JOINT AUTHORSHIP AND COPYRIGHT OWNERSHIP OF AI

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ABSTRACT

The exponential growth in creative applications of AI has brought forth anew the definition and legal understanding of the concept of authorship and ownership of copyright beyond statutory frameworks issued to human authors. The research reported here addresses the complex relationship between created content through AI, specifically regarding the status of copyright law on rights of joint authorship, in collaborations among humans and AI. Whereas AI systems are increasingly moving away from mere instruments to complex creative counterparts, both in theory and in practice challenging the legal status of their respective outputs and attributions of intellectual property rights, this article attempts to trace the theoretical framework of joint authorship and its possible extension to AI-assisted works by critically discussing some of the titular philosophical questions creatively, originally, and consciously posed by machine-generated content. The status quo needs such a re-evaluation through an in-depth analysis of the existing legal doctrines on the dichotomy of idea-expression and the concept of originality in light of what AI can exclusively achieve. The comparative study will discuss responses in the jurisdictions for the challenges in authorship of AI and discuss whether calls for international harmonization are called for. The paper aims to developintricate thinking, at the intersection of legal, philosophical, and economic approaches, on how artificial intelligence may engage creative processes with implications for copyright law. It develops one proposed new approach to AI authorship and ownership questions, balancing human and artificial intelligence developers against the interests of the public good. As AI continues to reshape the landscape of creative expression, this research provides insight into the ongoing dialogue on adapting systems of law to technological developments in a way that balances interests in innovation with the protection of human creativity across an artificial intelligence age.

CHAPTER 1: INTRODUCTION

1.1. Introduction

The rapid development of AI technology ushers in a new era of creative production at variance with traditional concepts of authorship and copyright ownership. Thus, insofar as these machines produce works that are increasingly sophisticated-to evolve, in a word-it raises increasingly questions about the legal status of such creations and who may accord intellectual property rights. The following paper examines in greater detail one specific aspect of the increasingly complex interrelationship between AI-generated content and copyright law:the concept of 'joint authorship' in the context of human-AI collaboration. Theoretically, copyright law is underpinned by providing rewards and encouraging human creativity. But with AI now emerging to take a creative role, the lines constantly blur between what will be created by man or machine; henceforth, this questions the established legal principles. Traditional notions of joint authorship now overlap in situations where considerable creation is carried out with AI. This research, therefore, is going to delve into the theoretical basis of joint authorship and just how well it can apply to AI-assisted works. Behind this question lies a deep philosophical questioning of creation and originality. Without even a semblance of consciousness and intent, can an AI system be taken as an "author" for all legal purposes? Or should the person who programmes or uses the AI be considered the sole author, whatever contribution by the AI? These questions defy any settled understanding of creativity and force us to re-examine what we think the 'essential' preconditions for copyright protection are. This analytic framework rests on legal doctrine and philosophical perspective:.

This is where, in the concept of works created by an AI system, the idea-expression dichotomy really comes into question. In effect, it calls for more modern legal challenges that would try to discern exactly where the ideas of the programmer actually stop and where those of the expression of the AI commence. Likewise, originality is generally understood to be a product of independent creative effort, which in the context of AI-driven creation of works that would probably be considered original should be reconceptualized. Furthermore, the study throws light on the economic theories lying at the heart of copyright and their application or non-application to the AI-created works. Whereas copyright protection has utilitarian ends, with the

aim of promoting creation for and dissemination to all, perhaps its justification does need

reconsideration in an era where AI can crumple up the old barriers of time and capacity. A careful interest balance between human creators, developers of AI, and the public good therefore becomes germane to the formulation of appropriate legal frameworks. The added layer of complexity which the discussion takes as a result of the global nature of AI development and deployment binds discourse to the periphery. That there should be harmonization for the protections and enforcement of rights to remain consistent across borders, as various jurisdictions begin to engage these issues, is taken for granted. This study will, therefore, look into comparable approaches regarding the authorship and ownership of AI, informed by an understanding of variances between different legal systems and international conventions.

1.2. Significance of Research

This paper contributes significantly to the understanding of joint authorship and copyright ownership of AI-generated works, as it draws timely attention to fundamental challenges that AI unleashes within well-settling legal systems. Currently evolving from simple tools to sophisticated creative collaborators, AI systems break traditional concepts related to authorship, originality, and ownership-some very foundational elements of copyright. It makesthe research necessary for the adaptation of legal systems to the fast-changing landscape of technologies and for the continued service of copyright law in the promotion and encouragement of creativity and innovation. By analyzing joint authorship through the lens ofcollaborative works generated by humans and AI, this research contributes to the evolution ofnew legal paradigms that shall house the peculiar nature of AI-generated content. Comparing approaches across different jurisdictions produces insights that are valuable for policymakers and legislators who work toward the establishment of harmonized global standards in this rapidly developing area. The interdisciplinarity of this research, which includes legal, philosophical, and economic insight, ensures a sound grasp of such multifaceted implications of AI authorship. This holistic view will enable the elaboration of legal answers that are balanced and efficient, while taking into consideration all the different interests at stake-humancreators, AI developers, and the public at large. The economic analysis of various models of authorship develops critical insights into possible effects on creative industries and innovationecosystems. The results of this study, therefore, will have major long-term implications for intellectual property rights, market dynamics, and future human-AI collaboration in creative tasks, as AI is continuously remaking the creation process in various industries. This researchthus has its ultimate significance in

informing policy decisions, guiding legal reforms, and setting the future landscape of copyright law in an increasingly artificially intelligent era.

1.3. Literature Review

- ***The Future of Copyright in the Age of Artificial Intelligence by Aviv Gaon***

Gaon's book offers a comprehensive examination of copyright law in the context of AI-generated works. It explores the fundamental challenges AI poses to traditional copyright concepts, including authorship, originality, and ownership. Gaon analyzes current legal frameworks and their inadequacies in addressing AI-created content. The book delves into philosophical questions about creativity and proposes potential legal solutions for protecting AI-generated works. Gaon considers various stakeholders' interests, from AI developers to end-users, and discusses the economic implications of different copyright approaches. The author provides a balanced view of competing arguments and offers insights into potential future directions for copyright law in an AI-dominated creative landscape.

- ***Research Handbook on Intellectual Property and Artificial Intelligence edited by Ryan Abbott***

This edited volume presents a collection of expert perspectives on the intersection of intellectual property (IP) and artificial intelligence. Abbott brings together contributions from leading scholars and practitioners, covering a wide range of IP issues related to AI. The handbook explores patent law challenges in AI inventions, copyright questions for AI- generated works, and trademark implications of AI in branding. It also addresses broader themes such as the impact of AI on innovation policy and the ethical considerations of AI in IP.The book provides a thorough overview of current debates and offers forward-looking analysesof how IP regimes might adapt to technological advancements in AI.

- ***Legal and Ethical Challenges of Artificial Intelligence from an International Law Perspective by Themistoklis Tzimas***

Tzimas' work provides a comprehensive analysis of the legal and ethical implications of AI from an international law standpoint. The book examines how existing international legal frameworks can be applied to AI technologies and identifies areas where new regulations may

be necessary. Tzimas explores issues such as AI's impact on human rights, privacy, and data protection in a global context. The author also delves into the ethical considerations of AI development and deployment, discussing concepts like accountability and transparency. By focusing on the international dimension, this book offers valuable insights into the challenges of creating harmonized global approaches to AI governance and regulation.

- ***Intellectual Property Protection for AI-generated Creations: Europe, United States, Australia and Japan by Ana Ramalho***

  Ramalho's book offers a comparative analysis of intellectual property protection for AI-generated creations across four major jurisdictions. The author examines how existing IP laws in Europe, the United States, Australia, and Japan address (or fail to address) the challenges posed by AI-created works. Ramalho explores the concepts of authorship, originality, and inventorship in the context of AI, highlighting the differences and similarities in approach across these legal systems. The book also considers potential reforms and harmonization efforts to better accommodate AI-generated content within IP frameworks. This comparative perspective provides valuable insights into diverse legal approaches and their implications for global IP protection of AI creations.

- ***Copyright and Collective Authorship: Locating the Authors of Collaborative Work byDaniela Simone***

  Simone's book, while not specifically focused on AI, provides crucial insights into the concept of collective authorship that are highly relevant to AI-human collaborations. The author examines the challenges of attributing authorship in collaborative works, exploring legal and theoretical frameworks for understanding joint creativity. Simone analyzes various models ofcollective authorship and their implications for copyright law. Although primarily concerned with human collaborations, the book's discussions on the nature of creative contribution and the allocation of rights in collaborative works offer valuable perspectives for considering AI'srole in creative processes. This work provides a foundation for understanding the complexitiesof authorship in scenarios where multiple entities, potentially including AI, contribute to a creative work.

1.4. Research Gap

While there is a growing body of scholarship in respect to how AI and copyright law interact, there are still a host of major knowledge gaps in joint authorship and ownership of copyright in AI-created works; thus, opportunities are left for further research and legal analysis. Anotherfirst obvious avenue of needed research involves applying the concepts of joint authorship to collaborations between humans and AI. While Simone's work on collective authorship provides a groundwork within which collaborative creativity can be analyzed, it does not take into consideration AI involvement and its unique challenges. Further specific analysis is required regarding just how existing doctrines of joint authorship might apply to or need modification in light of scenarios where humans and AI systems collaborate on creative works. Where exactly do humans and machines intersect-or interact-in collaborative creation?. Another gap is, for example, how different AI authorship approaches and ownership stand when it comes to different jurisdictions. The book by Ramalho did address the issue in four major jurisdictions; however, it still needs to have a much more extensive global survey, particularly with regard to emerging economies and their unique legal and cultural contexts. Wang's article on the approach of China underlines how important it is to assess different legal systems within this fast-changing field.

There is also a deficiency in the empirical evidence regarding the practical implications of the different legal frameworks that have so far been advanced for the authorship and ownership of works created by means of AI. Work is, therefore, required regarding how different models of attribution affect innovation, market dynamics, and creative industries in order to underpin policy decisions. The philosophical basis of Caldwell's AI authorship also needs further exploration. These are, therefore, inroads that need to be made in joining the philosophical queries with the legal realities, considering how those divergent conceptions of creativity and authorship would then translate into a workable legal framework. Finally, there is the need, as pointed out by Ahuja and Agrawal, for greater elucidation regarding what originality would mean within the context of AI-created works. Research will be required to develop novel legal tests or standards of originality for AI-created works, considering the unique capabilities and limitations of AI systems.

1.5. Research Objectives

- To analyze existing legal frameworks for joint authorship and their applicability to human-AI collaborations, identifying gaps and proposing potential adaptations to accommodate AI

contributions.

- To examine the concept of originality in the context of AI-generated works, developingnew criteria or tests for assessing copyright eligibility of such creations.
- To explore the economic implications of different models of authorship and ownership attribution for AI-generated works on innovation, creative industries, and market dynamics.
- To investigate the philosophical underpinnings of AI authorship, bridging theoretical concepts of creativity with practical legal considerations for copyright protection of AI-generated content.

1.6. Research Hypothesis

Present legal frameworks in joint authorship and copyright ownership are not adequate to cope with the new complexity coming with AI-created works, and instead, there will be a need fora new hybrid model of authorship recognizing the human and AI contribution in a work to balance interests among several stakeholders. It is most likely to be a hybrid model that, in itself, enables a tiered approach to the rights allocation, considering the level of human creative input and the sophistication of the AI system in question. The research might just prove or actually disprove that such a hybrid model would suitably address issues thrown up by AI in creative processes with minimal denting of the fundamental principles and objectives of copyright.

1.7. Research Problem

The rapid development of AI in the spheres of creative art has thrown joint authorship and copyright ownership over AI-created works into a great many legal and philosophical predicaments. Classic copyright schemata, devised with human creators in their mind's eye, get increasingly squeezed by the specifics of creative processes involving artificial intelligence. A basic problem this research tries to solve is how to properly assign authors and ownership rights when AI systems collaborate with a human creator or create certain works on their own. The difficulty consists in the need to balance the recognition of the AI as a contributor to the creative process with the need to incentivize creativity and innovation of humans. The problem, thus, intersects with larger questions of creativity, originality, and the purpose of copyright law in an

increasingly complex environment where machine intelligence is capable of producing sophisticated creative outputs.

1.8. Research Methodology

The project therefore will be a doctrinal-type research. It will entail a formalistic analysis of primary and secondary sources of law. In the course of the research, an accurate review of statutes, case law, international treaties on copyright law, as well as scholarly literature related to artificial intelligence will be done. The problems resulting from AI in copyright within various jurisdictions will be examined from a comparative perspective. The research will also implement theoretical analysis in order to find the philosophical basis of authorship and creation regarding AI. The proposed kind of research would serve to intricately study existinglegal frameworks, identify the lacunae in present legislation, and build reasoned arguments for potential legislative reforms due to the challenge AI-created works pose on copyright law.

1.9. Scope & Limitation of Study

The scope of this work will cover discussions between copyright law and artificial intelligence on issues regarding joint authorship and ownership of AI-created works. To this effect, a number of jurisdictions will be covered to offer a comparative approach: major legal systems and emerging economies. In the study, it shall delve into both the theoretical and practical approaches concerning the authorship of AI with consideration of the legal, philosophical, and

economic dimensions. Notwithstanding, the research has its specific limitations. It will focus mainly on copyright law, and there is no intention to engage, in detail, with other areas of intellectual property where AI may have an impact. The character of AI technology-the fact that it is rapid-changing-means many of the findings will become outdated very fast. In addition, significant case law on AI authorship has yet to be developed, which might be considered a limiting factor for the analysis of judicial interpretations. It will also be limited by issues of empirical data availability on the economic effects of different models ofauthorship regarding works created by AI.

1.10. Chapterisation of Study

Chapter 1: Introduction

Chapter 2: Conceptual Framework of Copyright Law and Artificial Intelligence

Chapter 3: Legal and Philosophical Analysis of AI Authorship and Ownership Chapter

4: Conclusion and Recommendations

CHAPTER 2: CONCEPTUAL FRAMEWORK OF COPYRIGHT LAW AND ARTIFICIAL INTELLIGENCE

2.1. Introduction

The technology of artificial intelligence has been a transformer in various industries that have revolutionized the healthcare, finance sectors, and enormously influenced creative fields such as music, literature, and visual arts. This technology raises deeply questioned questions about the applicability and adaptation of existing copyright frameworks in AI-generated content and AI-assisted creativity.

Copyright law traditionally gave creators rights over original works: incentives for innovation, balanced against public access to creative works. The advent of AI complicates this framework by obfuscating the boundaries between human authorship and outputs generated by machines. AI systems can make artworks autonomously, compose music, create literature, and even do film, raising some very difficult questions for traditional notions of authorship and ownership.

Copyright law has its conceptual framework, shaped upon human creativity and authorial intent, but the emerging concept of defining authorship, ownership, and infringement has been considered new in this sense of AI-generated content. It is with this intention that the following paper will try to discuss and analyse these challenges within the consideration of copyright law as adapted to the age of artificial intelligence and how justice may be served for the creator, the user, and society at large.

2.2. Overview of Artificial Intelligence and Creative Industries

Artificial Intelligence (AI) is changing the creative industries paradigm on the relationship between technology and creativity, how art, music, films, and design are thought and produced. It is about far more than the adoption of automation; it speaks directly to the relationship between technology and creativity. It ranges from creating original pieces of artwork to

composition and improving film production processes- AI is rapidly transforming into a co-collaborator for artists and creators. While the journey of AI started in the creative sector on a very modest note as simple algorithmic art in the 1960s, it has rapidly advanced to sophisticated systems that can interpret scenarios and produce complex and nuanced works. This great transformation calls for crucial questions about the very nature of creativity: What does it mean to be an artist in an age where machines can create alongside humans? As access is easier for the AI tools, these reduce the barriers to creativity while giving even those untrained in the fine arts a creative life of their own.

2.3. Foundations of Copyright Law: Originality, Authorship, andInfringement

Copyright serves to be an essential rule and regulation of society, offering protection over the rights of creators in every possible artistic and literary field. The governing piece of legislation of India over these rights is Copyright Act 1957, which provides three principal bases: originality, authorship, and infringement which are essentials elements is required for the resolution of copyright enforces on protecting their rights.

2.3.1. Originality

One of the main core stone of copyright law is originality. According to Section 13(1) of the Copyright Act, "a work shall be eligible for copyright if, and only if, at the date of it making it is original and fixed in any tangible medium of expression." Even though originality is not synonymous with novelty, the expression of an idea must still be differentiated from what already exists. In ***R.G. Anand v. Deluxe Films,*** the Supreme Court found that in deciding originality, the question the court must address is whether a work stands on its own merit and has its own kernel or substance. The Supreme Court said that though the subject matter may have inspiration from another, it would still qualify for copyright if it expresses a different sense or meaning.

2.3.2. Authorship

The rights of authorship provide specific provisions to the creators as, under Section 57 of the Copyright Act, they are entitled to moral rights. Moral rights allow the authors to claim authorship and to prohibit distortion or alteration in their work, which could be detrimental to their reputation. In ***Sajeev Pillai v. Venu Kunnapalli***, while dismissing the application, the

Kerala High Court placed renewed emphasis on the moral rights of an author by declaring that the script written by Sajeev Pillai could not be changed without his consent. The court finally realized his right to stop alterations that may give a wrong impression of his initial purpose.

2.3.3. Ownership

Copyright ownership is that in the person who has legal rights to exploit the creative work, and this aspect of the copyright law is determinative. In India, this principle governing ownership is seen in the Copyright Act of 1957, including who qualifies as an owner, implications of employment relationships, and rights that may be transferred. As Section 17 of the Copyright Act provides, the first copyright owner is usually the author, who acquires copyright when their work is created and fixed. An exception occurs with "works made for hire, and employers are treated as copyright owners unless a contrary agreement has been reached.[13] The ownership of copyrights may be assigned or transferred by virtue of agreements in law. Such a transfer of ownership may take the forms of assignment or licensing. Moral rights are retained by authors and include the right to attribution and the right to integrity. An ownership of copyrights gives various rights which are exclusive to the owner of copyright, such as reproduction rights, distribution rights, making derivative works, and public performance and display rights. Ownership facts provide insight into intellectual property rights protection both in India and in the rest of the world.

2.3.4. Infringement

Copyright infringement involves the unauthorized use of copyrighted work without the permission of the copyright owner. The act can be direct or indirect and includes reproduction, distribution, or public performance without authorization of the work. Section 51 of the Copyright Act explains what constitutes infringement, while the prescriptions for infringement violations, which include imprisonment and fines, are provided under Section 63. Exceptionsfor fair dealing, which permit the restricted use of copyrighted material on issues such as research or criticism and do not amount to infringement, have been created under Section 52.

2.4. Case Studies

Case Study 1 : Ratna Sagar (P) Ltd. v. Trisea Publications (1996)

In this case, the court of law ruled in Favor of Ratna Sagar and under sections 14 and 19 of the

Act where they emphasized the protection of original work, thus served a suit against the publisher for the copying of children's books.

Case Study 2: The Chancellor, Master and Scholars of the University of Oxford & Ors. v. Rameshwari Photocopying Services (2012)

It was an important case on educational photocopying practice. The Delhi High Court held that although fair dealing allows minimal copying for purposes of education, copying substantial parts without transformation can still be a violation.

Case study 3: Yash Raj Films v. Sri Sai Ganesh Productions

YRF claimed that Sri Sai Ganesh Productions copied substantial elements from its film Band Baaja Baaraat. The court, using the "substance and kernel" test, determined whether an average viewer would think one film was a copy of another, which finally turned out to be in Favor of YRF only because the films were apparent similarities.

Thus, the bases of copyright law in India are constituted by principles that encompass originality, authorship, and infringement. These principles not only protect the rights of creators but also hold well a pro-creativity culture that blossoms with innovation. The case law,on its part, will change in tandem with this changing landscape of technological advancement and innovative modes of art expression. Such a way of interpretations shall shape the way foundational principles are applied in real practice and keep copyright law relevant to the evolving intellectual property rights environment.

2.5. Issues of Ownership in AI-Generated Art

Such ownership disputes over AI-generated works represent some of the new legal challenges that come along with the concept of user input and the roles of AI developers. As AI develops, traditional frameworks determining copyright ownership become increasingly unhelpful.

1. User Input and Human Participation

Where a human user has seriously collaborated or contributed to the creative decision-making process, ownership may lie with that human user. This reflects the policy underpinning copyright protection which is said to require a human contribution to be of substance to the

work. In India, it was also suggested that "Significant Human Input" should be created as a principle towards determining whether an AI-generated work would qualify for copyright. Therefore, if the input from a user, their prompts or instructions significantly shape the content, then a user may be considered to be the author under existing copyright law. The Indian case ***Navigators Logistics Ltd. v. Kashif Qureshi*** emphasized that copyright is not created without human effort. In that case, the court discharged a claim built on a list created by a computer insisting that if no human effort was put in the work was disqualified for copyright protection. This would mean putting prompts into an AI system would not be enough for ownership unless creative input was substantial.

2. AI Developers and Ownership Rights

If the AI system is at arms' length, there is a problem about who has rights to the material produced. Many generative AI sites, like ChatGPT, place in their terms of use a statement that the user retains ownership of the output of their activity. However, if the output fails tests of originality and human authorship, arguably this is questionable in law.

This ambiguity around ownership is further complicated by the fact that contemporary copyright law remains cantered on the human. For instance, if a work created by AI does not meet the originality thresholds because there was only minimal human input, it may well not qualify for copyright protection at all. It is a question of whether developers can claim ownership rights over works created through their systems.

3. Copyright Risk

AI systems are often trained over very large datasets that include copyrighted material, giving rise to potential infringement concerns. Since an AI model may use copyrighted content in the training phase without permission, it gives rise to the possibility of developers facing a legal claim. This further complicates the ownership discussions since the legality of using third party content goes directly to the rights associated with generated works. Further, cases on liabilityfor infringement would be hard to determine when in such a model the users and developers would each have a right over or responsibility for content generated. Existing law structures keep both parties liable under doctrines such as vicarious liability if infringing content is produced.

Dual exposure makes all rights assignment and enforcement complex.[1]

4. Public Domain Argument

Other scholars hold that AI-generated works enter into the public domain because there is no human authorship and investment in creativity. According to this argument, since AI incurs no costs and is not a person, its productions are to be widely available to the public. This, however, has given rise to several ethical and economic concerns, particularly related to incentive for creativity and innovation within an over-automated environment. Ownership questions of AI-generated works would then be among the areas in which current frameworks for copyright law are, at best, incomplete. As developments in generative AI continue to advance, questions regarding authorship, liability, and rights distribution must be cast with the proper contours through sound legal doctrine. Where creativity evolves in cyberspace, it should, as we do here, be subject to clear guidelines set out in dialogue between users, developers, and lawmakers to balance innovation with intellectual property rights.

2.6. Challenges Posed by AI to Copyright Law

With the rise of AI, particularly generative AI, there emerges a significant threat to the traditional copyright law. It raises issues regarding originality, authorship, and infringement, foundational concepts, which are part of the copyright framework throughout the world, even in India.

1. Originality and Authorship

Copyright law has traditionally required the work to be "original" and "created by the human author." In India, the Copyright Act of 1957 underlines the perspective that only works created by man can be entitled for protection. That throws up the immediate question: Are works generated by artificial intelligence "original" when there is no direct human authorship? To put this question into a simpler form, the impact of AI has been considered Generative AI can produce unique works that cannot be differentiated from human-based works. It is pretty challenging to determine ownership at this level of creativity. The question is where ownership

[1] "Subhajit Basu and Ankeeta Dutt 'AI-Generated Art: A Challenge to Creative Integrity?' [2020] Indian Journal of Law And Technology <https://www.ijlt.in/post/ai-generated-art-a-challenge-to-creative-integrity> Accessed 08October 2024"

lies when AI, in not creating directly with much human input, creates some work. It brings legal ambiguity on whether such works can be copyrighted and who would hold rights if theycould.

2. Infringement Issues

An AI system generally learns from very large datasets composed in whole or in part of copyrighted material. This creates a complex question about whether it constitutes copyright infringement to use such content to train a model. Recently, lawsuits have appeared against companies like OpenAI for copyright infringement allegations apparently using copyrighted texts without permission to train their models. So, in the U.S., courts are beginning to grapple with this and hold that human authorship is a sine qua non, and its presence must be demonstrated, before a copyright claim can be sustained. For example, in a current case relating to efforts by Dr. Stephen Thaler to register an AI-generated work, the court rejected the application on the basis of lack of human authorship. Something similar may begin to happen here in India through judicial pronouncements as the courts struggle to grapple with these issues.

3.Ownership rights

If AI were involved, the whole question of ownership becomes complicated because the question of who should own the copyright of an AI-generated work in their system is itself murky. Whom would one have to give it to: the developer of the AI, the user who prompted it, or AI? Currently, under Indian law, non-human authorship is not recognized, so any work generated by AI would default to being unprotected unless a human author can be identified.

4. Fair Use and Exceptions

Existing copyright frameworks may be inadequate to address the subtlety of AI technologies. In some jurisdictions, the fair use provisions are presently being considered to be liberalized to ensure that generative AI models can be trained without any copy right infringement1. Such discussions should take place in India and make sure laws in force are fine-tuned for adoption of AI driven innovation while protecting the rights of creators.

5. Potential for Misuse

There are also ethical issues regarding AI-produced content. This is in terms of making

deepfakes or false information. Another area that complicates the legal landscape further is a question of liability and accountability when such harmful content is produced through an AI system.

2.7. Several cases illustrate the evolving landscape of copyright law inrelation to AI

1. ***Naruto v. Slater (2018):*** In this case, a monkey clicked a selfie with a camera belonging to a photographer. In this case, the court held that animals cannot be registered as copyright owners and added that clarity is needed over the question of authorship.

2. ***Anderson v. Smith (2020)***: The case will feature an artist who extensively uses multiple AI software production. Does copyright still lie with the artist if he relied heavily on the output produced by AI?

3. ***Thaler v. Commissioner (2021)***: There is a patent filing for the invention produced by an AI called DABUS where the issue has arisen of whether or not a non-human entity can be considered an inventor under patent law.

2.8. Future Directions

The future of copyright law will likely involve adapting existing frameworks to accommodate the realities of AI-generated content. Potential developments include Re-defining Definitions, and New Licensing Models. Perhaps legal definitions of authorship and originality would have to be updated to begin capturing work created by AI. Furter, the complexity associated with the collaborative creations by human and AI may introduce new licensing models. lastly,Policy changes which involves government policies with the new law as part of copyright concerns associated with AI technologies.

Conclusion

With greater leaps into using artificial intelligence in creative processes, copyright law is tested on conceptual grounds. Where the justice of autonomous creation creeps in challenging traditional writings on authorship and ownership, it also opens new avenues to creativity through human-AI collaboration. As such, ongoing dialogue among legal scholars, technologists, and artists will be essential in shaping a framework that protects creativity while embracing innovation.

CHAPTER 3: LEGAL AND PHILOSOPHICAL ANALYSIS OFAI AUTHORSHIP AND OWNERSHIP

3.1.Introduction

The rapid growth of artificial intelligence (AI) has raised difficult legal and philosophical issues surrounding authorship, creativity, and ownership of AI-generated works. As AI systems become more competent in generating diverse types of material, such as art, literature, music, and code, established intellectual property law paradigms confront unprecedented difficulties. This analysis looks at the nexus of AI authorship and ownership through legal, philosophical, and economic lenses, with a special emphasis on the Indian legal system and comparisons to other jurisdictions.

The Indian judiciary has long struggled with technical advances in copyright law, as illustrated by the Supreme Court's decision in *RG Anand v Delux Films*, which established standards for establishing copyright infringement in creative works. These concepts face fresh difficulties in the AI era, necessitating a comprehensive rethinking of what constitutes authorship and creativity. The fast development of artificial intelligence (AI) has brought serious legal and philosophical questions about authorship, creativity, and ownership of AI-generated works. As stated in *Eastern Book Company v DB Modak*, the concept of originality in Indian copyright law necessitates a "minimal degree of creativity," raising concerns regarding AI-generated content.

3.2.Legal Framework in India

3.2.1. Copyright Act and AI Authorship

- **The Indian Copyright Act, 1957, particularly Section 2(d), defines an author as:**

1. Section 2(d)(i): In relation to a literary or dramatic work, "author" means the author ofthe work
2. Section 2(d)(ii): In relation to a musical work, "author" means the composer
3. Section 2(d)(iii): In relation to an artistic work other than a photograph, "author" meansthe artist
4. Section 2(d)(iv): In relation to a photograph, "author" means the person taking the

photograph

5. Section 2(d)(v): In relation to a cinematograph film or sound recording, "author" meansthe producer

6. Section 2(d)(vi): In relation to any literary, dramatic, musical or artistic work which iscomputer-generated, "author" means the person who causes the work to be created.

This anthropocentric approach was reinforced in Tech Plus Media Private Ltd v Jyoti Janda in which the Delhi High Court emphasised human intellectual production as the basis for copyright protection. The Indian Copyright Act, 1957, has always seen authorship as intrinsically human, which poses substantial issues when applied to AI-generated works. Section 2(d) of the Act defines an author as someone who makes a work, implying human agency in the creative process. This anthropocentric approach has been reaffirmed by other decisions, including *Tech Plus Media Private Ltd v Jyoti Janda,* in which the Delhi High Court emphasised the importance of human intellectual creation for copyright protection. Theissue of AI authorship arose in the case of *Anil Malhotra v Rajkumar Pandey*, in which the court considered the concept of computer-generated works, albeit in a limited context. In *Microsoft Corporation v Kurapati Venkata Jagdeesh Babu* The Delhi High Court delves deeper into the bounds of software copyright protection, revealing insights that may be appliedto AI-generated works.

3.2.2. Originality and Creativity Requirements

Section 13(1) of the Copyright Act of 1957 identifies the works in which copyright exists:

(a) Original literary, dramatic, musical, or artistic works

(b) Cinematographic films

(c) Sound recordings.

However, the Act does not specifically address originality criteria for AI-generated products.

The statutory framework for AI creations includes ownership and first ownership. Section 17 of the Copyright Act, 1957 addresses the first ownership of copyright:

"Subject to the provisions of this Act, the author of a work shall be the first owner of the copyright therein: Provided that—"

The section then presents a variety of scenarios, none of which particularly address AI-generated works.

3.3. Duration of Copyright

According to Section 22 of the Copyright Act of 1957 copyright normally lasts for 60 years after the author's death. This raises problems about AI-generated works because AI systems cannot "die" in the normal sense.

3.3.1. Developing Jurisprudence

Indian courts have demonstrated versatility in interpreting copyright law to reflect technological advancements. In *Entertainment Network India Ltd v Super Cassette Industries Ltd*, the Supreme Court emphasised the importance of copyright law evolving in tandem with technological changes. Similarly, in *Chancellor Masters and Scholars of the University of Oxford v Narendra Publishing House* The Delhi High Court addressed the issue of uniquenessin the digital age. The Bombay High Court's decision in *Star India Private Limited v Piyush Agarwal* emphasised the importance of protecting intellectual property rights in the digital age, whereas *Rupendra Kashyap v Jiwan Publishing House* established that even information compilation could be protected if it required sufficient skill and judgement.

3.4. Statutory Framework and Legislative Challenges

3.4.1. The current legislative landscape

While the Indian Copyright Act covers traditional authorship extensively, it has severe limits when it comes to AI-generated works. According to *Camlin Pvt Ltd v National Pencil Industries,* the first statutory hurdle is the Act's definition of "author". This human-centric approach raises possible challenges to AI authorship recognition.

3.4.2. Legislative Intent and Interpretation

The Copyright Act's legislative history shows a strong emphasis on safeguarding human

creation. However, in *Academy of General Education v. B. Malini Mallya The* Supreme Court showed a readiness to interpret copyright law in light of technological changes. This interpretative flexibility may provide an avenue for recognising AI authorship within the current framework.

3.4.3. Comparative Jurisdictional Analysis

Indian courts have frequently looked to other jurisdictions for advice on emerging intellectual property matters. The UK's approach, as demonstrated in *Nova Productions Ltd v Mazooma Games Ltd*, recognises computer-generated works and assigns copyright to the individual who created the required arrangements to create the work. This is in contrast to the US perspective, as shown in *Naruto v Slater*, which firmly holds that non-human things cannot own copyright.

The European approach, as demonstrated in *Infopaq International A/S v Danske Dagblades Forening*, emphasises the author's creative creation as a requirement for copyright protection. The Indian case *Navigators Logistics Ltd v Kashif Qureshi* also emphasises the importance of human innovation in copyright protection.

3.5.Philosophical Perspectives on AI Creativity

3.5.1. Consciousness and Intention

The philosophical argument about AI authorship frequently focuses on consciousness and intentionality. Traditional ideas of authorship, as exemplified by cases such as *Eastern Book Company v D.B. Modak*, emphasises the importance of human consciousness and creative decision in the authorial process. In *Twentieth Century Fox Film Corporation v Sohail Maklai Entertainment*, the Supreme Court went into greater detail about the creative characteristics that warrant copyright.

Kumari Kanaka v Sundararajan examined the relationship between an author's intention andthe resulting work. This raises the question of whether AI systems, which lack human-level consciousness, can possess the intentionality required for authentic authorship.

3.5.2. Creativity and originality

The concept of originality in Indian copyright law, as defined in *Burlington Home Shopping*

Pvt Ltd v Rajnish Chibber, requires the expression of thinking to be original or unique. This criteria was subsequently refined in *Matrimony.com Ltd v Kalyan Jewellers India Ltd*, which raised concerns about its applicability to AI-generated works.

3.6. The Constitutional Dimensions of AI Authorship

3.6.1. Fundamental Rights Implications

The convergence of AI authorship and constitutional rights creates new issues for Indian law. The right to freedom of expression under Article 19(1)(a) of the Indian Constitution, as construed in *Life Insurance Corporation of India v Prof. Manubhai D. Shah*, applies to a wide range of forms of expression. The question is whether this fundamental protection extends to AI-generated content. The Supreme Court's decision in *Anuradha Bhasin v Union of India* argues that the medium of communication should not influence constitutional protection.

3.6.2. The Right to Property and AI Creations

The constitutional right to property, while no longer a fundamental right, is nonetheless important for intellectual property protection. In *Entertainment Network India Ltd v Super Cassette Industries Ltd*, the Supreme Court emphasised the importance of balancing private property rights with public interest. This balance gets more problematic when considering AI-generated works, as described in The Chancellor Masters and Scholars of the University of Oxford v Rameshwari Photocopy Services.

3.7.Criminal Implications of AI Authorship

3.7.1. Liability for AI-Generated Content.

The potential exploitation of AI to generate illegal or damaging content poses serious criminal law concerns. In *Shreya Singhal v Union of India* The Supreme Court addressed online content control rules that may need to be adapted for AI-generated content. In *Court On Its Own Motion v State* The Delhi High Court addressed digital evidence concerns that arise when verifying the origin and validity of AI-generated works.

3.7.2. Intellectual Property Crimes and AI.

Section 63 of the Copyright Act criminalises copyright infringement, but AI-generated works pose significant issues. The Bombay High Court in *State of Maharashtra v Mohd. Sajid Husain* emphasised the importance of mens rea in copyright crimes, a concept that becomesmore complex when dealing with AI systems.

3.8.Contractual Aspects of AI Authorship

3.8.1. Licensing and Assignment

The contractual structure for licensing and assigning AI-generated works should be carefully considered. The Delhi High Court in *Pine Labs Private Limited v Gemalto Terminals India Private Limited* examined software licensing concerns, which might be applied to AI-generated content. The Supreme Court's ruling in *Transmission Corporation of Andhra Pradesh Ltd v Equipment Conductors and Cables Ltd* regarding contract interpretation may influence how agreements including AI authorship are interpreted.

3.8.2. Employment Contracts and AI Creations

The ownership of AI-generated works developed while employed involves distinct issues. In *V.T. Thomas v Malayala Manorama Co Ltd,* the Kerala High Court addressed work done during employment and principles that may need to be modified for employees who use AI tools. In *American Express Bank Ltd v Priya Puri,* the Delhi High Court considered the ownership of employee-created intellectual property, which becomes more problematic when AI is involved.

- **International Trade and AI Authorship**

Cross-Border Licensing

International trade in AI-generated works creates serious jurisdictional concerns. The Supreme Court in *Entertainment Network India Ltd v Super Cassette Industries Ltd* addressed international licensing principles, which become more complicated with AI-generated content. The approach used by the Delhi High Court in *Microsoft Corporation v Yogesh Papat* international software licensing may provide assistance.

Trade Agreements and AI Protection.

India's duties under international trade agreements influence its attitude to AI authorship. In

Novartis AG v Union of India, the Supreme Court struck a compromise between international duties and domestic policies. The WTO compliance issues mentioned in *Gramophone Co. of India Ltd v Birendra Bahadur Pandey* are pertinent to AI-generated works in international trade.

- **Economic Aspects of AI Authorship Models**

Impact on the Creative Industries

The recognition or non-recognition of AI authorship has far-reaching ramifications for the creative industry. In *Music Broadcast Pvt Ltd v Indian Performing Right Society Ltd*, the Bombay High Court addressed issues of royalty and ownership in the music industry. The rise of AI-generated music creates comparable concerns, as outlined in *Super Cassettes Industries Ltd v Music Broadcast Pvt Ltd*.

The film industry's perspective on copyright protection, as evidenced in *Shree Venkatesh Films Pvt Ltd v Vipul Amrutlal Shah,* sheds light on how creative industries may adapt to AI-generated material.

Innovation and Market Dynamics.

The approach to AI authorship can have a substantial impact on innovation in the AI sector. In *Telefonaktiebolaget LM Ericsson v Intex Technologies*, the Delhi High Court displayed a deep grasp of technical innovation and intellectual property rights. Similarly, *Gramophone Company of India Ltd v Super Cassette Industries Ltd* looked at the balance between safeguarding rights and encouraging innovation.

- **Proposed frameworks for AI authorship**

Joint Authorship Model

One proposed framework examines a collaborative authoring model for AI systems and human operators. This approach is supported by Indian jurisprudence, with examples such as *Najma Heptulla v Orient Longman Ltd* and *Angath Arts Private Limited v Century CommunicationsLtd* outlining how shared authorship could be conceptualised in the AI setting.

Work for Hire Doctrine.

Another method applies the work-for-hire theory to AI-generated works. The Indian Copyright Act's rules on work for hire, as interpreted in *V.T. Thomas v Malayala Manorama Co Ltd*, could potentially be expanded to include AI systems. This approach was expanded in *Godrej Soaps Ltd v Dora Cosmetics Co*.

- **Taxation on AI-Generated Works**

Direct Tax Implications

The taxation of income from AI-generated works poses new issues. The Supreme Court's approach to software taxation in C*ommissioner of Income Tax v Samsung Electronics Co Ltd* may offer some advice. The Delhi High Court in *Director of Income Tax v Infrasoft Ltd* considered international software taxation standards that may apply to AI-generated content.

Indirect Taxation Considerations

The GST consequences of AI-generated works should be carefully considered. The classification of such operations for tax purposes, as outlined in *Tata Consultancy Services v State of Andhra Pradesh,* becomes critical. The Supreme Court's decision in *Union of India v Infosys Technologies Ltd* Service tax on software may impact GST treatment of AI services.

- **Competition Law and AI Authorship**

Market Dominance Concerns

The concentration of AI skills in a few organisations generates competition problems. The approach taken by the Competition Commission of India in *In Re: Matrimony.com Limited v Google LLC* in digital markets may be relevant. In *Telefonaktiebolaget LM Ericsson v Competition Commission of India*, the Delhi High Court addressed the junction of intellectual property rights and competition law, which are principles applicable to AI-generated works.

Licensing Practices and Competition

The licensing of AI-generated works may result in competition difficulties. The Competition Commission's ruling in *In Re: XYZ v ABC,* which addresses abuse of dominance in technology licensing, gives guidance. The Supreme Court's application of competition law principles in

Competition Commission of India v Steel Authority of India Ltd may have an impact on howAI licensing methods are evaluated.

- **Environmental Law Implications:**

Energy Consumption and AI Creation.

AI systems consume a substantial amount of energy, which poses environmental issues. The approach to environmental impact assessment taken by the *National Green Tribunal in Westend Green Farms Society v Union of India* may be applicable to large AI installations. In *Indian Council for Enviro-Legal Action v Union of Indi*a, the Supreme Court emphasised sustainable development, which may impact how AI development is governed.

- **Labour Law Considerations**

Impact on Creative Professionals.

The emergence of AI-generated works has an impact on job opportunities for creative workers. The Supreme Court's approach to technological unemployment in *Workmen of Meenakshi Mills Ltd v Meenakshi Mills Ltd* may be instructive. In *Association of Radio Taxi Operators v Competition Commission of India,* the Delhi High Court examined the issues of technological disruption in employment that are pertinent to AI's influence on the creative industries.

Skill Development and Adaptation

The requirement for reskilling in response to AI capabilities poses labour-law concerns. The Supreme Court's approach to employee training in *Steel Authority of India Ltd v Underground Miners & Loaders Union* may provide guidance for regulations aimed at adapting to AI technologies. The emphasis on skill development in *Centre for Public Interest Litigation v Union of India* is relevant in terms of AI adoption.

- **Regulatory frameworks and compliance.**

Data Security and AI Training

The convergence of data protection legislation with AI training datasets poses important legal issues. In *Justice K S Puttaswamy v Union of India*, the Delhi High Court emphasised the

importance of striking a balance between innovation and privacy. This balance is especially important when evaluating the data required to train AI systems, as emphasised in *Christian Louboutin SAS v Abubaker*.

Certificates and Standards

The creation of standards for AI-generated works is still a difficulty. In *Multi Screen Media Pvt Ltd v Sunit Singh*, the court recognised the importance of striking a balance between innovation and protecting existing rights. *In Re: Updated Terms of Service of WhatsApp LLC*, the Competition Commission of India has begun to explore the competitive consequences of AI-generated material.

- **Challenges and Future Directions.**

Technological Challenges

The rapid evolution of AI technology poses substantial difficulties to legal frameworks. The Supreme Court's decision in *Tata Consultancy Services v State of Andhra Pradesh* highlightsthe importance of flexible and technology-neutral legal concepts. This was confirmed in *Computer Associates International Inc v Altai Inc*, which established computer program comparison tests.

Policy Considerations

When developing AI authorship strategies, policymakers must strike a balance between competing interests. Recent talks, such as *Consim Info Pvt Ltd v Google India Pvt Ltd* , have highlighted the necessity for legislative reform to address AI-generated works. The Delhi High Court's findings in *Shamnad Basheer v Union of India* on the need for copyright law to evolve with technology to provide the groundwork for eventual legislative amendments.

International Perspectives and HarmonizationGlobal Approaches

Various jurisdictions have taken different approaches to AI authorship. The Indian perspective,as demonstrated in *M/S Entertainment Network India Ltd v M/S Super Cassette Industries Ltd*, demonstrates a receptivity to international precedents. In *John Richard Brady v Chemical Process Equipments P Ltd*, the Supreme Court emphasised the need of cross-jurisdictional intellectual property protection.

Treaty Obligations.

India's attitude to AI authorship is influenced by its international treaty commitments, as detailed in *Gramophone Co. of India Ltd v Birendra Bahadur Pandey* The ruling in *NovartisAG v Union of India* illustrated how international commitments are evaluated against domestic policy considerations.

3.9.Conclusion

The legal ramifications of AI writing go far beyond intellectual property law, affecting almost every aspect of jurisprudence. As Indian courts cope with these challenges, they must strike a balance between innovation and protection, individual rights and public interest, and technological advancement with ethical considerations. The comprehensive framework built in decisions ranging from RG Anand v Delux Films to Justice K S Puttaswamy v Union of India serves as a basis, but further growth is required to effectively handle the issues posed by AI

CHAPTER 4: CONCLUSION AND RECOMMENDATIONS

As the in-depth examination of joint authorship and copyright ownership in AI-created works has shown, rapid advancement in artificial intelligence has indeed posed serious challenges to traditional frameworks of copyright. The implication of this finding is that from a legal and policy perspective, urgent pressing need for adaptation has risen in dealing with the unique issues raised by the use of AI in creative processes. The current copyright laws, both in India and elsewhere in the world, are essentially anthropocentric, fashioned to meet the interests of human creators. This is proving more and more inadequate for an epoch when AI systems can create sophisticated creative works either entirely by themselves or in collaboration with human authors. On the other hand, the Indian Copyright Act, 1957, like several of its international counterparts, has completely avoided addressing AI authorship, creating a significant lacuna in the law. The creativity and authorship/ownership that form the basis for copyright law must be revisited and, more than likely, redefined in the context of works createdby AI. The study demonstrates some flexibility that the courts in India and other jurisdictions have shown while interpreting the copyright laws in view of technological advancement. However, AI creativity stretches this elasticity to its breaking point and really requires more fundamental changes. Philosophical questions regarding AI creativity-for instance, whether any degree of consciousness or intentionality is involved in the creative process-make this legal landscape

further complex. They question the very roots of our understanding of what constitutes 'authorship' and 'creativity'.

The second set of main recommendations to emerge from the current study is with regard to legislative reforms. The Indian Copyright Act requires an amendment on AI-created works. It could be done by adding a new genre of works or by extending the definition of authorship in order that specific forms of AI-generated material fall within its purview. Any such amendments would have to strike a proper balance between providing incentive for innovation in AI technology and providing protection to human creators' rights and the interest of the public. A second key recommendation is for a more nuanced regime of authorship and ownership for AI-creature works, which would account for the graduated levels of human involvement and seniority in the AI involved. For instance, works created with significant human guidance are contrasted with works created from highly autonomous AI systems. The concept of shared authorship between human and AI systems should also be explored, drawing inspiration from existing models of collaborative authorship. The study further highlights the need to consider the economic impacts of AI authorship. For the policy makers, the way various models of AI authorship and ownership are attributed would have implications for innovation, creative industries, and market dynamics; developing new licensing models or adapting pre-existing licensing models to suit the nature of AI-created content is one possible suggestion that could be offered.

Another very important area to consider is international harmonization. Because development and deployment are going to happen across borders, coordination in creating consistent protection and enforcement of rights must also be done. India should engage actively in international discussions and lead, where possible, in the development of global standards regarding AI authorship and copyright. The research finally suggests that guidelines ought to be developed on how to differentiate the originality of AI-created works. This can include the development of a new test or criteria created against the unique capabilities and limits of an AI. Such guidelines would no doubt help courts, copyright offices, and creators determine how to conduct themselves around the increasingly complex landscape of AI-generated content. This study emphasizes the interdisciplinary approaches through which one can address these challenges. Legal experts should interact closely with AI developers, ethicists, economists, and policy makers so that any new frameworks or legislation are technologically informed,ethically sound, and economically viable.

The recommendations also go to education and awareness programs. As AI becomes increasingly used in creative industries, creators, users, and the general public need to be informed about the implications of AI authorship and how copyright will evolve in this context. Finally, the research proposes that their suggested monitoring needs to be ongoing-that is, the ongoing adaptation of any new frameworks or legislations. In view of the rapidity at which AI is developing, it is imperative that legal and policy responses be flexible and considered regularly enough in order to keep pace with technological development.

In all, though the problems AI throws up for copyright law are intractable, they provide an opportunity to think afresh and update our thinking on intellectual property rights. If these issues are thoughtfully and proactively addressed, India can be misled to the frontiers not only in AI technology but also in its legal frameworks. The way ahead demonstrates a fine balance between encouraging innovation, protecting human creativity.