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AI-Generated Work and its Implications on Copyright Law in India

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Artificial Intelligence (AI) is a technology which is known for carrying out various tasks efficiently with little or no human intervention at all. Generative AI is one of the branches of AI which is known for generating content at par with human intelligence. Generative AI tools like ChatGPT, Google's Bard and DeepAI are being used in today's world by students, academicians, employees, employers, news channels and others to create textual, pictorial or video-graphical content.

All such generated content suffers from one common issue, that is, their copyright. Most of the users are unaware of copyright in the work generated by them using the generative AI tools. They do not know whether the copyright exists in AI-generated work and who is the owner or author of such copyrighted work.

The article analyses the subsistence of copyright in AI-generated work and the conditions and criteria of such copyright, if any. It traces the content creation process of generative AI tools and the contractual aspects pertaining to it. Further, the article examines the issues of copyrightability of AI-generated work in various countries and compares it with the legal standing in India. Lastly, the impact of AI-generated work on the Indian copyright regime has been analysed and accordingly, suggestions have been made which may be implemented to address the plethora of challenges arising out of or in relation to AI-generated work.

Keywords: Artificial Intelligence, Generative AI, ChatGPT, Bard, DeepAI, Copyright, Author, Owner

Artificial Intelligence (AI) is a technological development in the modern world that is changing the way of carrying out work, especially in creative works. The Cambridge Dictionary defines AI as a 'computer technology that allows something to be done in a way that is similar to the way a human would do it'.[1] However, it can take any form and can be used in various systems like smartphones and machines and in various resources like websites and software. Therefore, it is something more than just computer technology.

The reason behind its popularity and one of its main features is that AI can carry out tasks with little or no human involvement at all.[2] The work that humans perform and give results in hours or days, many of such work like composing lyrics of songs, writing articles, creating images, and presenting news as an anchor can be performed by AI within a blink of an eye. On account of this technological development, a distance has occurred between human creativity and artificial creativity as there is either little or no human contribution at all in AI-generated work.[3]

Due to the humans' distance from creativity coming out of AI, the copyright regime across the world is witnessing a common challenge in recent times. *The copyright principles trace their origin in human labour on account of which the work of human creators is protected for their use only or for others' use but only with the prior permission of the human creators.*[4] Various theories emerged in the copyright domain over time, however, what remained intact is the substantial involvement of humans in the creation of work without which the copyright protection is not supposed to be granted. Copyright law has an inherent assumption that there are human creators who creatively, originally, and independently create work.[5] However, a threat has arisen to the aforementioned traditional and inherent assumption due to the creation of work by a non-human creator, i.e., AI. On account of the same ground, the article analyses the challenges that AI-generated work is posing to copyright law and their implications on copyright authorship and ownership because in copyright law authors are defined with respect to a particular kind of work. When a work is created by AI, the pertinent question

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is who is the author? It also raises the question with respect to the originality of the work. This paper focuses on these two pertinent questions.

Generative AI Tools and their Work Generation Procedure

AI is a technology available in various forms, viz. software, extension, and applications, to carry out the assigned task and generate the results or work. Such software, applications and extensions are collectively referred to as AI tools which use artificial intelligence technology to perform the tasks. They are developed keeping in view the specific purposes and objectives. Therefore, the functions of AI tools differ, for instance, many AI tools carry out the function of collecting and rearranging textual and numerical data, various AI tools like ChatGPT and Google Bards generate textual responses and other AI tools like Deep AI and Midjourney generate pictorial work. Thus, AI tools are developed keeping in view specific needs and uses in a variety of industries, ranging from education, law, finance, and healthcare to the marketing industry, to automate tasks, analyse data and enhance productivity.[6]

Among all, there is one category of AI tools called generative AI tools, which is known for its peculiar generative function. Generative AI tools are those AI-based tools the function of which is to generate responses or work as per given instructions by extracting data from its database which it has been trained upon and/or from articles, books, newspapers, and other public webpages which are available on the internet. They are trained on a massive amount of data which allows them to generate responses in simple language for questions asked to them.[2]

Generative AI tools are being used for various purposes, viz. writing assignments and theses in academia, generating content for emails and creating images, videos, and voiceovers. For instance, a person may give a written or oral command to a generative AI tool to "write a short note on the protection of plant varieties as intellectual property" and on receiving the command, the generative AI tool digs into its database which it has been trained upon to generate the work in the form of a short note. Similarly, a command to "draw a picture of an Indian man from 1870s" may be given to a generative AI tool which will generate the work in picture form using the database which it has been trained upon. Therefore, such AI-based tools that have been developed to generate work, either textual, pictorial or in any other form, are known as generative AI tools.[2]

It is the generative AI tools that pose challenges to copyright law because of the work generated by them. The generated work[7] is generally literary work, artistic work or sound recordings, the ownership of which is covered within the purview of copyright law. Therefore, with every AI-generated work comes the legal aspect of its copyright protection and ownership. However, it is pertinent to note that the human role in the creation of work by generative AI tools is too limited. Humans are not required to perform any task other than giving commands to the tools for the generation of work.[8]

It is the "too-limited role" which challenges the copyright law and raises the question of whether such a "too-limited role" is enough to obtain copyright ownership in favour of humans playing the too-limited role. The question cannot be answered straightly in affirmative or negative as it can have a long-lasting impact on copyright law not just nationally but across the world because the development of law in one country ultimately reaches to and impacts other countries as well. Therefore, the issue needs to be anlaysed keeping in view the current copyright regime and future perspectives to ensure that the law remains technologically neutral, rather than being technology-specific because of the development of artificial intelligence and the increasing use and popularity of generative AI tools.

Terms of Use of Generative AI Tools and Issues thereof

Terms of Use of the generative AI tools are the terms and conditions laid down by the developers that provide for the rights and obligations of users, including the ownership of generated work and the extent of ownership, arising out of the use of their tools and the work generated thereto. However, there is a pertinent issue in this regard which the Authors have discussed post-coverage of Terms of Use of significant generative AI tools.

ChatGPT's Terms of Use assigns to the users all the rights, title, and interest in the generated content to the "extent permitted by applicable law".[9] So, users may claim rights in the generated content if the law permits and the generated content reflects the choices and creativity of the user without which the desired level of the content could not have been generated. *Google's* terms of service for *Bard* mention that not

only some of its services include content that belongs to Google but also some of its services give access to content that belongs to other people or organizations.[10] However, the terms of services mention that if someone is infringing one's intellectual property rights, they can send a notice to Google of the infringement and appropriate action would be taken.[10] DeepAI's terms of service providethat all content generated by its tools and APIs are free of copyright and users may use them for any legal purpose including commercial use.[11] However, it further mentions that the users agree not to use any services, *inter alia*, in any way that violates any applicable national, federal, state, local or international law or regulation.[11] The impugned terms clarify that though the generated work may be copyright-free, but their AI tools are not to be used to create any work that would be violative of any national law, *inter alia*, copyright law.

Thus, generative AI tools have varying terms of use or service which provides for varying nature of ownership of generated work. However, a common element among all is that they have avoided vesting themselves with the ownership of work generated by their generative AI tools which means that claiming copyright in AI-generated content is dependent on various factors.

It is pertinent to mention that generative AI tools have been trained on massive data available on the internet, including articles, books, newspapers, social media posts and other public web pages. In particular, ChatGPT has been trained on massive internet data available till 2021 and generates responses by using and restructuring the data which it has been trained upon.[12]Google's Bard is based on the LaMDA language model which has been trained with about 1.56 trillion words from various sources and 137 billion parameters to make it talk with the user instead of merely producing text.[13] Further, DeepAI has been trained on a large amount of diverse text data from the internet, allowing it to learn a broad understanding of language and effectively respond to a wide range of user queries.

The prominent issue in this regard is that such existing data, on which generative AI tools or their underlying language model has been trained, may be copyrighted. As a result, a work generated by generative AI tools may infringe someone's copyright if it contains or is similar to any copyrighted work.[14] In view of this, the assignment of the rights in the generated responses to users as per the Terms of Use, as in the case of ChatGPT, is immaterial because neither the tool nor its owner is the actual copyright owner, rather the actual copyright may already be existing with someone else. Similarly, work generated by DeepAI may also not be copyright-free as claimed by its Terms of Service. On the same footing, literary work generated by Google's Bard may also be someone's copyrighted work.

Copyright of AI-Generated Work in India *vis-à-vis* Element of Originality and Roles of Various Contributors

Copyright protection has historically been applicable in situations where technology has been used as a medium to assist an individual in doing a job (for example, utilising a camera to take a photograph). In these cases, the individual was recognised by being the artistic mind who defined or created the scenario resulting in the initial script. Recent developments in machine learning and the rise of computer resources have ensured that AI can now build works that are, no doubt, independent of human imagination.[15] This raises the question of whether these AI-created works can be protected by copyright?

The Copyright Act, 1957 governs the copyright regime in India. The Act grants copyright protection on literary, dramatic, musical, and artistic work, cinematograph film and sound recordings.[16] AI tools can generally generate literary, musical and artistic work. However, the grant of copyright on generated work depends upon various criteria, *inter alia*, originality of the work and creativity on the part of an author.

Originality under the Copyright Law

Originality is one of the fundamental yardsticks to test the copyrightability of a work. The basic requirement of originality is that the work must originate from the Author and not be copied.[17] The degree of originality varies with the jurisdiction. The United Kingdom follows the "*sweat of the brow*" doctrine which prescribes that employing the skill and labour of authors is sufficient for granting copyright protection to a work.[18] The United Statesfollows the "*modicum of creativity*" doctrine which accepts a work to be original if it is "independently created" and has a "minimum degree of creativity".[19]

India, till 2008, followed the "*sweat of the brow*" doctrine. However, the Supreme Court of India, in the

case of *D.B. Modak and Anr.* v *Eastern Book Company and Ors.*[20], discarded the sweat of the brow doctrine and shifted to the modicum of creativity, i.e., the minimum of creativity. In this case, the Court held that there must be some substantive variation in the work for it to be copyrightable. Therefore,

In view of the above, it is pertinent to note that when a work is created by AI independently, it fulfils the first essential condition, i.e., it originates from the Author and skill and labour is also employed. However, the question is whether the work constitutes a minimum level of creativity. AI over the past years has grown exponentially. Started as a tool to create work, it now creates its own works.[21] To understand whether AI works can be creative and involvement of the element of originality in the same, we will have a look at the below section dealing with the analysis and authorship of AI-generated work.

Roles of Various Contributors in AI-Generated work

The second requirement to be satisfied by an AI when it comes to the ownership of copyrighted works is the requirement to fall under the aegis of an 'author' as defined under the Indian Copyright Law. This would be problematic as an AI has generally been regarded to not have a legal personality.[22] Under the Copyright Act, 1957, an author is the first owner of the copyright.[23] The Act provides that an author refers to, in relation to literary or dramatic work, the author of the work, in relation to a musical work, the composer and in relation to an artistic work other than a photograph, the artist.[24] However, in the case of AI-generated work, it is AI itself that performs the tasks of the aforementioned categories of persons who are recognised as authors. Therefore, the aforementioned definition of the author cannot be applicable in the case of AI-generated work.

It may be argued that AI-generated work can be recognised as computer-generated work in the present scenario because AI tools are used on computers and mobile phones and no separate category of work has been provided so far for AI-generated work. In this context, the definition of "author" under Section 2(d)(vi) of the Act is relevant which provides that *an author, in relation to any computer generated literary, dramatic, musical, or artistic work, is the person who causes the work to be created*. Therefore, such a person who causes the creation of computer-generated work is recognised as an author under the Act subject to the condition that such person has played a significant role in the causation of work. By this interpretation, a user could be considered to have caused the work to be created, though, in the limited sense that the user engaged with the AI. Moreover, from the point of view of contributing to the creation of work like in the case of choosing the lighting and other aspects in taking a photograph, the user does not make such creative choices in using AI which directly reflects in the output of the AI.[25] Therefore, the user should not be considered the author. Further, a practical problem with making the user of AI the author of the generated work would be to choose the author amongst different users who may use the same AI to generate the same output.[26]

Further, it is not necessary to consider only users as the persons who cause the creation of work under Section 2(d)(vi), rather it can also be numerous upstream contributors, viz. developers/programmers/ designers/trainers or data suppliers of the AI tool, who could be significant contributors for authorship purposes.The role of the developer/programmer in laying the rules for the working of AI and in supervising the working of AI favours the programmer being considered the person who causes the creation of the work under Section 2(d)(vi).[27] The developer/programmer of the AI contributes to the working of the AI and the creation of work by coding the AI, training it on data, and reconfiguring and recoding the AI based on the output of the training data so that the AI functions optimally.[25] We will have a detailed look at the significance of the roles of the above contributors in the below section dealing with the analysis and authorship of AI-generated work.

In view of the above, it may be noted that the element of originally may not be essentially present in the AI-generated work. Further, even if the AI-generated work is original, it is difficult to decide the authorship of the work due to the varying roles played by numerous persons at different stages of the generation of work.

Analysis of Copyright and Authorship of AI-Generated Work

Copyright protection requires work to be essentially original.[28] Though there are mentions of originality under Article 2(3) and 14*bis* of the Berne Convention, none of the international treaties on copyright explicitly defines originality. There was an attempt to define the same in the case of *University of*

London Press Ltd v *University Tutorial Press Ltd*[29] wherein Peterson J. of the Court of Chancery Division held that "originality under copyright law means the expression of the idea must be in original form, i.e., it originates from the author in the sense that the work must not be a copy of another work."[30] In this regard, it is pertinent to note that an author is a person who creates the work.

An analysis of copyright protection of AI-generated work and its ownership involves the examination of the element of originality and the identification of the author of the work. The sources of the element constituting the AI-generated work need to be examined to understand whether the generated work is original. As mentioned in the preceding paragraphs, AI tools generate work by relying on data which they have been trained upon. However, they are trained upon the data which is already available on the internet, and in books and articles, and such pre-existing data may be copyrighted. As a result, generated work may comprise, in whole or part, someone's copyrighted work which may constitute infringement of copyright. Therefore, AI-generated work may or may not be original under Copyright Law.

If a generated work is not original, no question as to its copyright protection arises. However, if an AI-generated work is original, another prominent question that arises is who shall be the author of the AI-generated work. Article 2(5) of the Berne Convention, which recognises collections of literary or artistic work such as encyclopaedias and anthologies as protected work, stipulates a useful element of originality. It mentions that work should be intellectual creations. It is pertinent to note that a collection of literary or artistic work such as encyclopaedias and anthologies constitutes intellectual creation only by reason of selection and arrangement of their contents, and such selection and arrangement of contents was used to be carried out only by humans when the convention was drafted. Therefore, intellectual creation generally entails only human creation and the selection and arrangement of certain contents is recognised as a copyrighted work to protect the 'fruits of human labour and authorship' and not commercial considerations.[31]

Another significant issue in this regard is the role of upstream contributors including developers/ programmers, designers, trainers, and data suppliers, who could be significant contributors for authorship purposes as compared to the users. If it is assumed that the work generated by generative AI tools, like ChatGPT, Google's Bard, DeepAI, *etc*. are original, yet no rights vest with the users under Indian law because the term under "causes the work to be created" under Section 2(d)(vi) of the Indian Copyright Act is of immense significance in this regard and denotes a significant contribution of human in the creation of work. However, merely asking a question to ChatGPT or Google's Bard or giving instructions to DeepAI to draw something would not mean that the user has caused the creation of work. Therefore, as compared to the user who does not make a creative input that directly shapes the output of the AI, the developer/programmer who programs and trains the AI can be considered, although in a limited sense, to have "caused the work to be created" and would have a better claim than the user under Section 2(d)(vi). The supplier of data to AI would have a weak claim to authorship because of the principle of Copyright Law that copyright does not protect ideas, but persons who give expression to ideas and here the data supplier merely supplies the data to the AI which alone does not "cause the work to be created" as per Section 2(d)(vi).[25]

Further, the criterion of the minimum level of creativity also needs to be satisfied besides the requirement of originality in the AI-generated work. The creativity in a work can be assessed in two ways – by looking at the final output alone or by looking at the process of creation.[32] By looking at the final output, it can be objectively assessed if the work has a "minimum degree of creativity". Whereas, by looking at the process of creation, it has to be assessed subjectively if the work was created with a "minimum degree of creativity". Looking at creativity objectively, work made by AI would qualify the condition of "minimum degree of creativity" as the threshold of creativity is quite low[33] and work created by AI, being indistinguishable from work made by humans, would fulfil this criterion. Looking at creativity subjectively, it has to be assessed whether creativity is involved in the creation of the work. In this regard, a comparison can be made between human creativity and the way AI operates.[34] It is believed that humans are creative. However, the same cannot be said for AI as it relies on the data for the generation of work.[35]

It may be noted that reserving the concept of authorship to humans not only affirms basic human values but also stands as a welcome reminder of human individuality and uniqueness.[36] It is often argued that AI does not require any incentive to

generate work, unlike humans. Therefore, the motivation and stimulation that human seeks through copyright protection and authorial rights to undertake various innovations do not apply to AI.[37] Further, the Courts in India have maintained in light of the judgement in *Rupendra Kashyap* v *Jiwan Publishing House Pvt. Ltd.*[38], *Tech Plus Media Private Ltd.* V *Jyoti Janda*[39], *Camlin Pvt. Ltd.* v *National Pencil Industries*[40] and various other decisions that a legal person cannot be granted authorship over any work involving copyright. The Practice and Procedure Manual of the Indian Copyright Office also explicitly states that only the information of a natural person is to be provided as the author of the work during the copyright application.[41]

In the United States, Chapter 300 of the Compendium of U.S. Copyright Office Practices[42] provides that an original work shall be granted copyright protection only if it has been created by a human being.[43] It makes clear that copyright protection in the United States is confined to original intellectual conceptions of a human author and non-human-created work seeking copyright shall be rejected.[43] On the anvil of this, it is established that a work created by non-human beings is not protected in the United States. The US Copyright Office, taking *suo moto* cognizance of AI-generated artistic work, revoked the copyright protection granted in a magazine to the extent the magazine comprised non-human-created artistic work.[44]

Therefore, as per the principles under the preceding paragraphs, granting authorial rights in AI-generated work does not seem to be a possible case in the near future. However, a contrary aspect to the aforementioned is that awarding protection to AI does not rid copyright of its humanist aspect completely. Human is still involved in the creation of work, though not by generating the work itself, but by asking queries or giving instructions to AI tools to generate the work. Therefore, it only increases the distance between the generated work and the human, who poses queries to the AI tool or instructs it to generate work. It merely shifts the position of humans from 'creator' to 'instructor' in the work creation process. It can be argued that the humanist nature of the 'Berne Convention' is still safeguarded. On the anvil of this, the requirement of a humanist nature does not prove fatal to recognizing authorship to humans in AI-generated work if it is original as there still exists human involvement in the work creation process.[45]

Case Study on AI-Generated Work *vis-à-vis* Copyright Protection

The use of generative AI tools is on the rise in the world. Students, academicians, professionals in the corporate sector, artists, writers, and many other people are using generative AI tools for generating work. As the world of generative AI is new, there is not much clarity about copyright protection and ownership of work generated by AI tools. However, there have been a few cases of copyright registration of AI-generated work.

United States of America

The United States Copyright Office had recently granted copyright protection to a graphic novel "Zarya of the Dawn".[44] However, Kris Kashtanova, the author, did not disclose before the Copyright Office that the images used in the novel were produced by using Midjourney, a generative AI tool. When the Copyright Office became aware of her statements made on social media that images used in the novel were generated by the Midjourney, the Office wrote a letter to her seeking additional information about the novel. Based on her reply, the Copyright Office, taking cognizance of images generated by AI tool, cancelled the copyright registration of images in the novel as they were not the product of human authorship.[44] Therefore, copyright protection for the text and arrangement of images still subsisted, but protection for the individual images within the graphic novel was denied by the Copyright Office.

Stephen Thaler, who is known for attempting to obtain patents in various countries for an invention by claiming AI as its inventor, sought copyright registration of artistic work wherein he listed "Creativity Machine" as the author of the work which was an AI computer program developed and owned by him. The Copyright Office rejected the application for copyright protection to the AI-generated two-dimensional artwork on the ground that the work lacked human authorship necessary to support a copyright claim, noting that copyright law only extends to work created by human beings.

Mr. Thaler requested reconsideration, but the Copyright Office maintained its *status quo* on the rejection. He made a second request for reconsideration wherein the US Copyright Office Review Board affirmed the denial of registration in February 2022 while agreeing that copyright

protection does not extend to the creations of non-human entities and reiterated that a work meets the legal and formal requirements of copyright protection only if it is created by a human author.[46]

Mr. Thaler appealed in the United States District Court against the ruling of the United States Copyright Office Review Board. However, after the strict view of the US Copyright Office and its Review Board, the United States District Court, Columbia also took the same view and denied the copyright registration of AI-generated pictures.[47] The Court upheld the refusal by the Copyright Office and its Review Board by observing that Copyright has never stretched so far to protect work generated by new forms of technology operating absent any guiding human hand.[47] As per the Court, human authorship is a bedrock requirement of copyright.[47] Thus, AI has failed to be recognised as an author for the work created by it.

United Kingdom and European Union

The European Union has added new provisions in the proposed AI Act which mandates generative AI tools, like ChatGPT, to disclose copyrighted materials that have been used to develop them.[48] Whereas, the UK Intellectual Property Office is taking a wait-and-watch approach as it has no plan to make changes in the law for computer-generated work. However, it has introduced a new copyright and database exception which allows text and data mining (TDM) for any purpose.[49]

India

In India, though there is a rumour that the Copyright Office has registered an AI-generated poem in 2021 under the name of "AI-dada" as the author. However, there is no confirmation on the same as per the search conducted on the website of the Copyright Office by the authors of this paper. The Copyright Office or Judiciary is yet to witness any application or litigation respectively, wherein any AI tool has been claimed as an author or any human author has attempted to register copyright in any AI-generated work.

In view of the above case studies, it is to be noted that only humans are being granted authorial rights in work created by them. However, no right is being granted in AI-generated work to humans or any other entity including AI-tool or upstream contributors. The USA has categorically denied to grant copyright to humans in any AI-generated work. UK and India, though, are yet to witness any application for grant of copyright in AI-generated work, do not plan to make changes in the law for AI-generated work. Considering the above analysis and supporting case laws in this regard, AI-generated work is being treated for the time being as non-copyrighted, copy-left, or copyright-free work, particularly because it is not clear whether copyright law across all the jurisdictions explicitly requires the author of a creative work to be human.[50] Therefore, there is a long way to gofor granting authorial rights in AI-generated work.

Impact of AI-Generated Work on Indian Copyright Regime

AI and AI-generated work will have significant impacts on the Indian copyright regime in the coming days. Similar cases, as mentioned above, may also arise in India. Therefore, among numerous challenges, the first challenge pertains to defining the 'copyrightability' of the AI-generated work, that is, whether the work generated by AI tools like ChatGPT, DeepAI and Midjourney is copyrightable? In this context, another challenge is to lay down the conditions for copyrightability of AI-generated work, that is, what shall be the extent of human intervention, originality and/or *modicum of creativity* required in the creation of such work for being considered copyrightable?

Further, if AI-generated work is copyrightable, another hurdle is to define the authorship and copyright ownership of such AI-generated work, i.e., who shall be the copyright owner and author of AI-generated work, whether it shall be users or upstream contributors such as developer/programmer, trainer, designer, or data supplier. Another significant aspect is the concerns of copyright owners who see AI tools training on huge amounts of their work and thus replicating their style and/or work. In January 2023, Getty Images sued AI company Stability AI for training on millions of its pictures without consent[51] and various artists also expressed similar concerns against the same company.[52]

Therefore, similar cases may arise in India as well wherein data of Indians might have been used or be in use for the TDM process to generate work. In Europe, TDM is allowed and does not constitute copyright infringement if performed within the legal framework in place, but copyright holders can opt out of it and refuse TDM on their contents.[53] However, no such

framework exists in India wherein copyright owners can opt-out of the TDM process and stop AI tools like ChatGPT from using their copyrighted work to generate work.

It is pertinent to note that OpenAI, the owner of ChatGPT, was about to be sued by an Australian mayor in a defamation lawsuit for ChatGPT content wherein it made false claims that he had served time in prison for bribery.[54] Therefore, another major challenge is to define the liability of users and AI tool owners in case of copyright infringement and defamation resulting from the work generated by AI tools. AI-generated work will have a significant impact on copyright law in numerous ways as highlighted above. Thus, the rising popularity of generative AI tools will influence the Indian legislature and judiciary to modify and/or interpret the copyright and allied laws to accommodate AI-generated work within its regime.

Conclusion

Once upon a time, only humans were known for creation, invention, and innovation. As time passed, humans kept creating, inventing, and innovating, as a result of which, today they have created arguably an equivalent or advanced version of themselves in the field of creativity, known as Artificial Intelligence. AI can create, copy, replicate, carry out tasks and give results with better efficiency than humans. The accuracy of resultant work may be questionable, but it may be only a matter of time that many tasks not requiring human intervention are going to be the responsibility of AI in future. However, the issue of copyright protection and ownership of created work and the credit for its creation are matters of ongoing debate. One section advocates for protecting AI-generated work under copyright law and vesting theusers of the AI tools with authorial rights, whereas the other section opposesthe above view. It is worth noting that copyright attaches to original work of authorship fixed in any tangible medium of expression, which may not even be known or may be developed later.[55] So, copyright is designed to adapt with time and human creativity is the *sine qua non* at the core of copyright. However, if human creativity is channelled through new tools like AI or into new media, even then copyright would be required to protect the generated work because ultimately it would be a human who will instruct AI tools to generate work and also give a final touch to work by making modification, addition, removal or rearrangement in generated work.Therefore, now the ball lies in the court of legislature and judiciary to decide whether copyright is to be granted in AI-generated work. If either of them answers it positively, another prominent issue before them would be to decide authorship-cum-ownership of such non-human generated work. Thus, there shall be either a "no-copyright" policy for AI-generated work or positively there shall be certain amendments in existing copyright law or enactments of fresh legislations across the world, including India, wherein provisions relating to AI-generated work will find their mark and with their effect, AI-generated work may be brought within the ambit of copyright law.

In view of the above arguments and conclusion thereof, the authors suggestthat *firstly,* the existing copyright law seeks amendment to either include the AI-generated work within the purview of copyright or exclude them specifically. It also calls for specifying the authorship and ownership of AI-generated work. *Secondly*, if the judiciary and/or legislature refuses to grant copyright protection to AI-generated work, it may be worthwhile to acknowledge their copyright under a separate category, probably with less stringent criteria for copyright and a shorter period of protection than that of traditional work. *Lastly*, it may also be noted that the text and data mining process, which is carried out by developers to train and develop their AI tools, also requires strict regulation by law. It is an alarming concern of many copyright owners that developers train the AI tools on their copyrighted data and material and consequently, the AI tools replicate copyrighted work's style in generated work. Various companies have sued AI companies on the same ground.[52] Therefore, data protection laws must regulatethe TDM process by AI tool developers.

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