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Artificial Intelligence And Intellectual Copyright: Use Of Artificial Intelligence And Intellectual Property Rights In India

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ARTIFICIAL INTELLIGENCE AND INTELLECTUAL COPYRIGHT:

Use of Artificial Intelligence and Intellectual Property Rights in India.

Swati Kaushal[1] & Amitvikram Pandey[2]

Abstract

The human endeavour to be the master of his own destiny, and rule over the universe by controlling the surroundings has shown the results on the expected lines, in all the spheres of life, and in every region of the world. The efforts to measure the limitless skies, to know the depth of deep seas, and even control the rains, through artificial rains with the use of technology. The use of artificial intelligence is the culmination of all those collective efforts by the human being, through a chain of research and development, in this field in different countries during different period of time. As the term artificial intelligence itself denotes, that it is something artificially created, to fulfil some general or specific purposes. From simple calculators, to facilitate easy and fast calculation, to save time and energy, leading to the invention of computers, super computers, and later the robots, which are now in use in many areas, has reached the stage of large-scale induction of artificial intelligence coupled with the Information technology. Even in India also, the philosophical and mythological text describes the creation of artificial manmade heaven known as the" TRISHANKU". the paper tries to understand the process of development of artificial intelligence, in the society, especially in the context of Indian society. The secondary data published by the United Nations, and other countries, and the government of India, is used for the study.

Key Words: master, limitless, collective, induction, manmade.

INTRODUCTION:

From time immemorial, the human civilisation, started its journey from being the nomadic, hunter and gatherer, stone age, hamlets and village life, and the great river valley civilisations, like, The Roman civilisation, Nile valley civilisation, in Egypt[3], Tigris and eupheretis river civilisation, in Iraq, Hwang Ho and yangte quang river valley civilisation, in China[4], and the only surviving civilisation of Indo- ganga plains, the life throughout all these different civilisations was more or less primitive or natural man who was largely dependent on the nature itself for all the basic requirements, like food, clothing, shelter, etc. The primitive man used primitive tools and techniques, and labour-intensive way of life was practiced, as the use machines and motors, was almost negligible. It is a fact that tools and techniques used during that period, were primitive in nature, and animal power was used for heavier works, and speed

[1] Assistant Professor, Amity University, Noida (U.P.).
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[3] Chris Scarre (ed.), *The Human Past: World Prehistory and the Development of Human Societies* (Thames & Hudson 2005).
[4] Walt W. Rostow, *The Stages of Economic Growth: A Non-Communist Manifesto* (Cambridge Univ. Press 1960).

also. These primitive tools and techniques used with the animal power, were always nature friendly, with almost no or negligible pollutions.

The industrial revolution in the sixteenth century[5], in England changed the lifestyle, as the use of motors, and machines started on a large scale. The primitive tools which were used earlier gave way, to the new metallic tools and techniques, which were later used with the help of electricity, for performing heavier tasks with extraordinary speed. As it is said "necessity is the mother of all inventions"[6], and as the economic and commercial activities took over rest of the activities, and the agricultural, and other primary and secondary activities, were kept on the back burner, and the tertiary activities became the only parameter for the development of any country. The race for becoming developed country, also initiated the use of technology, in the form of machines and motors, in order to increase the efficiency, and save money, so that the balance of trade remains in favour, and the foreign exchange is saved, to stabilise the economy.

In almost all the developed countries the higher standards of living has led to the sharp reduction in the native population, resulting in the acute shortage of both the unskilled and skilled labour, thereby resulting in the imbalance in the ratio of demand and supply, causing sharp increase in the wages of the labour, and to reduce the cost of production, and resultant deficit, the migrant labourers are employed, and use hi-tech machines and motors, is being done on a large scale, the same trend continues even today, as most of the developed European and other countries are employing the robots, and artificial intelligence, to earn more profits, as the artificial intelligence will pave the way for reducing the deficit and increasing the efficiency, and working hours, to increase the productivity.

It is worthwhile to mention here, that the excessive use of machines and artificial intelligence has been the need of the hour, for most of the European and American nations, mainly because for most part of the year the weather remains cold, and harsh conditions like snow covered streets and chilling conditions prevail throughout the continent, which makes it difficult for the human being to work in such conditions, hence the normal life remains disrupted, not even this sometimes the condition becomes so worse that heavy loss of life and property takes place due to bad weather conditions, which makes it essential to use technology, by using computers and artificial intelligence, so that the normal routine is not disrupted, and the challenges posed by the harsh weather conditions can be faced, without suffering heavy casualties and economic loss.

In other words prevailing weather conditions also determine the extent of the use of artificial intelligence, as the case is totally different in the Afro-Asian region[7] where the climate is hot and humid, in most of the region, and the weather does not pose same kind of threats for the human society in these areas, rather the high population of most of the countries provide cheap labour, and the economic condition of most of the countries is not so good that they are able to afford the Hi-tech state of the art technology, in their daily life, as the cost of maintenance of these computers and artificial intelligence is too high, which these developing and underdeveloped countries cannot afford at the cost of their necessary developmental

[5] Joel Mokyr, *The Gifts of Athena: Historical Origins of the Knowledge Economy* (Princeton Univ. Press 2002).
[6] Verma, A.S., Agrahari, S., Rastogi, S., & Singh, A., *Biotechnology in the Realm of History*, 3 J. PHARM. BIOALLIED SCI. 321 (2011).
[7] Heinrich Klaus, *Technology and the Environment* (Routledge 2017).

programmes like health, education, industry, electricity, drinking water, sanitation, etc. the priorities of these countries are totally different as compared to the western countries.

ARTIFICIAL INTELLIGENCE IN INDIA

The use of artificial intelligence in Indian conditions, as of today seems to be has just begun, at a small scale, although the use of computers and information technology, is being done on a large scale, in all the spheres of life, but still the opening up of the field of artificial intelligence is quite new to the Indian society[8]. As we have just started the public use of DRONES, that too, in some selected regions, and areas which are not so sensitive from the security point of view, in the same way the artificial intelligence is used in some selected areas like public dealing, news reading, routine announcements etc. there are few reasons which can be inferred from the overall behavioural pattern of the Indian society, which clearly Indicates that the Indian society is semi-closed society[9], which does not accept change immediately as and when it is introduced, the pace of acceptance is quite slow towards technological advancements, especially the ones which are provided by the western society, which can very well be understood with the introduction of railway system in India, which many historians believe that it became one of the immediate causes for the first war of independence in 1857, on the other hand the cheap and easy availability of the human labour, hot and humid weather conditions, excessive dust and smoke present in the atmosphere[10], which is not suitable for state of the art technology and its use in daily life. Above all the apprehension of rise in the unemployment, with the increased use of hi-tech machines and computers, is also one of the prominent reasons for slow or hesitant acceptance of artificial intelligence.

The philosophical and mythological texts in India[11], also indicate that the artificial intelligence was used even during that time as one the prominent example is the instance of creation of manmade artificial heaven known as" TRISHANKU". As the sage Vishwamitra challenged the authority Indra being the ruler of much coveted heaven for common masses, the sage Vishwamitra through his own capabilities of creating a world[12] of his own deliberately created the artificial heaven for his own friend, so that he is sent to the heaven physically. Not only there are so many instances wherein many of our sages have artificially created many human beings, and objects, for different purposes, during different periods. Although the contradiction is that these instances are not even listed as the use of artificial intelligence in India, during that period.

Objective of the Study

This objective aims to examine the key principles and components of artificial intelligence. AI refers to the simulation of human intelligence processes by machines, especially computer systems. This includes learning (the ability to acquire and apply knowledge), reasoning (the ability to draw conclusions and make decisions), problem-solving, perception (interpreting

[8] S. G. Dube, *Modernization and Social Change: The Indian Experience* (OXFORD UNIV. PRESS 1993).
[9] N. R. Narayana Murthy, *From Software to the Cloud: A Journey through the Indian IT Revolution* (PENGUIN BOOKS INDIA 2011).
[10] P. R. Bhatnagar & N. S. Puri, *Environmental Pollution and Control* (OXFORD & IBH PUBLISHING CO. PVT. LTD. 2003).
[11] Devdutt Pattanaik, *Indian Mythology: An Introduction* (HACHETTE INDIA 2010).
[12] C. P. R. James, *Indian Mythology: A Critical Study* (HARPERCOLLINS INDIA 2007).

visual inputs, sounds, etc.), and language understanding (natural language processing). While evaluating their potential and limitations, the research will look into a number of artificial intelligence subfields, such as robotics, neural networks, deep learning, and machine learning. Additionally, it will explore the use of AI in India's healthcare, agriculture, education, finance, and governance sectors. To promote AI development, the Indian government has started a number of programs and policies, such as the AI for All project and the National AI Strategy. Taking into account factors including infrastructure, qualified personnel, data accessibility, and regulatory rules, this study will assess the prospects and problems associated with AI adoption in India. The contributions made by Indian entrepreneurs, academic institutions, and private businesses to the development of AI technologies will also be examined.

The study will examine AI's global impact outside of India, emphasizing how it has revolutionized fields like healthcare (disease detection, tailored treatment), environmental sustainability (climate modeling, conservation efforts), industry (predictive analytics, automation), and education (AI-assisted learning, adaptive tutoring). We'll also talk about the benefits of AI in increasing productivity, reducing human error, creating new job opportunities, and stimulating economic growth. Additionally, the study will look at how AI may help with important global issues like poverty alleviation, pandemic response, and climate change mitigation.

Delimitation-

The integration of artificial intelligence in Indian society would be the main focus of this study. The main focus will be on India, while there will be considerable discussion of AI's worldwide applicability. The study will investigate how AI is being adopted in the nation's many industries, the obstacles to its widespread use, and how it can affect India's future. The effect of AI on intellectual property law, specifically the relationship between AI-driven innovation and IP rights in India, will also be a major area of study. Comparative studies with other countries will be provided, however they will be used as supplemental information rather than as the primary emphasis of the research.

Methodology-

Data from international bodies that track patents, AI trends, and advances pertaining to intellectual property, including the World Intellectual Property Organisation (WIPO), the United Nations (UN), and others, will be used in the study. This information will provide light on the international legal system that oversees AI and intellectual property rights. Furthermore, secondary data from official comments, government papers, and publications from Indian ministries—especially the Ministry of Electronics and Information Technology—will be incorporated into the study. To evaluate the present state of AI in India, policy papers and government-led AI initiatives—like the National AI Strategy—will be examined.

In addition to government data, the study will make use of industry reports, academic research papers, and white papers released by think tanks, technology corporations, and research

institutes. These resources will offer insightful viewpoints on AI developments, sector-specific difficulties, and new developments in AI-driven intellectual property rights. Examining the legal and regulatory structures that control AI and intellectual property in India will also take up a significant amount of the study. Analysing current legislation, including the Copyright Act, the Patents Act, and pertinent sections of the Information Technology Act, will be necessary to do this. The relationship between AI and intellectual property will receive particular emphasis, with a focus on topics including patenting AI technology, who owns creations and innovations produced by AI, and the moral implications of AI innovation.

Understanding the limitations and prospects for India in AI adoption and IP protection would be made easier with a limited comparative comparison with international best practices, with a particular focus on nations with sophisticated AI policies (such as the US, China, and the EU).

ARTIFICIAL INTELLIGENCE, AND INTELLECTUAL PROPERTY RIGHTS:

The use of technology has become the essential part of the daily life of everyone, the world today is fast becoming global village, with the help of technology, the whole world today, is connected through the use of information technology, and communication[13], like mobile network, satellite links, cyber connectivity, have brought the world closer, to the extent that with just one click you can connect to anyone anywhere, without physically moving to that area. This hi-tech connectivity has saved money, time and energy also besides decongesting the air traffic in all the directions but on the other hand, the cases of cyber-crime, duplicity, and piracy, have also increased manifold. As the problem increased, the World Trade Organisation, started looking for the formation of rules and regulations, to stop this kind of piracy and duplicity. The organisation after a long-drawn discussions and deliberations, came out with the Intellectual property rights, and copyright provisions, which most of the countries are signatories of these provisions, and are bound to implement these rules and regulations, to check and control the duplicity and piracy, by the third party.

The definition of artificial intelligence in a laymen's language could be the machines added and supported with human intelligence, which can at a pinch, make decisions on their own, is in a nutshell can be called artificial intelligence[14].

The Intellectual property rights and copyright issues are defined as the creation of someone's intellect, which someone produces through his own intellectual capabilities, therefore the inventions made by someone must only be used commercially by the others with prior legal permission of the inventor. The efforts to copy the inventions of others and use it for the commercial gains without having obtained legal permission is known as infringement[15] of intellectual property rights of the inventor, who can take legal action against the person or organisation found to be involved in deliberate efforts to copy the inventions of others and use

[13] Manuel Castells, *The Rise of the Network Society* (2d ed. 2010) (WILEY-BLACKWELL 2010).
[14] Stuart J. Russell & Peter Norvig, *Artificial Intelligence: A Modern Approach* (4th ed. 2020) (PEARSON 2020)
[15] Stuart Gordon & Martin Loeb, *The Economics of Information Security and Privacy* (SPRINGER 2015).

it for economic gains publicly, the offender once proved guilty of copying, or duplicating the others invention, are liable to penalised according the law of the land, which may include the economic punishments like imposing heavier penalties, or even the cancelation of the licence, and blacklisting the individual, or the organisation involved in duplicity. The intention of this law is to protect the interest of the inventors, so that they are not discouraged, and new inventions are regularly made for the improvement and betterment of the society. As the piracy, or duplicity amounts to theft or reducing the monetary benefits of the inventor, the inventor feels discouraged if the government or administration does not take any action against the offender and it will be easy for anyone to use the inventions of others for their own monetary gains. The government has to be strict and severely punish such offenders, if the society wants to be benefitted by the new updates and inventions from the common masses.

The term Artificial Intelligence was first of all propounded by" John McCarthy[16]," who used to be computer scientist in 1956. This was the time when reliance on machines and computers, increased the curiosity among the researchers towards machines to work upon such machines and convert these machines for artificial intelligence. In other words, these expert systems are meant to solve various problems in specific fields of knowledge, pertaining to remote sensing, medical diagnosing and treatment, besides the production of art and music works, which includes all the literary work, and which can be easily copied by others.

Artificial Intelligence has proved to be the threshold for the beginning of the fourth industrial and technical revolution. As the earlier three are claimed to be the (1) invention of steam engine, (2) Electricity (3) Information and communication technology (ICT) many researchers claimed that these inventions can be called the General-purpose technologies or GPT, the role of GPT is something which is a new pattern and framework for evolving Artificial Intelligence which works as the same. In fact, the effects of these GPTs can be very well assessed in the field of increased productivity, well organised labour market and other fiscal and macroeconomic variables. Not only this many of the GPTs have also had remarkable impact on research and inventions altogether.

Many of the research and investigation agencies worldwide are conducting various surveys at regular intervals mostly annually and based on their data collection about the various parameters of Artificial Intelligence, its uses and growth, in different spheres of life, these agencies rate the various countries in the field of Artificial intelligence, its use, investment, number of start-ups ,etc. The ranking issued by these agencies keeps on changing, reflecting the fluctuation, in the ranking sometimes one country is on the top next time it may be the other country on top, but more or less till now the first top ten ranking countries remain on top, interchanging their position among themselves. Most of these agencies rank almost same countries in the first top ten, like U.S.A. which has almost 60% of the top tier Artificial Intelligence Researchers, having corporate giants like Marco-Polo, and the world-famous Silicon Valley also. China, on the other hand has tried to compete with America has invested more than 95 billion dollars through private sector, and has multinational companies, like Huawei, Baidu, Tencent and many more. United Kingdom another western country, and European giant, has injected huge investment, which values more than 21 billion dollars in the field of artificial intelligence, and has companies like, AlphaGo, Darktrace, AlphaFold, etc.

[16] John McCarthy et al., *A Proposal for the Dartmouth Summer Research Project on Artificial Intelligence* (1956), *available at* https://www.aaai.org/Library/Workshops/WS-07/WS-07-01.pdf.

The West Asian country of Israel, is also one of the major players in the field of Artificial Intelligence which has around 8.6 billion dollars investment in the field of artificial intelligence, and has companies like Deep instinct, Word tune, A121 labs, there are many countries which lead in the start-ups of AI, and Canada today is one of those countries, which has more than 144 generative-AI related start-ups. And has companies like, Cohere, Scale AI, and Coveo. France which is another European country, has also invested more than 7 billion investment and around 338 start-ups with companies like Mistral, Armis, etc. India is one of the developing countries, has taken long strides in the field of Artificial Intelligence, which has the Highest penetration rate of Artificial intelligence skills, and has companies like Yellow ai, Sig Tuple, HEAPS, etc. Japan one of most technologically developed Asian country, is also home to more than 300 Artificial Intelligence Start-ups, with AI giants like Ubie, Softbank Robotics, preferred networks. Germany is another developed country of the Europe, which has invested More than 7 billion dollars in the private sector, in the field of Artificial intelligence, and has the AI giants like, Deep L, Aleph Alpha, Volvo copter. The small tiny country of Asia, which is also an economic giant known as Singapore, has challenged all the leading countries, which are large in size than Singapore, but Singapore has more than 170 start-ups in the field of Artificial Intelligence, and has companies like, Active AI, Osome, Biofourmis, etc.

The continuous growth and practice of artificial intelligence in the various spheres of life, in different countries, is not a recent one, rather it dates back to the 1970s and more than 50 years or so, the debate about the Artificial Intelligence is at its peak, the two sides have their own argument in favour and against, the Artificial Intelligence wherein one side claims that the computers or Artificial Intelligence can never be as creative and diverse as humans are. One the other hand the side which supports the Artificial Intelligence completely rule out the argument put forward by the opponents, and disagrees on the pretext of defining creativity through Artificial intelligence.

The U.S. "Made for Hire"[17] Doctrine refers to a legal principle that determines the ownership of intellectual property created within an employment or contractual relationship. The "made for hire" theory, as outlined in the U.S. Copyright Act of 1976, has been suggested as a possible remedy for dealing with concerns of authorship and ownership of works produced by AI. The doctrine of work-for-hire designates the employer as the creator of works created by employees under a contractual arrangement. In order to tackle the difficulties presented by AI-generated content, there has been a proposal to revise the definitions of "employer" and "employee" in the legislation. In this revised framework, the term "employer" may refer to either an AI developer or a corporation that owns the AI technology. Meanwhile, the term "employee" could extend to the AI system or device itself, as it operates based on directives from its employer. However, this approach does not fully account for cases where artificial intelligence independently creates a work without any direct human intervention. An illustrative instance of this problem is the situation involving DABUS[18] (Device for Autonomous Bootstrapping of Unified Sentience), which applied for copyright registration in the years 2018-2019, listing itself as the author. The application was denied by the U.S. Copyright Office[19] (USCO) on the

[17] U.S. Copyright Act of 1976, 17 U.S.C. § 101 (2024).
[18] U.S. Copyright Office, Copyright Review Board, *In re Application of Stephen Thaler* (Dec. 2022)
[19] U.S. Copyright Office, *In re Application of Stephen Thaler*, Copyright Office Decision, 2022.

grounds that the work did not possess the requisite human authorship to be eligible for copyright protection. In 2022, the Copyright Review Board[20] affirmed this ruling, emphasizing that existing copyright legislation does not have the authority to provide legal protection to creators who are not human. The Board specified that the "made for hire" doctrine necessitates a legally binding contract, such as an employment or work-for-hire agreement, which artificial intelligence (AI) is incapable of entering into. The statement asserts that a work created for the purpose of being owned by someone else can only be produced by either an employee or by one or more individuals who explicitly acknowledge in a written document that the work is intended to be owned by someone else. Both situations include legally enforceable contracts, which AI systems are incapable of carrying out.

There is another argument put forward against the Artificial Intelligence that machines lack creativity mainly because of its rule bound, or in other word programming done in advance to control the overall behaviour, which definitely does not allow the machines to have the ability to do the unpredictable, this can very well be supported with the facts that the 9/11 attacks[21] on WORLD TRADE CENTRE in United states of America, could not be prevented even after all kinds of hi-tech security arrangements the terrorist could easily manipulate and execute their plans by deceiving the machines without much problem as the machines which were used for security and screening purposes were programmed for some specific tasks through some sign, and symbolic language only, beyond which the machine and artificial intelligence could not anticipate, and raise alarm against those terrorists who could easily sneak into the high security zone, resulting in the killing of more than 5000 innocent people, and loss of property, and money, also, besides this incidence is a black spot on the face of American security establishment, which sparked the carpet bombing of Afghanistan, and later the Abbottabad operation by the American special forces. The South Indian superstar Rajnikant made a super-hit movie, on the same topic, called Robot, which showed the use Artificial Intelligence in the form of a robot, called CHITTI[22], which is able to perform very well but cannot take decisions at a pinch. The impact of technology in generating contemporary inventions is crucial and unavoidable. Although technology plays a vital role in the creation of new works, it has also reduced and, in certain instances, substituted the requirement for human labour. This scenario presents a predicament: differentiating between inventions generated by software and algorithms and those that arise from human ingenuity. Clear ownership of Intellectual Property (IP) is essential in today's industrial and commercial situations, as it frequently impacts a business's growth trajectory. Hence, it is crucial to establish clear ownership of intellectual property. There is a significant controversy around the question of whether intellectual property rights can be granted to non-human entities such as software and algorithms that contribute to the development of products. The existing Indian intellectual property legislation does not have specific provisions for acknowledging or transferring ownership of software or algorithms that aid in creating intellectual property that qualifies for legal protection.

The sole partial deviation is observed in the Copyright Act of 1957, which recognizes the person responsible for the creation of a computer-generated work as its author. However, the

[20] *In re Application of Stephen Thaler*, No. 22-0001, U.S. Copyright Office Review Board (2022).
[21] National Commission on Terrorist Attacks Upon the United States, *The 9/11 Commission Report: Final Report of the National Commission on Terrorist Attacks Upon the United States* (2004).
[22] *Robot* (Enthiran), directed by S. Shankar (India, 2010).

Indian Copyright Act of 1957, specifically Section 2(d)(vi)[23], does not grant recognition to software or AI systems as creators. The Patent Act of 1970[24] and the Design Act of 2000 do not acknowledge programmers or developers as inventors or proprietors of inventions arising from software, artificial intelligence, or algorithms. This exacerbates the problem when these innovations are exclusively the product of software's actions without any human intervention. With the rapid advancement of technology, there is an increasing conviction that developers of these breakthroughs should be legally recognized, if not the software itself, in order to foster a dynamic innovation environment. Foreign legislation has started to address these discrepancies in a comparative manner[25]. UK law grants copyright protection to computer-generated works without a human creator, as stated in Section 9(3)[26] of the Copyright, Designs and Patents Act (CDPA). This section specifies that the author is the individual accountable for organizing the creation of the work. According to Section 178[27] of the CDPA, a computer-generated work is defined as a creation that is produced solely by a computer without any involvement from a human author. New Zealand[28] and Ireland[29] have incorporated similar restrictions in their laws, which have been influenced by the CDPA. As innovators and lawmakers globally acknowledge the necessity of addressing non-human contributions in intellectual property law, past investigations into the capacity of software to replicate human mind, such as Alan Turing's Turing Test[30], are becoming more pertinent. The Turing Test evaluates the ability of a machine to display behavior that is indistinguishable from that of a human in conversations conducted using natural language. If a machine's responses cannot be reliably differentiated from those of a human, it is deemed to have successfully passed the test, showcasing a degree of artificial intelligence that imitates human-like behavior.

Thanks to the progress of generative AI, software has transcended its role as a mere tool and has become a creator capable of producing work that is on par with human works. However, the question of whether intellectual property rights should be granted to AI-generated works or to the individuals who develop such software remains unresolved. This article examines various intellectual property challenges associated with AI-generated creations, with a particular focus on copyright issues. As technology continues to play an increasingly significant role in everyday life, understanding the importance of Intellectual Property Rights in protecting and encouraging AI-driven innovations is crucial. Such an understanding is essential for maximizing the potential of artificial intelligence.

In 2020, a prominent case concerning an artificial intelligence system called 'RAGHAV[31]' was presented before the Indian Copyright Office. RAGHAV applied for copyright registration for an artwork titled *Suryast*. Initially, the application was denied due to the absence of a human author. However, legal protection was eventually granted after a human was listed as a co-

[23] Indian Copyright Act, 1957, No. 14 of 1957, § 2(d) (India).
[24] Indian Patents Act, 1970, No. 39 of 1970 (India).
[25] William A. Sahlman, *The Impact of Technology on Intellectual Property*, 22 HARV. J.L. & TECH. 23 (2008).
[26] Copyright, Designs and Patents Act 1988, c. 48, § 9(3) (UK).
[27] Copyright, Designs and Patents Act 1988, c. 48, § 178 (UK).
[28] Copyright Act 1994, s 5(1) (N.Z.).
[29] Copyright and Related Rights Act 2000, s 21 (Ir.).
[30] Alan M. Turing, *Computing Machinery and Intelligence*, 59 MIND 433 (1950).
[31] *RAGHAV* (2020), Indian Copyright Office Decision (2020).

author alongside RAGHAV. This decision led to a notice of withdrawal, highlighting the ongoing uncertainty regarding AI's classification as an artist under the Copyright Act.

AI systems are increasingly contributing to the creation of original works that may qualify for copyright protection across various artistic fields. By leveraging advanced algorithms and machine learning, these systems can produce unique musical compositions, visual artworks, literary pieces, and film scripts. Through the analysis of vast datasets, AI can autonomously generate innovative content, pushing the boundaries of traditional creative expression. However, concerns persist regarding the originality of AI-generated works, particularly in relation to the legality of the data used to train these systems.

Data sets must be acquired properly and with explicit approval from the original authors, as evidenced by recent legal proceedings in the United States[32] against AI platforms accused of unauthorized use of copyrighted information.

To safeguard AI-generated works from infringement claims, it is necessary to adopt a balanced approach, which may involve classifying them as 'derived works'. The Berne Convention[33], an international treaty that safeguards copyright, recognizes derivative works according to Article 2(3), which mandates a discernible and significant departure from the source works. AI-generated material is not simply a replication of existing data, but rather a product of the AI's distinct learning process, which shapes it into something more than a mere duplicate. Therefore, if the training data used for AI was obtained legally and with valid license, the resulting AI outputs could be categorized as derivative works.

Existing Legal Framework and Prospective Factors to Consider:

According to Indian copyright law, those seeking copyright protection for derivative works, such as translations or adaptations, are required to acknowledge the original works while applying for protection. One possible extension of this technique is to mandate the disclosure of copyrighted materials used for training AI systems. However, the matter of authorship[34] remains intricate, as conventional copyright law thinks that creativity is a characteristic exclusive to humans. This prompts the inquiry as to whether AI possesses genuine creativity or simply replicates styles derived from its training data[35].

In accordance with Indian copyright law, a work must be created by a human in order to qualify for legal protection. Although the Copyright Act of 1957 recognizes the creators of computer-generated works, the legal status of content generated by artificial intelligence is still unclear. Moreover, according to Indian law, the typical duration of protection for original works is 60 years after the death of the author[36]. This poses a problem with the everlasting existence of AI systems if they were to be given authorship rights.

[32] *See* e.g., *Authors Guild v. Google, Inc.*, 804 F.3D 202 (2d Cir. 2015).
[33] Berne Convention for the Protection of Literary and Artistic Works, art. 2(3), Sept. 9, 1886, as amended (Paris Act 1971).
[34] Copyright Act, No. 14 of 1957, § 2(d) (India).
[35] Copyright Act, No. 14 of 1957, § 31 (India).
[36] Copyright Act, No. 14 of 1957, § 22 (India).

The enforcement of copyrights poses issues because to the absence of legal personality[37] in AI systems, rendering them unable to be held responsible for any violation. This adds complexity to the policing and oversight of AI-generated content. The emergence of AI-generated creations[38] highlights the necessity to reassess current copyright legislation in order to tackle the convergence of AI and copyright. This is crucial to ensure that the legal structure adapts to the increasing involvement of computers in the creative procedure.

THE LEGAL AND CONSTITUTIONAL PROVISONS IN INDIA:

The present legal system in the field of Intellectual property rights, has it's in the first ever legal framework propounded during the colonial rule of British imperial government, which brought the first ever INDIAN MERCANDISE ACT OF 1889[39] with respect copyright issues.

Later after the independence in 1947- The Indian Trade and Merchandise act of 1957[40], was implemented for the protection of trademarks prevention of the use of fraudulent marks on merchandise which was later on replaced by the Indian Trade Marks act of 1999[41], with the objective of bringing the Indian Trademarks laws in accordance with the International laws,and practice, so as to provide level playing field for the all the investos, and companies coming to invest in India, and the Indian government remains committed to TRIPS[42] agreement.

Another aspect of the Artificial Intelligence is that, the question arises that whether the Artificial intelligence can also be granted the Intellectual property rights, or the copyrights to the work or tasks performed by the Artificial Intelligence itself, even when the Artificial intelligence is the manmade system, which is duly programmed to assist the man in certain specific domains. "The Legal point of view is that law requires complete legal personhood of the one who holds the copyright[43]." There is another angle to this whole paraphernalia of the events, which comes out with the argument that the inventor, or creator of Artificial intelligence can be granted copyright on behalf of the Artificial intelligence, which seems to be a possibility, but still there is a loophole in the same, that is what will happen if the same Artificial Intelligence is sold to someone else, whether the copyright will remain with the creator, or it will automatically get transferred to the buyer. Although some of the European countries have granted this copyright to the creator, especially in England, and New Zealand.

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[37] *See*, e.g., John E. Noyes, *Artificial Intelligence and the Law: An Introduction*, 48 J. OF LEGAL STUDIES 335 (2023).
[38] *See* e.g., William J. Brennan Jr., *The Evolution of Copyright Law in the Age of AI*, 34 HARV. J.L. & TECH. 789 (2021).
[39] Indian Merchandise Act, 1889 (India).
[40] Indian Trade and Merchandise Act, 1957 (India).
[41] Indian Trade Marks Act, 1999 (India).
[42] Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, 33 I.L.M. 1197.
[43] William Cornish & David Llewelyn, *Intellectual Property: Patents, Copyright, Trade Marks and Allied Rights* (8th ed. 2019) (SWEET & MAXWELL 2019).

The Business and trade in the field of Artificial intelligence market size[44] is predicted to grow and expand more than twenty-fold in the decade starting in 2021 up to the 2030 from about 100 billion to more than 2000 billion[45].

THE ARTIFICIAL INTELLIGENCE AND WORLD INTELLECTUAL PROPERTY ORGANISATION(WIPO):

The world intellectual property organisation[46] after the continued efforts in the field of research and development, of Artificial Intelligence came out with a comprehensive study and identified the existence of Artificial Intelligence and propounded three different categories of Artificial Intelligences[47] which are: (1) Expert systems, (2)Perception system (3) Natural language system.

The Expert system : this system is installation of the programmes which not only deals but also solves the problems in specific specialised fields of knowledge and information, such as detecting and diagnosing medical conditions, suggesting the likely line of treatment, besides this determining the geological conditions and also to produce art and crafts works also.

The perception system: this is the system equipped with the sensors and remote sensing equipment's which allows the computers to perceive the objects in the surroundings, with the sense of sight and hearing and responding accordingly, this system is widely used by the Topologists, word-content experts etc.

The Natural language system is the programming of the machines which enables it to understand the meaning of words, which requires a comprehensive dictionary database, It is worthwhile to mention here that the whole system takes into consideration, the different grammatical and textual contexts, to provide a semantic analysis.

There are some other aspects related to leadership in the field of Artificial intelligence, these can be briefly discussed here, like the DATA, which can be categorised as the Broadband consumption, and the Broadband consumption per capita. Then comes the formation of rules and regulations, which focusses on the accessing of data, this can further be grouped into three heads, one is open data participation. Second is the data governance policies, and third is cross border data flows. Last but not the least is the Capital, which can be grouped into four different heads, one is the required talent, then second is the capital and investment required, third is the desired diversity in the field, and lastly, it is the Evolution of the digital economy.

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[44] McKinsey & Company, *The AI Opportunity: How Artificial Intelligence Will Transform the Global Economy* (2021), *available at*: https://www.mckinsey.com/business-functions/mckinsey-digital/our-insights/the-ai-opportunity-how-artificial-intelligence-will-transform-the-global-economy.

[45] "The AI market is projected to grow significantly from about $100 billion to more than $2000 billion between 2021 and 2030. McKinsey & Company, *The AI Opportunity: How Artificial Intelligence Will Transform the Global Economy* (2021), *available at* https://www.mckinsey.com/business-functions/mckinsey-digital/our-insights/the-ai-opportunity-how-artificial-intelligence-will-transform-the-global-economy."

[46] World Intellectual Property Organization, *WIPO Technology Trends 2019: Artificial Intelligence* (2019), *available at* https://www.wipo.int/publications/en/details.jsp?id=4434.

[47] World Intellectual Property Organization, *WIPO Technology Trends 2019: Artificial Intelligence* (2019), *available at* https://www.wipo.int/publications/en/details.jsp?id=4434.

The Intellectual property rights deals with the all such intellectual creation or inventions[48], which are originally the creation of ones intellect[49], these are, literary and artistic works, like stories, novels pictures, paintings, designs, symbols, names, images, computer programmes, formulas, signs and codes, etc. therefore the intellectual property right is meant to protect the inventors or creators, and safeguard their economic and legal interests, in different countries specially regarding copyright, trademark, and patent etc.

It would be worthwhile to briefly mention here the international treaties for Intellectual property rights which most of the member nations have signed:

(1) Paris convention[50]
(2) Berne convention[51]
(3) The madrid protocol[52]
(4) The patent cooperation treaty[53].

The Intellectual property right became a necessity as the countries like CHINA, NORTH KOREA, IRAN, LIBYA, PAKISTAN and many other countries are known for their deliberate and organised attempts to steal the "state of the art technology" through their agents and use that stolen technology for duplicate reproduction of the thing by their own name.

The attempts to copy the designs or intellectual inventions, and to use it through reproduction, without the legal permission of the copyright holder is known as the COPYRIGHT INFRINGMENT as the rights are deliberately breached or violated by the third party. There are some other issues related with this like Technology, which makes it easy to copy, anything, then the variations in the international laws as different countries have their own copyright laws. Last but not the least the easy availability of internet, which allows access by companies from anywhere in the world.

There are suggestions that the issue of royalty of a copyright can be solved by issuing the licence to the other persons which can be legal arrangement for using the intellectual inventions[54] of the other persons, and sharing the profits.

CONCLUSION

The human activities are so diverse that the use of machines and motors can never be ruled out in today's world, in other words the machines have become essential part of our daily life, but

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[48] Michael A. Carrier, *Innovation for the 21st Century: Harnessing the Power of Intellectual Property* (Harvard Univ. Press 2020).
[49] William Cornish & David Llewelyn, *Intellectual Property: Patents, Copyright, Trade Marks and Allied Rights* (8th ed. 2019) (SWEET & MAXWELL 2019).
[50] Paris Convention for the Protection of Industrial Property, March 20, 1883, *available at* https://www.wipo.int/treaties/en/ip/paris/.
[51] Berne Convention for the Protection of Literary and Artistic Works, September 9, 1886, *available at* https://www.wipo.int/treaties/en/ip/berne/.
[52] Madrid Protocol Relating to the Madrid Agreement Concerning the International Registration of Marks, June 27, 1989, *available at* https://www.wipo.int/treaties/en/ip/madrid-pro/.
[53] Patent Cooperation Treaty, June 19, 1970, *available at* https://www.wipo.int/pct/en/.
[54] Michael A. Carrier, *Innovation for the 21st Century: Harnessing the Power of Intellectual Property* (HARVARD UNIV. PRESS 2020).

on the contrary we cannot solely rely on the machines and regular update and supervisory control is necessary to avoid any untoward happening which may cause heavy loss of life and property, in part of the world. Therefore, the use artificial intelligence can be done but with careful programming and safeguards, under the human supervision only, as the possibility of TECHNICAL ERROR can never be ruled out forever.