exists, beyond the initiation of the AI system. The latter case is one in which "an individual conceptualises the creative work, instructs the AI accordingly, selects and refines outputs, and ultimately exercises the authorial choice of creative control."

In the entirely autonomous scenario there is no human author in the legal sense. All the international cases above are clear on this, from Thaler v. Perlmutter's refusal of a copyright registration for an AI generated picture without human authorship, to Naruto v. Slater's explicit statement that non-human entities cannot be authors. Their rationale applies precisely to the completely autonomous situation.

The latter case requires a more careful analysis. If the human has sufficient control of the AI-generated process-if their creative instructions are specific, if the prompt is creative and if they actively select and modify outputs, there may be a human author as the AI is being used as a tool in the hands of a human creator. What is the threshold for human control and this distinction must be clarified by legislation and court decisions. It is not as yet perfectly defined by law.

IV. COMPARATIVE LEGAL ANALYSIS

A. United States

American copyright law's founding document, the Constitution, allows for Congress "to secure...Authors, for limited times...the exclusive Rights to their...Writings".[16] The Supreme Court in Burrow-Giles Lithographic Co. V. Sarony defined "Author" as "the person to whom the work owes its existence, i.e. Its creator.[17] The Copyright Office has stated since at least 1973 that it will not register machine generated works lacking the "creative contribution" of a human author. This statement has been iterated in every Compendium of U.S. Copyright Office Practices since. The U.S. Federal Circuit's decision in Thaler v. Vidal concluded that "inventor" under the Patent Law can only be a natural person, with the D.C. District Court in Thaler v. Perlmutter ruling that human authorship is a constitutional mandate that cannot be re-written by administration or judicial invention.[18]

February 2023 saw a clarification and differentiation approach taken by the Copyright Office when granting registration for the graphic novel Zarya of the Dawn. While the text was registrable to the human applicant, the graphic novel itself (visual portion) were denied protection because they were the result of the creative output of the Midjourney system and not that of the human prompter. This partial protection-granting protection to clearly human authored elements while denying it to AI-generated works-is currently the administrative framework and the future seems to lie with specific distinctions between AI-assisted works and works of human authors.Pending court cases concerning the AI training-data issue (including filings by the Copyright Office, by the visual artists involved in these issues, by Getty Images, and the New York Times) will shape the law further.

B. United Kingdom

As far as major common law systems are concerned, only the U.K. Has passed specific legislation that provides protection for computer generated works. Under section 9(3) of the Copyright, Designs and Patents Act 1988, "the author is to be taken as the person by whom the arrangements necessary for the creation of the work are undertaken", with such works receiving

[16] U.S. Const. art. I, § 8, cl. 8.
[17] *Burrow-Giles Lithographic Co. v. Sarony,* 111 U.S. 53 (1884).
[18] *Thaler v. Vidal*, 43 F.4th 1207 (Fed. Cir. 2022).

copyright protection for a much shorter term of fifty years. This provision was applied in Nova Productions Ltd v. Mazooma Games Ltd, in which the Court of Appeals ruled that copyright in screen display belongs to the programmers that developed the system; it appears this framework could easily be extended to AI-generated works.[19] The problem here, however, is how to analyze works produced by current generative AI systems where multiple human agents might be involved (training developers, users that use the software), in relation to section 9(3), which would not fit into a scenario that was developed for deterministic computer programs where it can be directly traced from the programmer's decision making to the output of the work.[20] The UK government has proposed no change as of 2021, when the U.K. IPO had an AI & IP consultation which led to the government saying it will continue to monitor the situation, a position that has disappointed both sides involved in this debate.

C. European Union

The central principle underpinning copyright protection in the EU is the standard of "author's own intellectual creation", developed by a line of decisions from the Court of Justice of the EU starting with Infopaq and continued in Painer and Football Dataco. This standard reflects the continental concept of droit d'auteur; an expression of the author's own creativity through free and original choice. This standard of authorship is incompatible with AI authorship; there is no legislation similar to the U.K. S.9(3) and the current trend in CJEU jurisprudence suggests purely AI generated works are uncopyrightable. The 2024 EU AI Act will place new duties on AI producers to monitor the transparency of their systems, a measure that might allow authors to enforce their rights through technical means, but will not specifically provide protection to AI-created works.[21] Articles 3 and 4 of the Digital Single Market Directive provide an exception for TDM for the purposes of scientific research, and a broader opt-out exception that right-holders may avail themselves of to prevent commercial TDM; application to large-scale commercial AI training remain largely unresolved.[22]

D. India

Indian Copyright law was enacted in 1957 and revised in 2012 and explicitly mentions the

[19] *Nova Prods. Ltd v. Mazooma Games Ltd* [2007] EWCA Civ 219.
[20] Lionel Bently & Brad Sherman, Intellectual Property Law 112–15 (5th ed., Oxford Univ. Press 2022).
[21] Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 (EU AI Act) [2024] OJ L1689.
[22] Directive (EU) 2019/790 on Copyright in the Digital Single Market, arts. 3–4 [2019] OJ L130/92.

author must be a natural person; there are no similar provisions as in the U.K.'s s.9(3) for computer generated works. There has been no legislative development regarding non-human authorship; The standard for originality applied by Indian Courts has always demanded a degree of skill, judgment and creativity. It's not an easy legal feat to apply such criteria to the creative works generated by AI without stretching them almost to breaking point. In Navigators Logistics Ltd v. Kashif Qureshi, the Delhi High Court upheld that copyright belonged to the human programmers that wrote the program itself, not to the computer programs themselves. The issue of the AI training data is directly facing Indian courts with the lawsuit ANI Media Pvt. Ltd. V. OpenAI Inc.[23] Filed in the Delhi High Court in 2024, and the Indian national strategy will need to be put to the test with all its ambition for AI development when legislative action will eventually be taken.[24]

E. International Framework: WIPO and the Berne Convention

The Berne Convention for the Protection of Literary and Artistic Works was adopted in 1886 and its aims are to establish baseline rights among member nations but does not define an author, its most recent significant change in 1971 has failed to address issues of AI generated works. The Paris Act of 1971 did extend rights protection to author's creations however it relies on member states to enforce those rights under national law which have led to the varied positions described previously. The WIPO Copyright Treaty of 1996 extended international copyright to the digital age by allowing rightsholders protection over the communication right and by mandating technological protection measures; however the WIPO Copyright Treaty did not mention how issues of AI authorship would be treated.[25] WIPO's Discussion on IP and AI that began in 2019 has provided members with several rounds of submissions, clarifying areas of disagreement between member nations regarding the protection of AI-generated works.[26] Some argue that the human-centric approach needs to be retained while other member nations (including developing economies) believe that protection should be provided through new types of rights in order to encourage the further development of AI. China has suggested limited protection for works generated through substantial human-AI interaction with the creation and modification of works involving a high degree of AI creativity.

[23] *ANI Media Pvt. Ltd. v. OpenAI Inc*., CS (OS) 374/2024 (Delhi H.C.).
[24] NITI Aayog, National Strategy for Artificial Intelligence (June 2018).
[25] WIPO Copyright Treaty (adopted Dec. 20, 1996, entered into force Mar. 6, 2002), 2186 UNTS 121.
[26] WIPO, Revised Issues Paper on Intellectual Property Policy and Artificial Intelligence, WIPO/IP/AI/2/GE/21/1 REV (2021).

F. Comparative Observations

Certain insights can be drawn from this cross-jurisdictional comparison. Firstly, there is striking consistency on the high-level principle that no significant jurisdiction has recognized AI as the author in a fully traditional sense. Where jurisdictions differ is in how to accommodate the 'space in between' human-created and autonomously generated content. The UK's section 9(3) represents a pragmatic legislative solution, albeit for a very different technological world. The US approach of relying on administrative guidance and evolving judicial precedent represents a doctrinally pure yet commercially unpredictable position. The EU's personality-based standard has a strong philosophical rationale but may leave important commercial interests unaddressed. Perhaps most troubling is the lack of a specific stance in India; not that the current law is intrinsically wrong, but rather, in the absence of legislative engagement, creators, businesses and the courts have been left to grapple without guidance.

V. KEY LEGAL ISSUES

A. The Authorship of AI-generated works

The notion of AI authorship is framed by three theoretical constructs. The first is Locke's labor theory of intellectual property, which vests ownership in an object as a result of a worker's efforts in mixing unowned labor with unowned material. As with some previous objections to animal authorship, this framework would seem to support AI authorship, given the extensive computational resources expended to generate an AI work. However, Locke's theory assumes the existence of morally responsible beings with interests in the results of their labors; AI has no such moral interests. The second framework is the Hegelian personality theory, which best captures the fundamental objection to AI authorship: copyright vests in the writer's 'self' expressed through a work, and AI possesses no self from which to express anything. Lastly, there is the utilitarian incentive theory; the argument that protection encourages the development of new works by rewarding investment is certainly compelling. But is the connection between protection of AI-created works and increased investment in their development a certainty, and is the incentive effect strong enough compared to already robust commercial incentives?[27]

[27] William M. Landes & Richard A. Posner, The Economic Structure of Intellectual Property Law 37–42 (Harvard Univ. Press 2003).

The case against recognizing AI authorship is strong: the current legal framework is primarily designed to protect human creativity; recognition would dilute the philosophical foundations of copyright, and may displace the market for human-authored works without adding any equivalent benefit to the common cultural stock. This isn't a theoretical problem, but one that is already unfolding with job losses in fields such as stock photography, journalism, and technical writing. In favor of recognizing some form of AI authorship is simply the sheer practicality that if there is no authorship under copyright, there is a presumption of the public domain, and while this is doctrinally sound, it creates commercial uncertainty.[28]

B. Ownership of AI-generated works

Assuming a work of AI warrants copyright protection, determining who has a claim to that protection is another difficult problem. The likely contenders for ownership are: the AI system developer who made the choices of program design and implementation crucial to the AI's ability to generate; the user who directed the AI to produce a particular output with specific prompts and commands; or the system operator who set up the AI system and chose which program and parameters to use. A camera manufacturer's claim to ownership, though perhaps appealing at first glance, has been rejected due to its remoteness from the creative act; cameras can produce any output, given appropriate prompts. The work-for-hire doctrine, which treats an AI as an employee whose outputs belong to the employer, offers a quick ownership answer, but is conceptually strained, given that an AI does not have the legal capacity of a person capable of contracting.[29] In practice, ownership is currently being resolved contractually, as generative AI platforms routinely transfer ownership to the users in their Terms of Service, circumventing the issue of copyright analysis.[30]

C. Infringement Liability

There are two possible scenarios under which AI-generated output might be infringing. First, a generative AI system might output a substantial reproduction of material contained in its training dataset. As has been recently demonstrated, it is indeed possible, given specific conditions, to elicit from LLMs verbatim reproduction of training text; this fact complicates

[28] Ryan Abbott, The Reasonable Robot: Artificial Intelligence and the Law 87–92 (Cambridge Univ. Press 2020).

[29] 17 U.S.C. § 101 (work made for hire doctrine).

[30] OpenAI, Terms of Use, cl. 3(a) (effective Mar. 2023).

fair use analysis for AI training, as direct reproduction is difficult to distinguish as a transformative use in the way required by Authors Guild v. Google, Inc.[31] Second, AI output might independently copy the entirety or substantial portions of another work even without verbatim reproduction of the training set. The liability would vary across the AI value chain and would likely be determined by the facts of each case, including each party's relative levels of knowledge and control. The ability to take advantage of safe harbor provisions under section 512 of the Digital Millennium Copyright Act,[32] and the comparable measures in the Digital Services Act, is yet to be determined.[33]

D. Moral rights and AI-generated works

The moral rights, also known as author's rights (the right of attribution and the right of integrity), established under Article 6bis of the Berne Convention and incorporated differently into various national legal regimes, were created to recognize an individual's personal and indivisible tie to a work. As they apply to AI-generated output, moral rights face an immediate logical and practical dilemma: An AI cannot exercise a moral right because it does not possess a personal self in the work; and if no human author is recognized due to insufficient human input, then no person exists in whom to vest such moral rights. This has the implication of creating AI-generated works for which there is no mechanism of attribution or integrit, a gap that the current legal frameworks are poorly suited to bridge.

E. Training Data and Fair Use/Fair Dealing

Perhaps the single most commercially significant legal issue of the present time is the question of whether the training of an AI system using copyrighted material without license or payment can be considered fair use (or fair dealing under UK law). The fair use argument as championed by US developers of AI training models likens the mass digitization required for training an AI to the similar action that a court ruled was transformative in Authors Guild v. Google, Inc., which involved the digitization of millions of books for indexing in a search engine. The argument has merit-an AI training dataset is arguably less a readable reproduction than a statistical model. However, this analogy has been criticized, primarily because unlike Google Books' search engine, which does not make readable copies, a generative AI's output may

[31] *Authors Guild v. Google, Inc.,* 804 F.3d 202 (2d Cir. 2015).
[32] Digital Millennium Copyright Act, 17 U.S.C. § 512.
[33] Regulation (EU) 2022/2065 (Digital Services Act) [2022] OJ L277/1.

include verbatim reproduction of the training material, and such output might compete in the same market with the original work.[34] Lawsuits against AI developers such as Stability AI, Getty Images and The New York Times are likely to have a significant role in shaping US case law, although the outcome of such actions is currently uncertain.[35]

Within the EU, an exception for text and data mining in the Digital Single Market Directive provides a limited solution: it is permissive in nature for research purposes on an opt-out basis, while being opt-out only for commercial TDM. Whether it extends to large-scale commercial AI training remains unclear.[36] India has no equivalent textual or data mining exceptions under its Copyright Act of 1957, and section 52 fair dealing provisions have not yet been judicially interpreted with regard to AI training, leaving both developers and owners uncertain about the relevant legal boundaries.

VI. Significant Cases and Administrative Developments

A. Naruto v. Slater

The Naruto v. Slater case in the Ninth Circuit-the case where PETA tried to claim copyright in photographs made by a crested macaque on the photographer's unattended equipment- Gave the court the opportunity to make a policy decision, on the interpretation of the Authorship requirement of the Copyright Act, by holding that The language of the Act refers to the author's life and the remedies available, to say the least, presume a living natural human as an author and any interpretation to the contrary is simply a departure from accepted legal principles. Judge Bea, on the other hand, went to the extent of saying, "There can be no copyright in the work of an ape, any more than there can be a copyright in the work of a typewriter; to hold otherwise would be to say that a composer who uses a typewriter to write down a symphony must obtain the consent of the typewriter, or, in the alternative, that the typewriter may copyright the symphony."[37]

However, one has to take the analogies of the macaque in Naruto to the AI with a grain of salt,

[34] Berne Convention for the Protection of Literary and Artistic Works, art. 6bis (as revised at Paris, July 24, 1971).
[35] *Andersen v. Stability AI Ltd.,* No. 3:23-cv-00201 (N.D. Cal. filed Jan. 13, 2023); *Getty Images (US), Inc. v. Stability AI, Ltd*., No. 1:23-cv-00135 (D. Del. filed Feb. 3, 2023); *N.Y. Times Co. v. Microsoft Corp*., No. 1:23-cv-11195 (S.D.N.Y. filed Dec. 27, 2023).
[36] Directive (EU) 2019/790, art. 4.
[37] *Id.* at 4.

as macaque-action and AI action are completely different. Where macaque acts by instinct, AI acts as a sophisticated tool designed and developed by humans, the purpose, intention and even final outcome, to an extent is directed and shaped by humans, either through their initial design or through their interaction with the AI system. For AI advocates, such human intention is the sole determining factor in grounding copyright, whereas it is important to note, that as much as the case in Naruto is not definitive for AI issues, it provides us with the bottom line, as law currently does not afford copyright protection for non-human creativity, unless provided specifically by law makers.

B. Thaler v. Perlmutter

The Thaler v. Perlmutter case is the closest a court in the U.S. Has come to resolving the AI-Authorship debate.[38] Dr. Thaler sought registration of an image created by an AI system owned and operated by him, naming the AI system as the Author and he himself as the Owner due to ownership of the said machine. The Copyright Office rejected his registration citing lack of human authorship, the refusal which was affirmed by Judge Howell of the D.C. District court. The reasoning of Judge Howell in detailing the requirement for human authorship from the constitutional provisions of the Constitution of the United States, to Burrow-Giles, and the consistency in administrative practice over the years has been thorough. The court ultimately held that, attributing copyright to the AI-created work is a matter of congressional action and not judicial interpretation to extend such protection. The appeal pending before the D.C. Circuit court, if reaches the Supreme court, will indeed be landmark as it stands, at the highest level of the lower courts, as the bedrock for the principle that the Human-authorship is constitutional and can't be circumvented by other interpretations.

C. Indian Judicial Developments

While an outright ruling on the authorship issue concerning AI is still absent in India, the foundational architecture for future judicial pronouncements is already being established. The criterion of originality has already been established as the requirement for copyright protection by the Supreme court in the case of Eastern Book Company v. D.B. Modak. The Delhi High Court, in the Navigators Logistics Ltd v. Kashif Qureshi case has affirmed that, " copyright subsists in software, not in the program." This essentially brings within the definition of human

[38] *Id*. at 4.

authorship the underlying program created by humans, not the final output produced by the program in association with other programs. The ANI Media case currently being heard before the court raises a different issue pertaining to AI- training data, by stating that OpenAI had used the articles published by ANI Media for training its ChatGPT without consent or compensation, which directly puts the section 52 of the Copyright Act to test for the first time in the history of the U.S. Judicial system and signals a willingness on the part of the Indian judiciary to tackle issues in this domain either legislatively or judicially.

D. Administrative Guidance: The Zarya of the Dawn Determination and Beyond

The ruling in February 2023 of the U.S. Copyright Office in Zarya of the Dawn and its March 2023 policy guideline further reiterated and articulated that where a work contains both human authorship and AI contribution, only the former is copyrightable and not the latter. While this works in cases where human-AI distinction is clear (like human-authored text and AI-generated graphics within a publication), the same may be difficult in a case where both human creativity and AI output is interwoven in one. This leaves the decision to be based on case-to-case basis and creates ambiguity.[39] China's Beijing Internet Court's ruling in Li Yunkai v. Liu Yuanchun took it one step ahead by stating that, repeated human intervention, interaction and refinement is capable of granting copyright over AI-generated works.[40] The interim measures on the administration of generative AI services have been promulgated which provides an unprecedented regulatory framework than any existing west jurisdiction.

VII. Policy Gaps and Reform Proposals

A. The Authorship Vacuum

The most significant gap at the legislative level in most jurisdictions worldwide has been the lack of a clear provision on authorship and ownership for AI-generated works. The authors contend that this legal vacuum is the root of all the confusion surrounding this topic, and further leads to litigation and discourages innovation. Only in U.K. Where there is a provision for the authorship in case of works made by a computer which existed in section 9(3) of the Copyright Act, 1956. However, the writers admit that this section, intended for less technologically

[39] Arul George Scaria, Artificial Intelligence and Copyright: An Indian Perspective, 27 J. Intell. Prop. Rts. 89, 98 (2022).

[40] *Li Yunkai v. Liu Yuanchun* (Beijing Internet Court, 2023); Cyberspace Administration of China, Interim Measures for the Management of Generative Artificial Intelligence Services (2023).

advanced computers and not the present scenario, has limitations.

B. The Training Data Lacuna

The next major lacuna concerning AI relates to training data. The legal ambiguity surrounding the use of copyrighted works for training AI-based systems under fair use, fair dealing, or text-and-data-mining exceptions is the result of legal frameworks that were not designed for the scale and purpose of AI training. Currently, the creators have no effective means to prevent the unauthorized use of their works for training or to receive compensation for their usage which is against the core purpose of the law. There is a pressing need for systematic legislative solutions in all the major jurisdictions.

C. Legislative Recommendations

The following suggestions have been formulated keeping in mind the Indian legislative context and are informed by a comparison with other jurisdictions as examined above:

First, the Copyright Act, 1957 should be amended to codify explicitly the human-authorship requirement confirming that copyright exists only in those works for which human creativity has been instrumental and that no work that owes its origin to the AI without any qualifying human contribution should attract any copyright protection. Although the Act, as of now, already implies the existence of the human-authorship principle, explicit legislative action will go a long way in alleviating ambiguities for creators, investors, and legal practitioners. Alongside such amendment, guidance should also be formulated on specific aspects defining what kind and how much of human intervention is necessary for a work to qualify as human-authored, considering nuances such as specificity of prompt input, iterative processing and creative selection, among others.

Second, a separate ' sui generis' right should be created for purely AI-generated works. This right will vest with the operator of the AI system for a limited duration of fifteen years from the first publication of the work, covering only literal copying or imitative actions and no more than is permitted by the Copyright Act under various exceptions (research, education, criticism and private use). Such a right would offer commercial stability for the AI operator without compromising the philosophical and legal foundations that preclude the existence of an AI author. In this regard, the example of the EU's Database Directive providing a sui generis

protection system for databases which do not meet the originality criteria can be useful.[41]

Third, there must be a mandatory collective licensing regime for the use of copyrighted works in AI training. Developers will have to secure licenses from collecting societies representing authors and publishers and pay authors and publishers a fee or a royalty at agreed or tribunal-fixed rates, which would be distributed among rightsholders on the basis of provenance reporting. This has established precedents in broadcasting and educational copying and provides legal certainty to developers while adequately compensating human creators.[42]

Fourth, there must be mandatory disclosure requirements for published or distributed works containing AI-generated content. Publishers, distributors, and platform operators acting commercially should have an obligation to identify AI-generated works and implement standard metadata. The consequence of failure to comply should be civil liability, resulting in the loss of copyright protection for human-authored parts of an undisclosed AI-assisted work. Fifth, India should participate actively and constructively in the WIPO Conversation on IP and AI. The goal must be to facilitate the development of non-binding international guidelines on AI authorship and training data. These are crucial first steps to more permanent international norms.

D. The Fine Balance between Innovation and Human Creativity

Legislative reform must not overprotect to the detriment of human creativity. Copyright already stands accused of overemphasizing private interests over the cultural commons and extending protection to AI-generated works, which can be produced in mass quantities with minimal cost per output, threatens to further shrink the public domain. The long-term interests of the public in a rich, open cultural commons, and human authors' right to receive compensation when their works are used for machine generation of new works, must guide any reform process. These issues are not only distributional ones; they question the fundamental type of cultural environment copyright law is intended to foster.

VIII. CONCLUSION

This article has argued that current copyright law, which rests on human authorship, is ill-

[41] Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases [1996] OJ L77/20.
[42] European Writers' Council, Position Paper on Generative AI and Copyright, at 4 (Mar. 2023).

equipped to deal with AI-generated expressions. The consensus across major jurisdictions that human authorship is required for copyright protection should be upheld because copyright exists to reward human creativity, and that justification does not apply to machine-generated works. AI as a legal author undermines the foundations of copyright doctrine. However, a complete denial of protection to AI-generated works is also problematic. Commercially viable works produced using large investments in AI development become instantly public domain, which can distort investment patterns.

A two-tier legislative framework may be the best approach: codifying human authorship as the requirement for copyright and laying out the parameters of necessary human contribution to AI-assisted works, while also developing a unique right for purely AI-generated output and implementing a mandatory collective licensing system for training data to ensure compensation flows to human creators. The EU's Database Directive, for instance, created a similar right for works that did not meet the originality requirements of copyright. Collective licensing has been successful in many contexts where individual licensing is not feasible. Ultimately, law must guide its response to generative AI through established principles. Copyright should foster human creativity and reward those who invest skill and effort in it, while not being used to devalue human work or to allow technology developers to benefit from human creativity without adequate compensation.