Power Play of Artificial Intelligence upon Intellectual Property Rights

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Abstract

Up-gradation of the technology and its interference in human life by the introduction of Artificial Intelligence/robotic machines makes human life vulnerable. These vulnerabilities are more when the question comes to the right issues on the intellectual property. The credibility to the introduction of the Artificial Intelligence/robotic machines depends on humans, but Artificial Intelligence is likely to produce new solutions to problems and in so doing to create intangible outputs that could, at least in theory, be perceived as Intellectual Property. Current intellectual property system is also affected with this technological interference. In this context, the future discussion is one who owns the Intellectual Property rights in creations produced by robots. Artificial Intelligence remains an area where there is frenetic Intellectual Property activity and it has largely been based on protecting Artificial Intelligence systems or applications. But, in near future where machines are deployed to create complex products, the question of Intellectual Property ownership could become clouded. Artificial Intelligence helps solve complex issues simply and sophisticatedly whereas legal ownership on the other hand, may not be fairlysosimple.From an intellectual property perspective, the most interesting aspect is that the resolution asks for the elaboration of criteria for 'own intellectual' creation for copyrightable works produced by computers or robots.It may be argued that the machine is a sensible being entitled to ownership rights. It is not difficult to imagine that those bringing the copyright lawsuit had ulterior motives. If a robot or machine could own a copyright, why not a house? And if a machine could own property, perhaps the machine should also have additional rights including the right not to be owned at all. These questions raise issues that go to the very foundations of intellectual property law, including the economic incentive to encourage certain activities, and the 'moral rights' associating with according to credit to authors. Here all the rights theory of jurisprudential law comes in trouble to figure out the main issue. The same issues may arise with respect to general Artificial Intelligence. If the Artificial Intelligence was self-aware and capable of creative and inventive activity, why shouldn't other rights be accorded?

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But it has toregulate these technologies and without restraining innovation. While considering the ethical and legal implications and consequences of the conflict to be resolved for the future complications.

Keywords: Intellectual Property, Artificial Intelligence, Robot, Rights.

I. **Introduction**

Artificial Intelligence boundary is currently being extended aggressively by the human which apparently act autonomously. It remains known as the works of art of human. However, although machines mimic the human intelligence, lack of the corporal existence of one are currently not recognized as entities that may have rights in the conventional sense.[2] Here, it leaves the query of ownership and authorship about works created by autonomous machines unanswered.

It is accepted that the systems which have artificial intelligence can themselves be owned by real persons or legal entities. However, there is a possibility that the establishment of ownership over such systems may be open for debate in the future in regards to robot rights.[3]The systems like the robots, android and a smart home computer are more or less established practice around the globe to treat as a property.[4]The try to tackle the problem of ownership in regards to a thing that is created by a system, which is itself owned by someone else, on its own intellectual property.[5]

However, in the case of AI, it is not used as a simple tool rather refers to itself during the creation process and acts more as an independent source of intelligence. Most importantly, under the process of creation, it does not require

[2]BENNETT, J., THE ENCHANTMENT OF MODERN LIFE: ATTACHMENTS, CROSSINGS AND ETHICS, 224 (2001)(ebook).

[3]THOMAS, K., MAN AND THE NATURAL WORLD: CHANGING ATTITUDES IN ENGLAND 1500-1800(1991). See also JULIA BOSSMANN, TOP 9 ETHICAL ISSUES IN ARTIFICIALINTELLIGENCE, https://www.weforum.org/agenda/2016/10/top-10-ethical-issues-in-artificialintelligence/.

[4]GÜRKAYNAK, G., ET AL, QUESTIONS OF INTELLECTUAL PROPERTY IN THE ARTIFICIAL INTELLIGENCE REALM, 3(2), ROB. L. J., 9-11(2017).

[5] Id.

the management or even the involvement of human intelligence.[6]Hence, the developer of AI may not be deemed owner of the work created by the AI on its own.

All the jurisdiction has established the right to whom work belong to human only. The exclusivity of the author must have been recognized who is inevitably a human.[7] The difficulty posed by the lack of a human directly accountable for the work createdby AI is the determination of the author of such work and thus, the allocation ofthe rights related to it.[8]

There are different approaches to tackling this difficulty. The first and the least favorable of these methods is one that argues that work created by AI shall not be copyrighted and thus, shall directly fall into the public domain.[9]

In case of artificial intelligence, what would be the scenario for employer and employee relationship? This questions is applicable in every situation from top to bottom. If the creation is with the help of artificial intelligence use, then the ownership and authorship dispute arise. The innovator invention claim may be in question where the dispute for authorship.[10]Artificial intelligence technology creates lots of confusion in the legal world to distinguish the ownership. As well as the liability lies to whom also a question and this situation is only because of the new technological intervention.[11]

[6]WENGER, E., ARTIFICIAL INTELLIGENCE AND TUTORING SYSTEMS: COMPUTATIONAL AND COGNITIVE APPROACHES TO THE COMMUNICATION OF KNOWLEDGE (2014).

[7]COHEN, J.L., CHANGING PARADIGMS OF CITIZENSHIP AND THE EXCLUSIVENESS OF THE DEMOS,14 (3), INT. SOCIO., (1999)https://www.copyright.gov/comp3/chap300/ch300-copyrightable-authorship.pdf.

[8]TOME, D. ET Al, LIFTING FROM THE DEEP: CONVOLUTIONAL 3D POSE ESTIMATION FROM A SINGLE IMAGE (2017).In Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (pp. 2500-2509).

[9]RALPH D. CLIFFORD, INTELLECTUAL PROPERTY IN THE ERA OF THE CREATIVE COMPUTER PROGRAM: WILL THE TRUE CREATOR PLEASE STAND UP? 71, TUL. L. REV. (1997).

[10]LARSON, D.A., BROTHER, CAN YOU SPARE A DIME-TECHNOLOGY CAN REDUCE DISPUTE RESOLUTION COSTS WHEN TIMES ARE TOUGH AND IMPROVE OUTCOMES, 11, NEV. L. J.,.523 (2010).

[11]MARVIN, C.,WHENOLD TECHNOLOGIES WERE NEW: THINKING ABOUT ELECTRIC COMMUNICATION IN THE LATE NINETEENTH CENTURY (1988).

There is another important thing to note is the fact that although in some jurisdictions "*made for hire doctrine"* is enacted in a way that explicitly attributes the authorship to the employee, such as the United States and the United Kingdom.[12] In other jurisdictions such as Turkey and the European Union the laws do not go as far, and merely attribute the rights of the work to the employer. In such jurisdictions, minor revisions may be made in the wording of the laws to replace the concept of the attribution of rights with the attribution of the authorship.[13]

In Naruto v. Slater[14], famous case regarding the copyright claims on photographs which were physically taken by a monkey named Naruto who snapped the photos with a photographer's camera, the U.S. District Court held that the legal standing point can be taken by the human not extended to the animal (non-human). It is not possible to provide authorship to the animal and the photograph already in the public domain. The authorship for the monkey selfie is in public domain, henceforth the legal standpoint of an animal is not recognized by any court of law. As well as the work available in public domain cannot be claimed by any human as per the copyright law. In this context, the authorship claim by the photographer(David Slater) or the Monkey (Naruto) is not acceptable.

II. Interpretation of Ownership on Artificial Intelligence

The term "author" within the scope of intellectual property law encompassesonhumans.[15] First, the rights arising from the authorship cannot be

[12]JOHN L. SCHWAB, AUDIOVISUAL WORKS AND THE WORK FOR HIRE DOCTRINE IN THE INTERNET AGE, COL. J. OF L. & ARTS, 6 (2012). See Also, Fisk, Catherine L. "Authors at Work: The Origins of the Work-for-Hire Doctrine," Yale Journal of Law & the Humanities: Vol. 15: Iss. 1, Art. 1(2003).

[13]STEINER, H.J. ET AL,INTERNATIONAL HUMAN RIGHTS IN CONTEXT: LAW, POLITICS, MORALS: TEXT AND MATERIALS (2008).

[14]Naruto v. Slater, 2016 (U.S.)https://law.justia.com/cases/federal/district-courts/california/candce/3:2015cv04324/291324/45/.

[15]Ryan Abbot, *I Think, Therefore I Invent: Creative Computers and the Future of Patent Law,*57, BOS. COL. L. REV.
http://lawdigitalcommons.bc.edu/cgi/viewcontent.cgi?article=3522&context=bclr;

employed by the AI, at least yet. Therefore, defenders of this approach also state that rights arising from the authorship should be given to its owner.[16]For example, the owner of the relevant software, hardware or a combination of both or the developer, the author of the first code etc. i.e. an individual recognized by the state as the subject of rights. The attributes of the authorship of the work to an AI, which will never employ any of its rights on its own as these rights will simply originate on its owner becomes a representative gesture.[17]

In this respect data or information plays a very important role. There are certain conditions, where the data sets for artificial intelligence through machine learning. These data sets are creating or helping to create new technology on it's own. However, the effects of algorithmic data set are the most prior concern for the creation of innovation. And the question of acknowledgement comes through about creativity, the data is provided by human but the modeling of data sets by the machine.[18]Similarly, the scope of protection of creativity in the said context has not been defined in any other ways also. It may be of trade secret, where it satisfies the requirement of (i) kept as secrets, (ii) useful, (iii) publicly unknown.[19]Regardless of all facts and present scenario, the relationship among the parties involved in the current IP System which lacks appropriate right based models.

In the circumstances, there are genuine disturbing questions arise firstly, what will the future world of work look like and how long will it take to get there? Secondly, Will the future world of work be a world where humans spend less time earning their livelihood? Thirdly, will are mass unemployment, mass poverty and social distortions also a possible scenario for the new world, a world where robots, intelligent systems and algorithms play an increasingly central role? Fourthly, what is the future role of a legal framework that is mainly based on a 21stcentury industry setting? Finally, what is already clear and certain

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See also, Colin R. Davies, An Evolutionary Step in Intellectual Property Rights – Artificial Intelligence and Intellectual Property, COMP. LAW & SEC. REV. 27, Issue 6.

[16]GÜRKAYNAK, *Supra note 4*.

[17] Id.

[18]SIMARD, P.Y. ET AL, MACHINE TEACHING: A NEW PARADIGM FOR BUILDING MACHINE LEARNING SYSTEMS. arXiv preprint arXiv:1707.06742 (2017).

[19]BURK, D.L.,MISAPPROPRIATION OF TRADE SECRETS IN BIOTECHNOLOGY LICENSING, 4, Alb. L. J. Sci. & Tech., 121 (1994).

is that new technical developments will have a fundamental impact on the global market within the next few years, not just on industrial jobs but on the core of human tasks in the service sector that is considered 'untouchable'.[20]

III. Impression of Artificial Intelligence

John McCarthy, the man behind the idea of artificial intelligence in the year 1955and assumed that each aspect of learning other domains of intelligence can be described so precisely that human can be simulated by a machine.[21]However, the terms *'artificial intelligence'* and *'intelligent human behavior'* are not clearly mentioned anywhere.The work process of machine with the help of human intelligence are called artificial intelligence.[22] The term 'artificial intelligence' thus means *'investigating intelligent problem-solving behavior and creating intelligent computer systems'*.[23]

According to the capacity of the machine, two kinds of artificial intelligence:

> computer is merely an instrument for investigating cognitive processes – the computer simulates intelligence called 'Weak artificial intelligence'.[24]and
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> 'Strong artificial intelligence' means the processes in the computer are intellectual, self-learning processes. Computers can 'understand' by means of the right software/programming and are able to optimize their own behaviouron the basis of their former behavior and their experience.[25] This includes automatic networking with other machines, which leads to a dramatic scaling effect.

This impression of artificial intelligence comes through the mind of the human. Only a human can be the designer of the better strong/weak artificial

[20]ROSTOW, W.W. AND ROSTOW, W.W., THE STAGES OF ECONOMIC GROWTH: A NON-COMMUNIST MANIFESTO (1990).
[21]LUGER, G.F., ARTIFICIAL INTELLIGENCE: STRUCTURES AND STRATEGIES FOR COMPLEX PROBLEM SOLVING (2005).
[22]BROOKS, R.A., INTELLIGENCE WITHOUT REPRESENTATIONARTIFICIAL INTELLIGENCE, 47(1-3), (1991) ,139-159.
[23]Id..
[24]TURING, A.M., COMPUTING MACHINERY AND INTELLIGENCEIN PARSING THE TURING TEST, 23-65 (2009).
[25]Id.

intelligence structure. However, it is obvious that the regulation of the behaviour for the artificial conduct of machine is to some extent controlled or monitored.

IV. Revolution 4.0

Since from the beginning to present days, revolutions in terms of Industrialization, Electrification, Digitization has been categorized vehemently. With this development of different aspects with technological interference a new revolution has been recognized. That is "Industry: 4.0" supported by artificial intelligence,which will lead to a redefinition and a disruption of service models and products. With the technical development leads primarily to an efficiency enhancement in the production sectors. A new service sector will be introduced to make revolution by the new creative and disruptive service models.[26]These sectors are supported by the big data analyze followed the client requirement. The requirement of clients are adapted with the needs of a company.[27] There are four revolutions in this sector-specific, glimpses are described below:

IV.I Industry 1.0: Industrialisation

Around 1800, the beginning of Industry 1.0 is known as the industrial age. For the first time goods and services were produced by machines. Besides the first railways, coal mining and heavy industry, the steam engine was the essential invention of the first industrial revolution; steam engines replaced many employees, which led to social unrest.[28] At the end of the 18th century, steam engines were introduced for the first time in factories in the UK; they were a great driving force for industrialization since they provided energy at any location for any purpose.[29]

IV.II. Industry 2.0: Electrification

After the 'Industrialization era',beginning of electrification at the end of the 19th century the steam engines are converted to electric engines. It accelerated

[26]SCHWAB,K., THEFOURTH INDUSTRIAL REVOLUTION (2017).https://www.academia.edu/35846430/The_Fourth_Industrial_Revolution_Klaus_Schwab
[27] Id.
[28]MORE, C., UNDERSTANDING THE INDUSTRIAL REVOLUTION(Routledge 2002).
[29] Id.

in the new form and transformed into automatic electric machines. Shifting to this era is the beginning of the series of production in automation which steppingtoan advanced zone of electrification. However, this electrification takes the human lifestyle in another point. The acceptability of the electrification was huge. At the same time, automatically manufactured goods were transported to different continents for the first time. This was aided by the beginning of aviation.[30]

IV.IIIIndustry 3.0: Digitalisation

The third industrial revolution began in the 1970s and was distinguished by IT and further automation through electronics. It's all about personal computer and the internet took hold in working life, it meant global access to information and automation of working steps. Human labor was replaced by machines in production. A process that was strengthened in the context of Industry 4.0 was already in the offing at that time.[31]

IV.IV Industry 4.0

The term Industry 4.0 means,in essence the technical integration of cyber-physical systems into production and logistics and the use of the 'internet of things' and services.Inindustrial processes including the consequences for a new creation of value, business models as well as downstream services and work organization is the credit holder.[32]Cyber physical system refers to the network connections between humans, machines, products, objects and ICT (information and communication technology) systems. Within the next five years, it is expected that over 50 billion connected machines will exist throughout the world. In service sector, The introduction of AI distinguishes the fourth industrial revolution from the third.[33]

For examples from the field of robotics and AI are the so-called 'smart factories', driverless cars, delivery drones or 3D printers, which, based on an individual template, can produce highly complex things without changes in the

[30]Id.
[31]CHANDLER, A.D., ET AL, SCALE AND SCOPE: THE DYNAMICS OF INDUSTRIAL CAPITALISM(Harvard University Press, 2009).
[32] Id.
[33] Id.

production process or human action in any form being required.[34]Same way service models are, for example, networking platforms like Facebook or Amazon Mechanical Turk, the economy-on-demand providers Uber and Airbnb, or sharing services, such as car sharing, Spotify and Netflix. Studies show that merely due to sharing services the turnover of the sector will grow twentyfold within the next ten years.[35]The old industry made progress by using economies of scale in an environment of mass production, but the new information economy lives on networking effects, leading to more monopolies.[36]

V. Alarming Issues for Future

AI will leave no stratum of the society untouched.Also, calls on the Commission to elaborate criteria for an *'own intellectual creation'* for copyrightable works produced through AI.[37] Now, there are machines which automatically create works which would qualify for a copyright protection, if it were produced by a human. There have been several high degree computational creative innovations until now and this has sparked debates all over the world for the re-examination of copyright standards for AIs. Recently, a San Francisco court denied a copyright to a macaque monkey who clicked selfies which went viral.[38] With copyrights for animals out of the picture now, a similar situation has arisen for AIs. Recently, many copyright offices across the world have already mentioned that they won't register machine produced works.[39]

Similarly, under patent law, if novel inventions are made by AI machines, issues may arise regarding the ownership of such inventions. Without any human intervention, who will own the patents on novel inventions filed by AI machines? Will the machine/robot be the owner of future inventions? When

[34]SCHWAB, Supra note 26.
[35]Id.
[36]CHANDLER, A.D., ORGANIZATIONAL CAPABILITIES AND THE ECONOMIC HISTORY OF THE INDUSTRIAL ENTERPRISE. JOUR. OF ECON. PERS., 6(3), pp.79-100 (1992).
[37]VAN GENDEREN, R.V.D.H., DOES FUTURE SOCIETY NEED LEGAL PERSONHOOD FOR ROBOTS AND AI?.In Artificial Intelligence in Medical Imaging (pp. 257-290).(Springer, Cham, 2019).
[38] Id.
[39]BROWN, N.I., ARTIFICIAL AUTHORS: A CASE FOR COPYRIGHT IN COMPUTER-GENERATED WORKS. COLUM. SCI. & TECH. L. REV., 20, p.1 (2018).

ownership rights are distributed amongst different entities, who will be able to enforce such rights.[40] And if an AI plagiarizes a creation or reproduces an invention, how will damages be determined? These are a few basic but puzzling questions which Patent laws now face.

Another problem for developing countries such as India, Thailand or China is the lack of social security systems which creates issues at par with artificial intelligence. Possible mass unemployment could lead to human catastrophes and a wave of migration.[41] Accordingly, the same rule applies to developing countries as to developed countries. Jobs with low or medium qualification requirements will be eliminated in the end.[42] The only difference is that in developing countries there will be more routine jobs with lower or medium qualification requirements. About 47% of total US employment is at risk, whereas 70% of total employment in Thailand or India is at risk.[43]

VI. Immortal Creators

In relation to AI another issue is the legal period of protection in terms of such works. Many countries around the world tend to provide specific periods of time during which the work and the rights arising thereof are legally protected.[44] These time periods are usually determined in reference to the lifetime of work's author and exceptionally work's first publication or transmission. AI is potentially immortal. In that respect, expanding the scope of author's definition in legislations to include AI would render the legal protection periods determined in reference to author's life meaningless in respect to world's different legislation.[45] However, once the authorships of AI created works are attributed to humans, the existing legislations would be applicable as is without

[40] Id..
[41] CASTLES, S., ET AL THE AGE OF MIGRATION: INTERNATIONAL POPULATION MOVEMENTS IN THE MODERN WORLD, Macmillan International Higher Education (2013).
[42] AYENI, V., PUBLIC SECTOR REFORM IN DEVELOPING COUNTRIES: A HANDBOOK OF COMMONWEALTH EXPERIENCES (Vol. 14) (Ed. 2002).
[43] Id.
[44] GÜRKAYNAK, Supra note 4.
[45] Id.

any further revision.[46]The AI is also capable of using, changing, processing, updating and re-creating the works that it previously created on its own. The ease of this re-work for AI on a work it previously created might result in rapid production of copyrightable works due to the AI's computing capabilities.[47] These new works by the AIs might likely be regarded as derivatives of previously copyrighted works and thus provisions that apply to creation and protection of derivative works might be applied to these.

VII. Limitation of AI

a) No Independent Decision

Assistive functionaries' tool can be termed as 'Robot'.It is also supportive system of human being where the destruction and construction of life prevail. Intelligent chat bots can grow from little helpers to all-aroundwork-place assistants.[48] If one believes numerous technical pioneers such as Bill Gates, Elon Musk or Stephen Hawking, however, human intelligence will be surpassed by AI within 15 years.[49] If the development continues like this, it is to be assumed that in the near future, it will no longer be the human who makes the decisions, but the robot with its AI. If robots make the essential decisions and outdo the humans in their jobs, this might change the generally positive attitude towards Industry 4.0.[50]

The state of development to date is, however, that humans still have the full power to make decisions and that only assistive functions are assigned to robots, at least in the processing industry.[51] The question is whether the decision-making power of robots would be advantageous. Unlike many human beings, an autonomous system does not make its decisions based on instinct, but on the

[46] Id.
[47] Id.
[48]DESCHAMPS-SONSINO, A., SMARTER HOMES: HOW TECHNOLOGY WILL CHANGE YOUR HOME LIFE (2018) Apress.
[49] Ibid
[50]MORAVEC, H., MIND CHILDREN: THE FUTURE OF ROBOT AND HUMAN INTELLIGENCE (Harvard University Press, 1988).
[51]HANCOCK, P.A., ET AL,A META-ANALYSIS OF FACTORS AFFECTING TRUST IN HUMAN-ROBOT INTERACTION, 53(5), Human factors, pp.517-527 (2011).

basis of purely objective criteria. A robot announces the decision free of emotion, so there will be fewer misunderstandings in communication. Still, leaving the power to make decisions with humans has the decisive advantage of promoting the social acceptance of the systems.[52]

b) Say No to Killer Robots

AI also has a black area supported by science. This treated as a curse to the society as because of it produces the killing automated robots. Automated killer robots having been made for the purpose of war. These are controlled by the sensor of human which are more intelligent than human. These days the highest category of weapon are considered as the killer robot and regulated by human. Intelligent system of most of the country are looking for the same technology desperately. It has very good sharp quality which can target any point at any time from any place with the technical programming.[53]With that good quality, it also contains some inner worst quality which of course creates by malfunctioning of the technology. Every aspect of the of good and bad affects the quality of human life.

VIII. AI and Intellectual Property in India

The remarkable extent of creativity and knowledge exhibited by AI is clearly visible, concerns pertaining to IP protection ought to be there in the minds of those enforcing the rights associated with the intellectual property.[54] There is a wide variety of intellectual property legislations which would impact / affect the functioning of AI in India. Such legislation are discussed in detail below.

VIII.ICopyright

In some countries, we can see a noticeable requirement of creativity, when it comes to the ownership of copyright works. Even Indian Copyright law requires

[52]WISSKIRCHEN, G., ET AL, ARTIFICIAL INTELLIGENCE AND ROBOTICS AND THEIR IMPACT ON THE WORKPLACE. IBA GLOBAL EMPLOYMENT INSTITUTE, 2012-2017 (2017).

[53]TURING, A.M., COMPUTING MACHINERY AND INTELLIGENCE. IN PARSING THE TURING TEST, 23-6 (Springer, Dordrecht, 2009).

[54]KAPCZYNSKI, A.,, THE ACCESS TO KNOWLEDGE MOBILIZATION AND THE NEW POLITICS OF INTELLECTUAL PROPERTY, 117,YALE L.J.,804(2007).

that in order for a 'work' to qualify for copyright protection, it would firstly have to meet the 'modicum of creativity' standard laid down in *Eastern Book Company and Ors. v.D.B. Modak and Anr*.[55] In this case, the Court held that a 'minimal degree of creativity' was required, that there must be 'there must be some substantive variation and not merely a trivial variation'. From a reading of the test laid down in the judgment, however, there is no definitive conclusion that may arrived at wherein it may be stated that an AI cannot meet the 'modicum of creativity' as required.

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 is defined under the Indian Copyright Law. This would be problematic as an AI has generally been regarded to not have a legal personality. 'Author' means,"in relation to any literary, dramatic, musical or artistic work which is computer-generated, the person who causes the work to be created;"

The first issue under the above-mentioned definition is its usage of the terms 'the person who causes the work to be created'. Determining who 'causes' a work to be created is a question of the proximity of a natural or legal person to the creation of the 'expression' in the content in question. The more closely or directly a person is involved in creating the 'expression', the more he or she contributes to it, and the more likely he or she is to qualify as a person 'who causes the work to be created'. As a result of the above, the current legal framework may not effectively deal with/prescribe for creation of works where the actual creator or a contributor of the 'expression' is not a human or a legal person. Thus, when it comes to works that are created by AI, their authorship would be contentious under Indian copyright laws. There is no doubt that a human's involvement is required in kick-starting the AI's creative undertaking. However, the process to determine who the author/owner is when the AI steps in to play a pivotal role in the creation of the work continue to remain a grey area.

VIII.II Patents

Section 6 of the Indian Patents Act, 1970 states that an application for a patent for an invention can be made only by the true and first inventor of the invention

[55](2008) 1 S.C.C. 1 (India).

or the persons assigned by such person.[56] Whereas, Section 2(y) of the Act confines the definition of "true and first inventor" to the extent of excluding the first importer of an invention into India, or a person to whom an invention is first communicated outside India, and nothing further.[57] These provisions do not expressly impose the requirement of an inventor to be a natural person. Therefore, from a bare reading of these provisions, it may be interpreted that an AI may fall under the definition of an inventor as provided in Section 2(y) of the Indian Patents Act, 1970. However, in practice, the "true and first inventor" is always assumed to be a natural person. Thus, it will be interesting to track the jurisprudence on this front especially the stand taken by the patent office when the "true and first inventor" on the patent application form is not a natural person. However, AI will certainly play an important role in the evolution of patent law itself. Sophisticated use of natural language processing has been adopted in generating variants of existing patent claims so as to enlarge the invention's scope. The publication of these patent claims using such technology would help preclude obvious and easily derived ideas from being patented as they will form the corpus of the prior art that is available in public domain.[58]

VIII.IIIIndustrial Designs

With the progress of artificial intelligence advancements like Watson, Siri, and Alexa, it can be observed that many companies are working on different forms of smart intelligent machines at present that could aid in its overall and inclusive development. In the process of creation of Industrial Designs where numerous components come together at an effective level to emerge to the final stage, Computer-aided Design and Drafting (CAD) systems have their own limitations confining itself to only geometric models and representations. On the other side, the recent headway in generative techniques where an AI is associated in the process could be a more creative and systematic way of providing mechanical solutions, thereby undergirding the industrial design process. Section 1(j)(iii) of the Designs Act, 2000 interestingly defines the "*Proprietor of a new or original design"* as the author of the design and any other person too, where the design

[56] Indian Patents Act, 1970, s. 6, INDIA CODE.
[57] Id. s. 2(y)
[58] ERICA FRASER, COMPUTERS AS INVENTORS – LEGAL AND POLICY IMPLICATIONS OF ARTIFICIAL INTELLIGENCE ON PATENT LAW, (2016).

has devolved from the original proprietor upon that person. So, how do we successfully determine the rightful authorship if an artificial entity such as an AI is behind the original design? Also, what are the odds of an AI acknowledging the authorship of a design? In addition to that, what is the possibility of authorship of the design being devolved from the AI to a human being, when the AI itself does not have the elementary knowledge as to what a proprietorship/authorship would mean in its strict legal sense? These questions remain unanswered, but it is hoped that jurisprudence on the same shall soon evolve.

IX. Conclusion and Proposed Suggestions

It is very much required to dispose of the responsibility of legal fraternity towards the liability of the human created robots. The idea of the Intellectual property is to provide the value of creativity of the human not to machine or robot. However, the debate will start with the liability of human and robot in terms of intellectual property. There are hyper intelligent app of AI which can erase the total effort of human. The issues relating to AI and IP for the world community need to ascertain with the legal framework in the form of a uniform act that is specifically designed to address activities by AI.Considering the foregoing, the ownership problem pertaining to works created by AIs remains as one of the compelling legal issues in regard to AI. The proposed solutions to the matter may be re-interpretation of the “made for hire” provisions in existing legislations appears to be the most convenient solution for now as it demands the least amount of legislatorial change.Yet allows enough flexibility to address ever changing needs created by current developments in today’s world. Nonetheless, considering the various repercussions of even the slightest change to the currently established copyright practice, all solutions present further specific questions on the matter that needs addressing. In relation to patent and industrial design also ‘creativity’ error should be clear by making a thread line with the human control and machine-generated work. However, ignorance, as was the case with respect to AI’s creative capabilities when they first came around, is not an option at this time.