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# NAVIGATING THE LABYRINTH: UNRAVELING THE LEGAL CONUNDRUM OF ARTIFICIAL INTELLIGENCE AND COPYRIGHT LAW

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## ABSTRACT

*Industry 4.0 is the ultimate buzzword that has been signifying technological innovation across the globe. The advent of artificial intelligence (AI) has acted as a catalyst in ensuring a profound transformation in the realm of intellectual property rights. A legal conundrum is posed by the creative capabilities of the artificial intelligence technology which seems to be having a critical impact on the traditional norms of the copyright law. The traditional pursuits of copyright are mainly centred around human creativity and authorship. While the law of copyright is aiming to protect the original work creations, however, the question of originality of the work generated by the artificial intelligence remains contentious. Even if the works created by the artificial intelligence system is recognised, question that will still loom is who will be the real author of the work? Ownership and attribution complexities further complicate the landscape. Determining rightful ownership and the allocation of economic and moral rights in AI-generated content have emerged as pivotal issues, necessitating legal clarity. As the legal ramifications are considered, a global voice is being raised to consider accommodating the artificial intelligence-generated works, however, equally ensuring that the fundamental principle of law of intellectual property rights are not decimated. Recently efforts have been made in countries across the world (including India) for granting authorship rights to the AI machine. Questions have been raised as to what is developed by Open-AI systems such as Chatgpt or text to image models like Midjourney is original or not? Accordingly, the following paper carefully encapsulates the challenges faced under the Indian law and the law abroad as regarding the emerging technology of AI and its effect in law of copyright.*

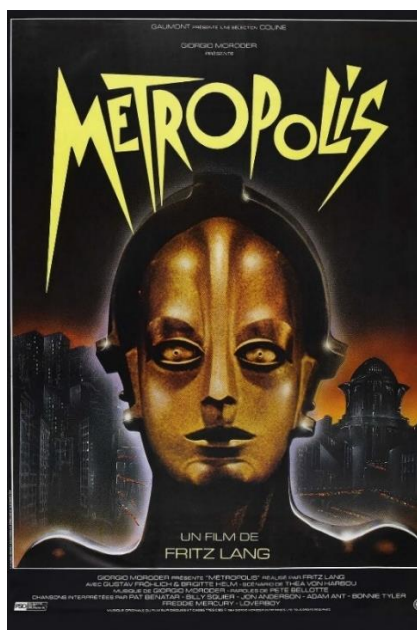
**Key Words:** *Artificial Intelligence, Copyright, Author, Technology, Ownership*

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## 1. INTRODUCTION

*“The genie is out of the bottle. We need to move forward on artificial intelligence development but we also need to be mindful of its very real dangers. I fear that AI may replace humans altogether. If people design computer viruses, someone will design AI that replicates itself. This will be a new form of life that will outperform humans.”<sup>1</sup>*

It is said that the phrase of ‘artificial intelligence’ took birth in the year 1956 at a workshop in the Dartmouth College in New Hampshire. *John McCarthy* was the one who devised this term of ‘artificial intelligence’, which was thereafter defined as *“the science and engineering of making intelligent machines, particularly intelligent computer programs”<sup>2</sup>*. This concept of Artificial Intelligence cannot be regarded as any new concept, rather its traces of existence can be seen dated back to the *“Metropolis”* movie of 1927, wherein such a kind of technology was first depicted in a form of humanoid robots, which have just changed the complexion of a peaceful society into the one full of havoc.



*Picture: The poster of the 1927 “Metropolis” silent-film wherein probably for the first time a humanoid robot has been depicted creating havoc in city of Germany.*

However, it is important to note that till today, defining the phrase of artificial intelligence has remained a tough task for the scholars in this field. Before the researcher delve on to this point, it

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<sup>1</sup> Joao Mediros, ‘Stephen Hawking: ‘I fear AI may replace humans altogether’ (Wired, November 28, 2017) <<https://www.wired.co.uk/article/stephen-hawking-interview-alien-life-climate-change-donald-trump>> accessed January 21, 2024

<sup>2</sup> John McCarthy, ‘A proposal for the Dartmouth Summer Research Project on Artificial Intelligence’ (Stanford, August 31, 1955) <<http://jmc.stanford.edu/articles/dartmouth/dartmouth.pdf>> accessed January 24, 2024.

is important for me to refer to the happenings prior to 1927, wherein though not exactly the phrase of “artificial intelligence” but the major genesis of it has been used. In an important work published in the year 1637 and titled “*The Discourse on the Method*” of R Descartes (a mathematician and a metaphysician and also known as the father of modern philosophy), he had categorised the ones’ who are “*non-humans or animals as machines i.e., they are devoid of any mind and consciousness and therefore have no ability to experience emotions or feelings*”<sup>3</sup>. Descartes had further stated that “*it is impossible for any such machine to have such diversity of organs like humans which make it enable to act in all occurrences of life like any normal human*”<sup>4</sup>.

As highlighted above, though the term of “artificial intelligence” was first coined in the year 1956, the background or the base was laid down way prior to it. We have discussed the 1637 work of R Descartes, now it is important to refer to A Turing, who is also regarded as the father of modern computer science. In his paper titled “*Computing Machinery and Intelligence*”, Turing had raised a fundamental question of “*Can Machines think?*” which was later on extended to “*Can machines be linguistically indistinguishable from a human?*”<sup>5</sup>. It would be important to note that Turing had devised a Turing test, wherein a woman and a computer are placed in separate sealed rooms, with one human judge, who does not know in which room who is there. Now, this judge is going to communicate to both of them via e-mail by asking certain questions. By doing this, both the computer and the woman will have to reply to the questions asked. For instance, if by any means after analysing the answers to the questions, this human judge, on the verge of decision-making, is 50-50 on the point as to who is there in which room, then it can be held that the computer machine has imitated the humans and has passed the Turing test.

As far as a layman is concerned, artificial intelligence can be regarded as the one in which computer or computer machine performs certain tasks like an intelligent human being i.e., in the form of reasoning or analysing or questioning or learning from past errors etc. Moreover, in a more specific definition, it is stated that “*artificial intelligence is a way of making a computer, computer-controlled robot or a software think intelligently as like an intelligent human thinks*”. One of the primary examples that in the present day I can think of, is of *Keya*, the artificial intelligence Chatbot created on the website of Kotak bank. Primarily, the idea of artificial

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<sup>3</sup> Selmer Bringsjord and Naveen S Govindrajalu, ‘Artificial Intelligence’ (Stanford Encyclopaedia on Philosophy, July 12, 2018) <<https://plato.stanford.edu/entries/artificial-intelligence/>> accessed January 24, 2024

<sup>4</sup> Ibid.

<sup>5</sup> Soham Bajpai, ‘Artificial Intelligence and its creation: Who owns Intellectual Property Rights?’, (2020) 10 GJLDP (October) 152 (SCC OnLine) at 155

intelligence is to ensure that certain expert systems are formulated which will exhibit intelligent behaviour and learning and also to implement intelligence of humans in machines so as to ensure that a machine also behaves like humans.

One of the foremost legislations wherein the definition of Artificial Intelligence is considered is being formulated in the United States of America, which is the “*Fundamentally Understanding the Usability and Realistic Evolution of Artificial Intelligence Act, 2017*”. This is the first step in the United States towards formulating a comprehensive law for regulating artificial intelligence technology. This act defines Artificial Intelligence as:

*“ARTIFICIAL INTELLIGENCE — The term “artificial intelligence” includes the following: (A) Any artificial systems that perform tasks under varying and unpredictable circumstances, without significant human oversight, or that can learn from their experience and improve their performance. Such systems may be developed in computer software, physical hardware, or other contexts not yet contemplated. They may solve tasks requiring human-like perception, cognition, planning, learning, communication, or physical action. In general, the more human-like the system within the context of its tasks, the more it can be said to use artificial intelligence. (B) Systems that think like humans, such as cognitive architectures and neural networks. (C) Systems that act like humans, such as systems that can pass the Turing test or other comparable test via natural language processing, knowledge representation, automated reasoning, and learning. (D) A set of techniques, including machine learning, that seek to approximate some cognitive task. (E) Systems that act rationally, such as intelligent software agents and embodied robots that achieve goals via perception, planning, reasoning, learning, communicating, decision-making, and acting.*

In European Union, the definition<sup>6</sup> of artificial intelligence was formulated in the report titled “*A definition of AI: Main Capabilities and Scientific Disciplines*”, wherein it was stated that:

*“Artificial intelligence (AI) refers to systems that display intelligent behaviour by analysing their environment and taking actions – with some degree of autonomy – to achieve specific goals.”*

*“AI-based systems can be purely software-based, acting in the virtual world (e.g. voice assistants, image analysis software, search engines, speech and face recognition systems) or AI can be*

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<sup>6</sup> European Commission, “Communication published by the European Commission in April 2018 setting out a European approach to making the most out of the opportunities offered by artificial intelligence (AI), while addressing the challenges AI brings” (European Sources Online, 2018) <<https://www.europeansources.info/record/communication-artificial-intelligence-for-europe/>> accessed January 25, 2024

*embedded in hardware devices (e.g. advanced robots, autonomous cars, drones or Internet of Things applications).”*

Accordingly, what can be inferred from the above is that the Artificial Intelligence has its subsets in the form of processing, machine learning and neural network. It is simply on the aspect that the computer machines are now interpreting and fulfilling the tasks which are naturally required or can be done only by virtue of human intelligence. My readers would note that initially the chess-board games were reserved exclusively for humans. However, in the year 1997, the International Business Machine’s (IBMs) chess-playing computer, Deep Blue won two times and had defeated certain world champions in that sport.<sup>7</sup> In 2003, the German’s chess playing computer, Deep Fritz<sup>8</sup>, and in 2015, the Google-made Artificial Intelligence program, Alpha Go<sup>9</sup> achieved a similar feat.

As we had discussed above, one thing is clear that the system of Artificial Intelligence can give different and independent outcomes. Certain scholars have stated that the system of artificial intelligence is able to do the foregoing due to the existing of the following features, which may sometimes be overlapping but are eventually inter-related. The features include: *“Creativity, Unpredictable results; Independent an Autonomous Operation; Rational Intelligence; Evolving nature; Capability of Learning, Collecting, Accessing and Communicating with outside data; Efficiency and Accuracy and Free Choice Goal oriented.”*<sup>10</sup>

Now the probable concern which arises here is that if the growth of the artificial intelligence technology is at such pace as discussed above, it will be ending up completely replacing the human beings in all possible sectors. As we have already pondered upon how there is no clear-cut definition of Artificial Intelligence as such but it is something of a kind of computer software or machine that is formulated to perform activities or work that require intelligence of a human to be done. It is without a shadow of a doubt that such rapid growth of Artificial Intelligence has resulted in transformation of industries and has further reshaped the creative landscape. This is crucial to note since this technological growth has further ignited the legal conundrum at the epicentre of

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<sup>7</sup> Joanna Goodrich, “How IBM’s Deep Blue Beat World Champion Chess Player Garry Kasparov” (IEEE Spectrum, January 25, 2021) <<https://spectrum.ieee.org/how-ibms-deep-blue-beat-world-champion-chess-player-garry-kasparov>> accessed January 28, 2024

<sup>8</sup> Dylan Loeb McClain, “Once Again, Machine Beats Human Champion at Chess” (The New York Times, December 5, 2006) <<https://www.nytimes.com/2006/12/05/crosswords/chess/05cnd-chess.html>> accessed January 28, 2024

<sup>9</sup> Steven Boroweic, “Google’s AlphaGo AI defeats human in first game of Go contest” (The Guardian, March 9, 2016) <<https://www.theguardian.com/technology/2016/mar/09/google-deepmind-alphago-ai-defeats-human-lee-sedol-first-game-go-contest>> accessed January 28, 2024

<sup>10</sup> Dr. Shlomit Yanisky Ravid and Xiaoqiong (Jackie) Liu, “When Artificial Intelligence Systems Produce Inventions: An Alternative Model for Patent Law at the 3A Era” Vol. 39 (Cardozo Law Review) at pg. 2224 to 2227 <[https://cardozolawreview.com/wp-content/uploads/2018/08/RAVID.LIU\\_.39.6.5-1.pdf](https://cardozolawreview.com/wp-content/uploads/2018/08/RAVID.LIU_.39.6.5-1.pdf)> accessed January 29, 2024

technology and intellectual property. Since the tool of artificial intelligence has all the ability of analysing, observing, and generating with creativity just like a human being, this inter-section could either be an asset in the sector of intellectual property (IP) or probably may pose a threat regarding the probable scope and protection of IP rights.<sup>11</sup>

## 2. INTER-SECTION OF AI AND IP RIGHTS

In continuation to what we have guarded upon in the previous section, it is important for my readers to investigate the aspect that in the India of 21<sup>st</sup> century, *Industry 4.0* has been a buzzword which has been recently used to project the immense technological innovation. There has been a fast growth of AI that is being experienced, which can help in fulfilling tasks that are either very complex or simple for a human being.<sup>12</sup> Slowly, we see that this AI has been slowly becoming the part of our normal life like in the form of *Siri* in iPhone or giving instructions to Amazon's *Alexa* or Netflix or Amazon etc.<sup>13</sup> With the fast development of AI throughout the world, the big issue that is looming around is that of intellectual property rights and role of AI. Furthermore, in this era of AI-driven innovation, the intellectual property law (and mainly the patents and copyright law), finds itself in the middle of unprecedented challenges and opportunities.

The term 'intellectual property' particularly signifies the loose structure of legal doctrines that regulates the different sorts of ideas and insignia.<sup>14</sup> It denotes the right of a person on a tangible object which has been created by his/her own mental efforts.<sup>15</sup> This aspect of law provides ownership rights and various other rights to a person over a product that is being formulated by human intellect. It is important to note that the nexus between the artificial intelligence and intellectual property rights is supposedly a multifaceted landscape which encompasses multiple legal, ethical and practical considerations. Furthermore, it is important to note that the IP is a bundle of rights, wherein owners or inventors of their work (including copyright, patent or trademark) to garner benefit from their work. These all rights emanate from Article 27 of the Universal Declaration of Human Rights (UDHR), 1948. The major significance and importance of the intellectual property rights was recognised under the *Paris Convention for Protection of*

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<sup>11</sup> Prachi Mishra and Virendra Singh Thakur, "Intellectual Property Rights in the age of Artificial Intelligence: Challenges and Perspectives", 14 RMLNLUJ (2022) 236 at 239 (SCC OnLine)

<sup>12</sup> Shlomit (n 10)

<sup>13</sup> Bernard Marr, "Are Alexa and Siri considered AI?" (Bernard Marr & Co.) <https://bernardmarr.com/are-alexa-and-siri-considered-ai/> accessed February 2, 2024.

<sup>14</sup> Dr. Elizabeth Verkey and Jithin Saji Isaac, "Intellectual Property" (Eastern Book Publications, 2021) at 2

<sup>15</sup> Ibid.

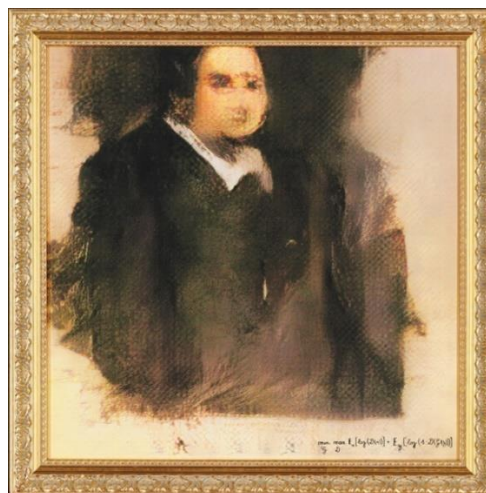


*Industrial Property (1883) Berne Convention for Protection of Literary and Artistic Works (1886).*<sup>16</sup>

Therefore, with this introduction, the present author is intended to set the stage for an in-depth analysis of the critical relationship between the artificial intelligence and intellectual property, with primarily focussing on law of copyright. The author had already tried to give a background about the significance and issues raised by the Artificial Intelligence in the contemporary world, however, it is now important to focus on the real legal conundrum between the intellectual property rights and artificial intelligence i.e., the work or invention created by artificial intelligence and the impact on the grant of intellectual property rights. Accordingly, it is required to be noted that although the understanding of the artificial intelligence will keep on evolving and thereby effecting the laws with its unique features, the present project shall focus primarily on the inter-section with the copyright law.

### 3. ARTIFICIAL INTELLIGENCE AND COPYRIGHT

It was in the year 2018 that a *portrait of “Edmond de Bellamy”* was sold in an auction for over \$ 400,000.<sup>17</sup> The author understands that this does not seem to be a news that raise my readers’ attention, until it was something unconventional. However, it would be interesting to note that this art-portrait or painting was the one made by the technology of artificial intelligence, and the same belongs to a series of generative images known as *the ‘La Familia de Bellamy’*.



Picture: Portrait of “Edmond de Bellamy” auctioned in Paris in 2018.

<sup>16</sup> WIPO, ‘What is Intellectual Property?’ <<https://www.wipo.int/about-ip/en/>> accessed February 2, 2024

<sup>17</sup> Eileen Kinsella, ‘The First AI-Generated Portrait Ever Sold at Auction Shatters Expectations, Fetching \$432,500—43 Times Its Estimate’ (Artnet news, October 25, 2018) <<https://news.artnet.com/market/first-ever-artificial-intelligence-portrait-painting-sells-at-christies-1379902>> accessed February 4, 2024



As we have discussed in the previous section, the upbringing of artificial intelligence in almost every periphery of the life of human beings is most likely leading towards a transformation. This technology majorly refers to certain software combinations which are programmed or designed in a manner that can help in ensuring the ability of the computer machines to take a decision on its own with the help of certain algorithms and with minimal or no human interference.<sup>18</sup> Apart from the different applications we had discussed previously, the artificial intelligence technology is largely advanced in its discourse since it is now programmed to create artistic works which are of similar or better quality as compared to one done by humans. In a very basic terminology, copyright as one of the intellectual property rights is generally granted to a “natural person”, who has created that original work for which the said right has been claimed. As per the Indian version of this law under the *Copyright Act, 1957*, this original work can include *literary, dramatic or musical work*.<sup>19</sup> It is also to be taken note that the very inter-section of copyright and the technology of artificial intelligence is not new rather it has been in the epicentre since the 1970s, but since this technology was only acting as a tool for generating or creating works and most of the inputs in creating the work was of the main programmer, there was no such problem that was arising. This technology was at most acting as a creative tool like a brush or a canvas and everything regarding creativity input belonged to the programmer involved. However, now since this technology has been sky-rocketing and upgrading and we are in a revolution stage, there could be an immediate requirement for us to re-think about this inter-section between copyright and artificial intelligence because there are instances where now there have been advances by this artificial intelligence technology that it is not only assisting but also alone creating their own original works.<sup>20</sup>

This whole scenario as stated above has raised questions of *who will then own the copyright?*

#### 4. THE ISSUE THAT SUBSISTS

The above query is raised by the author on the periphery of development of machine learning software, which is a subset of artificial intelligence. This learning is nowadays allowing the technology of artificial intelligence to produce works, independent of any human intervention. Take for example that in late 2017, Google had decided to start funding an artificial intelligence

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<sup>18</sup> Akshat Trivedi and Siddharth Soni, ‘Artificial Intelligence and Copyright Law in India: The Predicament Concerning Computer Generated Works and their Ownership’, 2.1 DSNLUJ SCI Tech L (2022) at 32 (SCC OnLine)

<sup>19</sup> Copyright Act, 1957, s. 13

<sup>20</sup> Andres Guaduméz, ‘Artificial Intelligence and Copyright’ (WIPO Magazine, October 2017) <[https://www.wipo.int/wipo\\_magazine/en/2017/05/article\\_0003.html](https://www.wipo.int/wipo_magazine/en/2017/05/article_0003.html)> accessed February 6, 2024

program of Press Foundation, which would write news articles for it.<sup>21</sup> Furthermore, in the year 2016, in Netherlands, a portrait named “*The Next Rembrandt*” was unveiled, which is said to have been completely created by the artificial intelligence computer machine that had previously analysed works of the Dutch artist, Rembrandt.<sup>22</sup>



*Picture: Photo of “The Next Rembrandt” generated in Netherlands.*

In another instance of 2016, a computer program has been heard to have written a short novel, which even reached at the highest level of a national literary competition.<sup>23</sup> On the aspect of music which we had earlier stated upon to be one of the works which can be copyrighted, an artificial intelligence company named *Deep Mind* which belongs to Google, can create music by listening to recordings.<sup>24</sup> When we try to analyse the role of law of copyright in AI lifecycle, it is seen that Open-AI systems like ChatGPT or Alexa of Amazon or other models like Midjourney are being trained with the already existing materials (which are protected as copyright of others). Now as far as this training of such systems by publicly available materials is concerned, an authorisation is required as per certain copyright laws across, especially the one at European Union.<sup>25</sup>

<sup>21</sup> Julia Gregory, ‘Press Association wins Google grant to run news service written by computers’ (The Guardian, July 6, 2017) <<https://www.theguardian.com/technology/2017/jul/06/press-association-wins-google-grant-to-run-news-service-written-by-computers>> accessed February 8, 2024

<sup>22</sup> Mark Brown, ‘New Rembrandt to be unveiled in Amsterdam’ (The Guardian, April 5, 2016) <<https://www.theguardian.com/artanddesign/2016/apr/05/new-rembrandt-to-be-unveiled-in-amsterdam>> accessed February 8, 2024

<sup>23</sup> Chloe Olewitz, ‘A Japanese A.I. program just wrote a short novel, and it almost won a literary prize’ (DigitalTrends, March 23, 2016) <<https://www.digitaltrends.com/cool-tech/japanese-ai-writes-novel-passes-first-round-national-literary-prize/>> accessed February 9, 2024

<sup>24</sup> Devin Coldeway, ‘Google’s WaveNet uses neural nets to generate eerily convincing speech and music’ (Join TechCrunch+, September 10, 2016) <<https://techcrunch.com/2016/09/09/googles-wavenet-uses-neural-nets-to-generate-eerily-convincing-speech-and-music/>> accessed February 10, 2024

<sup>25</sup> Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society <<https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex%3A32001L0029>> accessed February 10, 2024

In this regard, what can be understood is that a computer program which is catered for machine learning purposes has thereby built-in with the algorithm to learn with whatever data has been entered into it. The said machine will then have the capability to learn from it and evolve using such learning. So, now when this intelligent machine will be applied to any art or music or any literature (as certain instances have been stated above), it will learn and evolve based on such inputs and thereafter may produce a work out of such input.<sup>26</sup> On similar lines and to further simplify the foregoing issue, a reference can be made to the decision in *Bleistein v. Donaldson Lithographing Company*<sup>27</sup>, wherein the Court had emphasised the need of human extinct in order to have a copyrightable work. Therefore, as per the Court, the Copyright holder can only be a human or natural person.

Now here, my readers can understand the complexity on the fact that the programmer of the artificial intelligence machine is only making the inputs or to say it clearly is setting the parameters, however, the work is fully created by this machine and this is not an assisted work but fully created work by the artificial intelligence.

## 5. FROM AI-ASSISTED TO AI-CREATED WORKS

Having works created through artificial intelligence technology would be having an important implication on the law of copyright all around the world. However, previously this question of ownership of computer machine generated work was never an issue in question because such artificial intelligence technology was merely used as a supportive tool to human creativity or input. As it is crystal clear that copyright shall be granted to the creative works only if they are original. It is further important to note that countries worldwide consider that original quality of work requires a human author and no machine can be an absolute replacement for that. It is believed around the world that the work created by human can only be protected under the copyright law. Never before has this situation been thought of where an artificial intelligence machine can completely replace human because this machine has now been creating works independently of any human intervention.

As we had learnt earlier that major aim of grant of copyright is to motivate (maybe in economic form) the human creator to make more such creative works. However, if my readers would take a scenario where if a work is completely authored by a machine, how can such a software

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<sup>26</sup> Andres Guadumez (n 20).

<sup>27</sup> *Bleistein v. Donaldson Lithiographing Company*, 188 US 239 (1903) (United States)

(programmed via artificial intelligence) be legally or economically motivated to construct more works. Unlike human, this software will only follow the programming and thereby would generate work regardless of any incentive. Furthermore, if my readers will note that even if it is for a time being considered that machine-authored works are made by virtue copyrightable then that right would be vested in a single individual, who will own an infinite number of copyrights (for the works generated by that artificial intelligence machine).<sup>28</sup> There could be a possibility that such an individual would behave in a manner that would be extremely detrimental in a long run.

*Take a hypothetical example of ABC news with a machine-authored program for generating articles. One fine day, this ABC news finds out that XYZ news is producing articles which may be on a comparative line with the articles produced by its machine and may produce more traffic on the website of XYZ news than compared to its own. Now, if we take the scenario where machine-authored works are defacto copyrightable and therefore, in the present example, the rights are in the hands of ABC news. So, ABC imposes several suits pertaining to copyright infringement against XYZ news, with the sole purpose of shutting it down. Now, due to so much litigation expenses, XYZ news is completely shut down and is being sold to ABC news.*

The above example would clearly project the consequence of granting copyright to a machine-authored work because an individual (of whom that machine belongs) gets so many copyrights with utmost minimal efforts can use the same for pursuing anti-competitive practices as shown in the foregoing example. Furthermore, it is relevant for the author to refer to a decision of the United States Court in *Burrow Gills Lithiographic Company v. Sarony*<sup>29</sup>, wherein a question was raised as to “*whether a photograph could be copyrighted even though a camera, and not a person, had physically created a work*”. Here, the Court had really projected the tension and contraction that was looming between the copyright protection and emerging technology because during the time of the case, this question was never been previously raised. In this case, the Court said that the human behind the camera is to be granted “*an exclusive right to publish and sell that photo because he was the one behind the camera who composed the image*”. In this case, the Court noted that respondent, Sarony, was equally responsible in ensuring his control over the quality of image that is created, which is under the domain of originality under copyright law.<sup>30</sup> Accordingly, it was

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<sup>28</sup> Robert Yu, ‘The Machine Author: What level of copyright protection is appropriate for fully independent computer-generated works?’ Vol. 165, No. 5 (University of Pennsylvania Law Review, 2017) at pg. 1249 <<https://www.jstor.org/stable/26600620>> accessed February 12, 2024

<sup>29</sup> *Burrow Gills Lithiographic Company v. Sarony*, 111 US 53 (1884)

<sup>30</sup> *Ibid.* at 60

noted that the camera was merely an assisting tool that helped Saroni to show his creativity. The reasoning that was propounded in *Burrow* has been further followed in the case of *Midway Manufacturing Company v. Artic International Incorporation*<sup>31</sup>, wherein a copyright protection for video games (which is primarily operated by a machine) was upheld.

One question that may also be raised is regarding whether the work created by the artificial intelligence can be considered original in nature. This issue challenges or targets the traditional notions of creativity and authorship. In India, under the “*Copyright Act, 1957*”, it is stated that for the purpose of getting a copyright, the work must be original i.e., the work should originate from a particular author. As had been previously discussed upon, the Generative Artificial Intelligence tools are based upon the working from the already existing resources and is thereby proposing the outputs based upon those pre-existing sources. Therefore, as far as the framework of the India’s copyright legislation is concerned, the generated work of the artificial intelligence may not satisfy the requirement of “creativity or originality” as necessary for seeking copyright protection because the result is mainly based upon already existing work. Furthermore, it is crucial to note that the traditional notion of originality is often attributed to creativity that is done by human intervention. To supplement the foregoing, probably a reliance can be placed on the decision of *Feist Publications Inco. v. Rural Telephone Service Company*<sup>32</sup>, which establishes a precedent for assessing originality of works prepared by artificial intelligence machines. In this case, the Court had held that “*white pages of telephone directory lack originality and cannot be granted copyright protection*”. The court had stated that the directory lacks any creativity and is rather only a compilation of names and numbers.

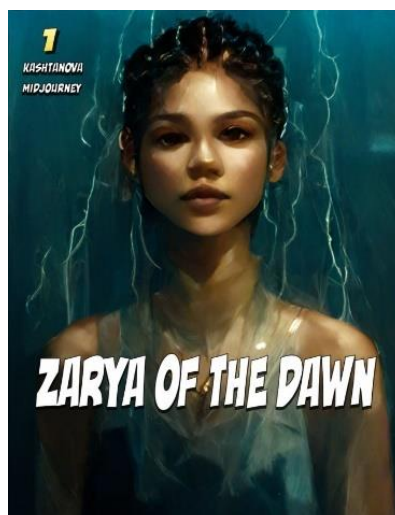
In February 2023, the United States Copyright Office worked on an application filed before it for the registration of a comic book that was prepared or created partly by human and partly by an artificial intelligence tool, Midjourney.<sup>33</sup> The Copyright Office only granted protection to the part of the comic book that was created by virtue of human effort or intellect. However, the Office refused to grant protection to the version created by the artificial intelligence, stating that the same lacked creativity and human intervention.

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<sup>31</sup> *Midway Manufacturing Company v. Artic International Corporation*, 704 F.2d 1009 (7<sup>th</sup> Cir. 1983)

<sup>32</sup> *Feist Publications Inc. v. Rural Telephone Service Company*, [1991] 499 US 340

<sup>33</sup> Tony Analla, ‘Zarya of the Dawn: How AI is Changing the Landscape of Copyright Protection’ (JOLT Digest, March 6, 2023) <<https://jolt.law.harvard.edu/digest/zarya-of-the-dawn-how-ai-is-changing-the-landscape-of-copyright-protection>> accessed February 13, 2024



*Picture: Zarya of the Dawn (Registration # V Au001480196) (2023)*

More recently, on March 16, 2023, the United States Copyright Office had released a guiding rule for the purpose of registration of work which contains artificial intelligence-generated material. In those rules, the office had made clear that there could be a possibility that work generated by artificial intelligence may be granted copyright protection, however, the word of caution necessary for the same was some involvement of human authorship.<sup>34</sup> The rules had also laid down the approach of the copyright office as to how they would determine if such an application would come to them for registration. It was stated that firstly, the office would determine “*whether the work was of human authorship with mere assistance from artificial intelligence machine*” or “*whether the work is completely created by the artificial intelligence machine and there is no or minimal human intervention*”.<sup>35</sup>

Now as far as India is concerned, there could be a scenario wherein works that are generated by artificial intelligence can still be granted protection even when they rely upon already pre-existing resources or certain original works. A possibility could be protecting the works generated by artificial intelligence under the category of “*derivative works*” under the Copyright Act, 1957. A derivative work is said to “*consists of a contribution of original material to a pre-existing work so as to recast, transform or adapt the pre-existing work. This would include a new version of*

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<sup>34</sup> United States Copyright Office, ‘Copyright Registration Guidance: Works Containing Material Generated by Artificial Intelligence’, 88 FR 16190, Document Number: 2023-05321 (March 16, 2023) <<https://www.federalregister.gov/documents/2023/03/16/2023-05321/copyright-registration-guidance-works-containing-material-generated-by-artificial-intelligence>> accessed February 14, 2024

<sup>35</sup> Vindhya S Mani, Godhuli Nanda and Gursimran Singh Narula, ‘Impact of US Copyright Office Guidelines on AI-Generated Work’, 2023 SCC OnLine Blog Exp 33 <<https://www.sconline.com/blog/post/2023/04/15/impact-of-us-copyright-office-guidelines-on-ai-generated-work/>> accessed February 14, 2024



*work in public domain, abridgment, adaptation, arrangement, dramatization or translation*".<sup>36</sup>

The one line of caution that is to be considered here is that the result given by the artificial intelligence machine is not the exact copy of the pre-existing resources.<sup>37</sup>

## 6. AUTHOR OF ARTIFICIAL INTELLIGENCE-GENERATED WORKS: A LOOKOUT

Now in the case if the artificial intelligence-generated works are copyrightable, the other question that arises is who is the author of that work.

It would be important to note that under the Copyright Act, 1957, the authorship as regarding computer-generated works is recognised. Under Section 2(d)(vi) of the act, it is stipulated that "*in relation to any literary, dramatic, musical, artistic work which is computer-generated, the author is the person who causes the work to be created*". This particular provision was inserted by the 1992 amendment in the copyright act which was suggested by a report of the Joint Parliamentary Committee. In its report, the Committee had suggested the insertion of this provision due to continuous growth and development of technology.<sup>38</sup> The committee had also discussed upon the need for protecting computer-generated works. In saying so, it had relied upon the Copyright and other intellectual property legislation of United Kingdom which granted protection to such generated works i.e., works ushered by machine where there is no human author. It must also be noted that the said Committee had also acknowledged the need for distinguishing the machine-generated works from those machine-assisted works.<sup>39</sup>

In the case of *Amar Nath Sehgal v. Union of India*<sup>40</sup>, the Delhi High Court had for the first time recognised the moral rights of an "author" under the "Copyright Act, 1957". It was opined that "*creative individual is uniquely invested with the power and mystique of original genius, creating a privileged relationship between a creative author and his work*"<sup>41</sup>.

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<sup>36</sup> Elizabeth Verkey (n 13) at 73

<sup>37</sup> Pallavi Sondhi, Aman Taneja and Anirudh Rastogi, 'Copyrightability of AI-Generated Work: A Brief Overview' (Medianama, July 13, 2023) <<https://www.medianama.com/2023/07/223-brief-look-at-the-copyrightability-issues-raised-by-generative-ai/>> accessed February 15, 2024

<sup>38</sup> NAARM, 'Analysis of the amendments to Copyright Act' (June 10, 2003) at pg. 2 <[https://naarm.org.in/VirtualLearning/vlc/IPR/Acts2004/copyright/Analysis\\_of\\_copyright\\_amendments.pdf](https://naarm.org.in/VirtualLearning/vlc/IPR/Acts2004/copyright/Analysis_of_copyright_amendments.pdf)> accessed February 15, 2024

<sup>39</sup> Pallavi Sondhi, (n 37)

<sup>40</sup> *Amar Nath Sehgal v. Union of India*, 2005 SCC OnLine Del 209

<sup>41</sup> *Ibid.* at 26.

Now the primary question that arises is *which “person” fits in the domain of an author i.e., either it is the developer of the artificial intelligence system or the person who has made inputs in that machine or the machine itself?*

In the case of *Andrien v. Southern Ocean County Chamber of Commerce*<sup>42</sup>, the United States Court had held that *“for a work of authorship to exist, there must be a legally recognised author who created the work”*. Furthermore, in a famous decision in *Naruto et al v. David Slater*<sup>43</sup>, wherein a dispute arose when a monkey mistakenly took a selfie from the camera of a photographer. There was a dispute as to whom does the copyright of that photograph should go. Certain organization had argued that monkey deserved this, however, photographer claimed that the right should go to him due to his contribution. The Court observed that animal by no means can be an author and its claim cannot be protected. After assessing for the closest link possible which can help in understanding what caused the photograph, the Court directed the photograph to be put in public domain.<sup>44</sup>

In the year 2020, there was a recognition of an Artificial Intelligence tool, namely *Raghav* as an author for an art that was produced by this tool only. However, soon the Indian Copyright Office had withdrawn this notice arguing that the legal status of the artificial intelligence tool was not made clear.<sup>45</sup> It is therefore to be noted that though a machine is unequivocally the entity that generated that work, assigning authorship to it may raise concerns due to lack of any legal personhood with that machine.<sup>46</sup> In another case of *Acohs Pty Limited v. UCorp Pty Limited*<sup>47</sup>, the Australian Court had held that *“a work made by a personal computer cannot be given assurance of copyright as it is not created by a human”*. Furthermore, in one of the decisions of the Court of European Union in the case of *C-5/08 Infopaq International A/S v. Danske Dagbaldes Forening*<sup>48</sup>, it was ruled that *“copyright assurance must be given to unique works which not set in stone through creator’s own scholarly creation”*.

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<sup>42</sup> *Andrien v. Southern Ocean County Chamber of Commerce*, 927 F.2d 132-135 (3d Cir. 1991) (US)

<sup>43</sup> *Naruto et al v. David Slater*, No. 16-15469, 2018 WL 1902414 (9<sup>th</sup> Cir. April 23, 2018)

<sup>44</sup> Aakanksha Bhatia, ‘AI and Copyright’, 2.3 JCLJ (2022) 1432 (SCC OnLine)

<sup>45</sup> Sukanya Sarkar, ‘Exclusive: Indian Copyright Office issues withdrawal notice to AI co-author’ (Managing IP, December 13, 2021) <https://www.managingip.com/article/2a5d0jj2zjo7fajsjwwlc/exclusive-indian-copyright-office-issues-withdrawal-notice-to-ai-co-author>

<sup>46</sup> Robert Yu (n 28) at 1258

<sup>47</sup> *Acohs Pty Limited v. UCorp Pty Limited*, (2012) 201 FCR 173

<sup>48</sup> *C-5/08 Infopaq International A/S v. Danske Dagbaldes Forening*, [2009] C-5/08

Another instance which has happened very lately is the United States Copyright Office decision of not granting copyright to the work created completely by a machine.<sup>49</sup> The decision was delivered turning down one *Stephen Thaler's* bid which had challenged the decision of the government refusing to register works made by artificial intelligence. "*Copyright law has never stretched so far to protect works generated by new forms of technology operating absent any guiding human hand,*" the judge had said while refusing to grant copyright.

## 7. PROGRAMMER AS A PROBABLE AUTHOR

Naturally, in this entire process of work generation by the artificial intelligence machine, the major chunk of work is probably done by the programmer of the artificial intelligence machine. This individual has made one of contribution to the creativity of the work authored by a machine. It is necessary to understand that it is the programmer himself who has created a program which can help in generating certain literary work. For the virtue of this, the programmer has formulated a plan and has performed necessary coding with removal of bugs to ensure that this program created by him is executed properly. Therefore, one is to argue that for the machine to generate the work at a later stage is only possible because the programmer has created such a program so as to ensure such generation of work.

In this regard, the reliance can be placed to countries like India, United Kingdom and others where such authorship to programmers of a computer programme has been provided. As we have already about India in previous sections of this project, it is imminent for us to refer to the copyright law of the United Kingdom i.e., the *Copyright, Design and Patent Act, 1988*, wherein under Section 9(3), it is stated that:

*"In the case of a literary, dramatic, musical or artistic work which is computer-generated, the author shall be taken to be the person by whom the arrangements necessary for the creation of the work are undertaken."*

Under the United Kingdom's act, Section 178 defines about the 'computer-generated work' as being the one which is "*generated by computer in circumstances such that there is no human author of the work.*" This clearly shows that an exception has been created for the works which are prepared (not with any human authorship) by a machine only.

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<sup>49</sup> Harry Miller, 'AI-Created Art Isn't Copyrightable, Judge Says In Ruling That Could Give Hollywood Studios Pause' (Canada News Media, August 18, 2023) <<https://canadanewsmedia.ca/ai-created-art-isnt-copyrightable-judge-says-in-ruling-that-could-give-hollywood-studios-pause-hollywood-reporter/>> accessed February 16, 2024

## 8. END-USER AS AN AUTHOR OF THE AI-GENERATED WORK

Now the last part of the discussion could be of an end-user being an author of the artificial intelligence-generated work. This part of providing rights to this user also makes a lot of sense. As per the 1979 report of the Commission of New Technological Uses, it was stated that “[The] obvious answer [to the question of who is the author of a computer-generated work] is that the author is [the] one who employs the computer”<sup>50</sup>. Furthermore, it is to be noted that these end-users are the ones’ which provide input in the form of the data to the artificial intelligence machines. As I had previously highlighted, the discussion in the *Stephen Thaler*<sup>51</sup> case and the *Monkey selfie*<sup>52</sup> case is relevant here.

Now this view can be countered from the aspect of the fact that there could be a possibility that the role of the end-user is so negligent that there is nothing worthwhile that could make him be a real recipient of such authorship rights.

A desperate argument is always on the cards regarding the fact that the action of putting an input in the artificial intelligence machine for the purpose of generation of the work is sufficient to warrant relevant contribution and ensure copyright protection. However, this argument lacks the creative texture that is necessarily required for the purpose of claiming authorship of a particular work. It is further difficult to comprehend how the human end-user has assisted in creativity rather he has only given the input and all the creativity that has been put in is all by the artificial intelligence machine with the help of a software program developed by the initial programmer. Therefore, the present author feels that it is difficult to argue the aspect of end-user being the ultimate person to get the authorship rights.

## 9. CAN THERE BE JOINT AUTHORSHIP FOR AI-CREATED WORKS?

It would seem at the first instance that providing joint authorship to the work generated by the artificial intelligence machine would be a right step and would also somewhere absolve the issue of which person should have a primacy in authorship rights for the work generated. However, this does not work as simply as it may look like because of being a little more complicated than the previous issues we have discussed upon.

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<sup>50</sup> Robert Vu (n 28) at 1259

<sup>51</sup> Harry Miller (n 49).

<sup>52</sup> Naruto (n 43).

Primarily, if the Indian scenario is discussed, Section 2(z) of the Copyright Act, 1957 provides the definition of joint authorship work. It says that this is a “*work produced by the collaboration of two or more authors in which the contribution of one author is not distinct from the contribution of the other author or authors*”. This is to say that the contribution of the authors must co-relate. In the important case of *Donohogue v. Allied Newspapers*<sup>53</sup>, the United Kingdom court had held that the contribution of both the authors must not be distinct from each other but they may co-relate as the work they put in will form a chain for the execution of the work. In another decision of *Cnty. For Creative Non-Violence v. Reid*<sup>54</sup>, the United States Court had also observed that “*each individual prepared his contribution with the intent that the works would be joined together into an inseparable and unitary whole*”. The machine-generated work is likely to not able to fulfil the requirements as stated above.

In *Donohogue*, the resource person of the journalist was not regarded as the joint owner of the article that was published in the newspaper because it was said that the resource person’s contribution was a lot distinct in comparison to the journalist. In another case of *Institute of Inner Studies v. Charlotte Anderson*<sup>55</sup>, the Delhi High Court had held three requisites for the work to be falling under the domain of joint authorship i.e., “*Collaboration, Non-distinction of contribution of each author and creative input*”<sup>56</sup>.

Now if the conditions as stated above are considered, one of the things that would arise is what has the initial programmer as contributed in the generation of the work by the artificial intelligence machine. He has only limited himself to programming that machine with a particular code. Since his programming by itself is copyrightable, granting him another right as with regard to the work (in which he lacks any contribution whatsoever) would be opening a pandora box of infinite copyrights under his name. Moreover, as we had already discussed in the previous section, the end-user pressing the button for getting the output work cannot be any contribution whatsoever. This will not form in any originality form which is necessitated by the Copyright law. Furthermore, if the requisite is something that each person’s (the programmer and end-user) contribution has to be inseparable, it is hard to find out as to how the programmer could have intended (at the time of formulating the algorithm) as to how his software machine will be used. There exists no consensus together to join them at the later point for the chain to get completed.

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<sup>53</sup> *Donohogue v. Allied Newspapers*, [1938] Ch 106 (UK)

<sup>54</sup> *Cnty. For Creative Non-Violence v. Reid*, 490 US 730-732 (1989)

<sup>55</sup> *Institute of Inner Studies v. Charlotte Anderson*, 2014 SCC OnLine Del 136

<sup>56</sup> *Ibid.* at 127

Accordingly, one thing can be aptly understood is that the work generated or created by the artificial intelligence machine cannot be put in for joint authorship. The possibility of other authorship could be a scenario, however there are lapses at every forefront as has been discussed by this author.

## 10. CONCLUSIONS AND KEY FINDINGS

The traditional boundaries of creative ownership and authorship is now being persistently challenged as the interaction between artificial intelligence and intellectual property rights is happening. This legal conundrum between the two aspects is thereby raising questions to the methods or processes that have been coming along since time immemorial. As there is an advent of artificial intelligence, where now apart from being an assisting tool, the machines are themselves creating or generating works, the lines of human authorship or human creativity are getting blurred. In its 161<sup>st</sup> report<sup>57</sup> on “*Review of the Intellectual Property Rights Regime in India*” presented in the Rajya Sabha, the Standing Committee of Parliament on Commerce had acknowledged the huge number of benefits that the technology of artificial intelligence is bringing in India. It had also stated that the expansion of such a technological innovation must be done in a secure manner and therefore, it had recommended review of the existing Patents Act, 1970 and the Copyright Act, 1957, in line with the emerging technologies of artificial intelligence.<sup>58</sup>

As I had previously navigated upon certain complexities entailed by the evolution of artificial intelligence in the Copyright law, here are the following takeaways that emerge from my end:

- a) ***Challenges to existing or traditional copyright paradigms***: As I had already argued initially about how evolution of artificial intelligence system in the intellectual property regime has constantly been pushing us away from the traditional knitty-gritty of copyright law. With this law being centred around human creativity and intervention, this new inter-section of artificial intelligence to autonomously create work with minimal or no human interaction has by itself challenge the basic tenets of copyright law in India as well as abroad.
- b) ***Human Involvement and Creativity***: For the purpose of copyright law, it is extremely pivotal to note that human involvement and creativity in the machine-generated works are very important. However, as already discussed, the artificial intelligence advancement

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<sup>57</sup> Parliament Standing Committee on Commerce, ‘161<sup>st</sup> report on Review of Intellectual Property Rights Regime in India’ (Rajya Sabha, July 23, 2021) <[https://iprlawindia.org/wp-content/uploads/2021/07/GOI\\_IP-Review.pdf](https://iprlawindia.org/wp-content/uploads/2021/07/GOI_IP-Review.pdf)> accessed February 18, 2024

<sup>58</sup> Ibid. at 100-101.



clearly projects that this human creativity or intervention is reducing to minimal. The question to ask is how the basic principles of copyright law can adjust with this.

- c) ***Ownership and Attribution***: Question to be asked is who should be given the attribution in the case of works created or generated by artificial intelligence. We had previously delve upon this point, however, this is one key issue which is arising. The lack of clarity over ownership (either programmer or end-user or machine itself) affects moral and ethical rights that are associated with copyright.
- d) ***Balancing innovation and protection***: Need to strike a balance between protecting creators' rights and fostering innovation.

Lastly, it is important for us to note that even though the artificial intelligence technology provide us with significant benefits in terms of opportunities for creativity and innovation, it also challenges long-traditional and standing principles of intellectual property law. The path forward would be to consider incentivizing machine innovation while also ensuring that rights of the creators are safeguarded.

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