I P BULLETIN

Vol. III ISSUE 1 JAN-JUNE 2022, pp. 96-107

AT THE JUNCTION OF IP AND AI: REALITY, PRESUMPTIONS AND POSSIBILITIES

Anushka Joy[1]

ABSTRACT

The genesis of Artificial Intelligence (AI) is a long story traced in reverse gear. "Can machines think?"- The very first question in Turing's paper, titled, "Computer Machinery and Intelligence" has become a pivotal rhetoric in today's globalized world. The question permeates all domains, whether strictly technological or not, and the legal field is no exception. Simple commands and a plain sailing program is something we are all acquainted with. Programming languages like LOGO have been a part of many educational curriculums. With the curve bending towards rapid advancements in techno-oriented spheres, like cyber security and data protection, complex algorithms creating cumbersome know-how problems and issues revolving around the use of AI pose questions of legal as well as ethical dimensions, particularly in the realm of Intellectual Property (IP) laws.

The Intellectual Property laws in India cover a range of concepts, domains and derivative concerns. For instance, copyright law embodies the concept of 'fair use' whereas the tendency to modify patent applications to give effect to acceptability is not new. With the advent of AI, IP realm is facing issues which are basic in the content of its questioning but advanced when it comes to an approach for resolution.

This paper aims to explore two aspects under titles, "Take 1: The Reality" and "Take 2: Possibility based on Presumptions". The first part is concentrated in the use of deep fake and speech synthesis as used by AI for creations. This shall cover discussions of projects based out of AI algorithms like "Kennedy's lost speech brought to life", "Remembering Rembrandt" and concepts of ectypes, text and data mining, fair use and fair dealing. The legal issues hovering at the periphery of this central discussion include falsification of identity, copyright infringement and authorship and performers' rights.

Recently, Elon Musk stirred a wave with 'Neuralink' giving a peak into a reality that was till date just a picturesque idea. The use of 'Neuralink' is to control mobile and computer devices

[1] LL.B. Jitendra Chauhan College of Law, University of Mumbai.

by brain regulated inputs, which clearly finds application in physical assistance to the specially-abled. If technologies of the same garb could be extended to control musical instruments and it's attachment to Brain Chip Interface (BCI) with the aid of AIs could enable works of creation, inevitable doubts as to "who is the creator" are bound to take the front seat. It is this presumption which the second part is determined to unveil.

As a part of final remarks, the paper includes a comparative understanding of how Japan, South Korea and the US is dealing with such challenges, the use of dark net as a delivery system for releasing AI generated works with disruptive intentions and infringing artist's copyrights, as well as the repercussions for the Media and Entertainment industry. The interface of AI and IP has the potential to blur the lines of virtuality and reality, creating ripples in this technologically impregnated legal world and to hustle with the same, recognising such challenges and novelty in approach is a go-to trajectory pursued in this paper.

Keywords: Artificial Intelligence, Brain Chip Interface, Intellectual Property, Neuralink, ChatGPT.

CHAPTER I

TAKE 1: THE REALITY

According to a New York Times article, Jason M. Allen's "Théâtre D'opéra Spatial",[2] an AI generated painting secured its place in an art competition held at Colorado. The artists' collective had fallout with the winner as they complained about ethics, depreciating value of human art and reduced AI to a "high-tech platform of plagiarism". Another startling project is "The Next Rembrandt". A combined effort by ING, a bank based in Amsterdam and Walter Thompson alongwith Microsoft led to the creation of a painting. This was based on a technology known as Convolutional Neural Network (CNT) which helps to understand the features of the original. The style and overall imitation has a precision worth appreciating. In another articles discussing the Rembrandt painting stated with firmness that the painting has all the features of what we know as 'ectype', original in endeavors of creation but devoid of authenticity of the originator.[3] In yet another project Kennedy's speech[4] was completed which unfortunately had to succumb to his assassination in the past. The process of reconstruction involved using techniques of AI and machine learning.

This is the reality which AI continues to create for today's generation. With a new reality

[2] Kevin Roose, "An A.I.-Generated Picture Won an Art Prize. Artists Aren't Happy." The New York Times, Sept. 2, 2022

[3] Luisiano Floridi, "Artificial Intelligence, Deepfakes and a Future of Ectypes", 31 Springer Link, (2018

[4] John F Kennedy's lost speech brought to life" BBC News, 16 Mar., 2018

emerging, emergent legal issues pave their way in. In the first instance, the risk of AI take over and leverage to non-expert artists; in the second, creation of a painting which is an exact replica of the style of Rembrandt and attribution of authorship rights; and finally, in the last one, the AI's virtuoso of speech synthesis comes to the forefront but not without the likelihood of such false personations for various purposes like spreading political propaganda.

An exposure to reality also introduces us to what is known as deepfakes. A deep fake, in oversimplified terms, is a 'fake' or an imitation done, by altering or modifying the original to suit one's needs. This includes complete face synthesis, identity swap, face re-enactment, etc. One of the worst impacted sections of society is women and children. When sexually-explicit content goes viral, there have been instances where stalkers have posted deepfakes on illegal websites or websites which display sexually-explicit videos/photographs.

Dr. D.Y. Chandrachud, J., in the KS Puttaswamy judgment[5] stated- "The overarching presence of State and non-State entities regulates aspects of social existence which bear upon the freedom of the individual." Production of deepfakes happening in the absence of consent, violates right to privacy as well as human right of inherent dignity. Under Section 66E of the Information Technology Act, 2000, stipulates a maximum punishment of three years or fine or both. The section is targeted to protect privacy. However, while there is a clause as to 'publishing', particularly morphing is not included by way of terminology. Also, equipping the Indian legal system with new tools in the form of provisions can help in avoiding unnecessary pendency of cases. Deepfakes also damage reputation (defamation), can be used as a threat (criminal intimidation), facilitate forgery, etc. Thus, the reality calls for specificity in provisions or a new statute to address crimes of modern times.

At the base of all this is data and text mining which is like excavating data on the web. This data helps come across patterns and it becomes easier to analyse and understand trends. The technique of data mining through AI opens gates to humongous data which becomes the starting point of the race to creation of deepfakes, morphing, sourcing sensitive information, etc.

None of the concepts we discussed can be read and understood in silos when dealing with intellectual property, the ones that can be copyrighted. AI and IP have entangled in such a manner that legal issues are bound to surface. However, equipping, like earlier said should be the Grund norm. This equipping can be done when we understand and accept the overlap between technology, law and innovation, deal with legal issues not just through existing laws

[5] Justice K.S. Puttaswamy v Union of India, (2019) 1 SCC 1

but by developing novel provisions to accommodate interactions between AI and IP, and believe in all true spirits that man is both an innovator and a regulator.

CHAPTER II

TAKE 2: POSSIBILITY BASED ON PRESUMPTIONS

Elon Musk's Neuralink is an addition to the fast paced technological development the world beholds. Some devices visualize the use of "non-invasive BCI" which means that by means of externally-attached devices, the neurosignals will be picked up. This is in contrast to the "invasive BCI" which involves implantations like in case of Neuralink. In an article by Alexander N Pisarchik et al, there are two points which caters to the objective of this paper[6]:

1) the detection of latent signals which unaided brain cannot recognise/pick up
2) control of external devices

In the first case, the BCI can help act as a detector of signals which normally the human brain misses out. This can be harnessed to avail likely discovery of that information which is not usually accessible. Thus, this opens avenues of exploration into the human brain. This is possible due to "thousands of channels" which relay neurosignals. If such a chip is possibly aligned with an AI, in the aftermath, may be the latent information can be extracted to create something new. Although it is undeniable that such information is sourced from the human brain but AI could aid in reading it.

Another aspect is the control of external devices. Largely developed for the medical field, Neuralink when extended to control musical instruments can cause AI-controlled automation. Now, combining the two presumptions, one of the outputs could be that BCI aligned with AI when harnesses information, latent or pre-existing, could create musical notes and instruct the playing of musical instruments. The creation of musical notes will be AI-aided. However, there may be instances in future where the AI efficiently picks up ideas and thoughts through BCI and converts the signals of such an idea/thought into music. Now in this case, even a non-musician becomes a creator but is he/she the author, is again the question posed. AI is a facilitator in this case but the idea for which the works are copyrighted is that of the human, so, the idea belongs to the human but the conversion of idea into music is the work of AI.

According to Section 2(d) of the Copyright Act, 1957, this confusion can be clarified. For computer generated works, author is the person who "causes the work to be created". The idea is caused in the mind of a person and it is through the interpretation of this idea AI generates

[6] Alexander N Pisarchik and Vladimir A Maksimenko et al," From Novel Technology to Novel Applications: Comment on 'An Integrated Brain-Machine Interface Platform With Thousands of Channels' by Elon Musk and Neuralink", 21 *JMIR Publications*, (2019)

music. Authorship can be attributed to the person. Now, this might cause an ethical conundrum that some form of acknowledgment must be for the AI as the receiver.

It is put forward further in this paper that AI can be acknowledged by acknowledging the regulators of AI, who could be persons designated for its operation. Thus, it is a set of presumptions that can bring a revolution in the entertainment industry by aiding people to unsheathe information of the brain and at the same time give the joy of being creators without mentally undergoing through the process of creating each and every musical notes. Specifically, for the music industry, AI could be an aid. However, the weightage accorded to works created with AI aid and those without must be demarcated in their creative value (a creativity composite score can be designed as a measurement to quantify AI efforts and human efforts). If not distinguished, it can effect artistic motivation.

CHAPTER III

FROM THE GLOBAL LENS

The Narrative in South Korea, Japan and the U.S.

South Korea, an East Asian country, is a country to look up to when techno-driven aspects are on the table. According to a website called Crunch base, "Artificial Intelligence, Data and Analytics, Science and Engineering, Software"[7], being one unified industry group, is growing at a rapid rate. The players in the picture include companies like Rebuilder A.I., CSLEE and Moreh. When you access the website of Moreh, it reads, "Moreh, the enabler of future AI". On a further reading, we realise how far technology can take us. The company basically develops software stacks, which can be simply understood as units or building blocks which run a model/application. These big names are enablers, if I may borrow the term Moreh uses. Enablers, coupled with regulators (individual people appointed behind regulating AIs), and lawyers, will shape the future of Media and Entertainment industry and thereby, determine the conduciveness of free flow of rights and its correct attribution.

South Korea's Samsung is leading in microchip making. The microchip is the basis for AI training. The country, thus, is the centre for bringing AI systems into daily usage. It becomes essential to understand the copyright laws of South Korea as the mark of initial learning about their perceptions as to rights of AI.

According to the copyright laws prevailing in the country, the author has two kinds of rights: Moral and Property Rights. The former includes rights pertaining to publication, choosing to adhere to the basic form of the work by excluding alteration to structure, content, etc. The latter

[7] South Korea Artificial Intelligence Companies available at https://www.crunchbase.com/hub/south-korea-artificial-intelligence-companies (last visited on August 13, 2023).

extends to reproduction of the work, performance, dissemination, adaptation, etc. Now, author is a person who has these rights but ownership is a distinct concept from authorship. In layman terms, author is the one who invests the creativity of the mind and creates a new work either textual or visual. However, ownership can be attributed to an individual or an institution in *"whose name"* the work is created.

This is to say that ownership and authorship may not necessarily be attributed to the same entity. The second most important aspect to be understood through these laws is that there is a concept of a *"related right holder"*. This entity is not the author of the original work but 'uses' the work in some capacity, for instance, as a performer. So, while such a person uses the work and some of the rights may extend to this entity, this person is neither the author nor the owner of the copyrighted work.

Such distinctions drawn can be helpful to understand how the rights are to be shared with the AI. The conflicts in essence include:

1) Who should be considered the author?
2) If AI is the author, is there a breach of artistic integrity and dignity?

To address the first question, the AI can be treated as a 'related right holder'. This aligns more with the procedure it follows to deliver outputs. The AI based on algorithms, assesses, analyses, produces or suggests. This is data-driven and while the content created is plagiarism-free, it is not an output of creativity. In copyrighted works, the foundation is creativity which is unique to humans. Therefore, instead of enabling authorship or ownership rights to the AIs, they may be treated as 'related right holders'. If our inquisitiveness leads us into thinking that whether AI should have rights in the first place, this thought can be comfortably dismissed. The rationale, I wish to put forward, is that AI is like an artificial person, regulated by people, and people are highly capable of infusing the system with their ideas and mindscapes. What an AI does or produces, or even reproduces, is expression of data but that data is pushed into by people. The humanistic tendencies, firstly, must be acknowledged at some level and lastly, rights and duties are linked. When we give rights to AI, duties of such people shall be shaped over time. In the regulatory sphere, this will bring coherence between the IP rights and regulators of such technological innovations.

Linking the first question to the second, if we borrow the concept of 'related right holder', any AI has rights but limited ones. The regulator of AI can have a separate set of rights known as 'regulator rights'. The issue arising when we search for solutions to tackle questions of authorship is that we are waiving novelty in the first place and confining ourselves to merely authorship and ownership. The need of the time is to introduce new terminologies with well-defined rights. To an extent whatsoever, the regulator may be held responsible for any 'wrongs'

that the AI commits depending on the quantum of damages caused and the gravity of loss. This, in no way, affects artistic integrity and dignity, as long as AI is not claiming the works of other authors or copying their unique styles, such that prima facie, the impression is of a counterfeit. To take a step beyond, may be certain generic wrongs and associated amount of damages can be pre-determined for the ease of carrying business and avoiding multiplicity of IP pending cases.

The Japanese are responsible for supply of "semiconductor manufacturing equipment". This is the rock behind AI enabling microchips. Linkages can be established between the functioning in the AI industry in South Korea and Japan. Apart from the economic side of things, the entertainment industry in Japan is a curious case for production of anime. AI can easily create graphics and thus, facilitate both creativity and chaos in the entertainment industry. It can copy voiceover artists' peculiar vocal inputs and cause a stir related to identification, thereby hampering rights. Voice recordings and visual creations are subject to the threat by AI suffusing the anime world of entertainment.

The copyright laws in Japan introduce us to provisions that embody '*definitiveness'*.[8] The principle of limitation is essential to the copyright law. For instance, "part of a work" implies copying not more than half of the original work. The provision imbibes a restrictive nature as to copying but does not hinder utility derived out of copyrighted works. If applied to the AI sphere, copying may be allowed but to an extent permissible. Even if extracts or excerpts are re-produced by AI, a cap on its extent will ensure that the copyright strikes are not frequent and it does not become a pervasive force on authorship rights. This definitiveness is the root of an arc of flexibility between AI and creators in which the basket of rights does not overweight on just one side.

"In the end, the American dream is not a sprint, or even a marathon, but a relay…"-These words always create a ripple of resonance. Like one runner halts and the other starts, the generation of AI is a new lap altogether, and one, the Americans as generational citizens cannot choose to ignore. AI is now a part of the American dream which is to rise from nothing substantial to something meaningful. The knowledge and capability to use AI is what will narrow the rift between machines and humans. "The future is AI", something heard and said on repeat. The reason is simple. There is huge scope for innovation and the wonders leave us mesmerized. The US is no exception to this global relay race of integrating with the reforms AI introduces into the IP world.

According to the CSR Report, particularly in generative AI, clouds hover when we try to

[8] About Copying Service and Copyright available at https://www.ndl.go.jp/en/copy/copyright/index.html#law3 (last visited on August 14, 2023)

determine the holder of copyrights. The US copyright laws extend to human agency and not to AI. The use of creativity of a human and by a human is what makes a work eligible for copyright protection. In the same report, Mr. Stephen Thaler had put forward the contention that machines can author works and the copyright laws do not mandate human intervention. His arguments were heavily in favour of giving rights to machines as authors. One of the gravest possibilities is the '*question of liability'*. If any machine is to be designated as an author, will the punishments furthering justice, be realized in a meaningful way. This is to say that even if, hypothetically speaking, machines or AI is made liable, any sort of punishment directed towards it seems meaningless. The idea that a machine is being held for its wrongs does not sit well with the way our rationality functions. Therefore, human intervention cannot be avoided when dealing with questions of liability.

Another point worthy of mention is that of *'initial copyright owner'*. Some may consider generative AI to be an initial copyright owner. However, even then questions of liability cannot be waived. If the AI commits copyright infringement, we will be asking the same questions running in a loop.

Fair use would imply what we took in from Japan, the extent of copied work and the extent to which there is resemblance on face value. Many AI companies can argue that use within limits and for purposes of efficiently training will not amount to copyright infringement and it is a valid statement. However, it is post this scenario that we must understand the consequences of overstepping the boundaries and tampering with original works to completely destroy his essence or produce a copy so accurate that it is nothing but the original work with little modifications to skip copyright infringement strikes.

Whether it is South Korea, Japan or the US, all have embarked on a journey to unravel the answers to fundamental questions and the way is a zigzag one. Some of the findings to keep in our baskets are addressing the questions of liability, especially criminal liability, understanding that certain accommodative stances will require newer concepts, international borrowing should be a go-to method and lastly, it is a global issue not specific to just a single country.

The Viciousness of Dark Net

Dark Net is the other side of the Web. It lurks in the shadows of the internet. Whether we look up a word on any search engine, order online, create posts, etc. all have a digital footprint which makes it easy to identify our presence in the cyber space. The Internet Protocol or the IP address enables us to track down the source of servers. All this is overturned when we talk about the dark net.

According to an article of the Duke University Press,[9] Dark Net is "largely beyond the reach

[9] David Omand, "The Dark Net: Policing the Internet's Underworld", 32 *World Policy Journal*, 75-82 (2015-16)

of law enforcement". The web as a platform diverges into two branches, surface web and deep web. What we are acquainted with is the surface web. The positivity of surface web is 'control' of information, community guidelines, ability to track down fraudsters and criminals, create a safe marketplace and so on. On the other hand, the swore-in rule of Dark Net is 'anonymity'. In the garb of anonymity, all those activities which would otherwise invite criminal liability or scathing criticism are conducted with utmost deftness. We can understand dark net like a layered system in which each layer is disconnected from the other. The flow of any type of information goes from layer to layer but without being identified or leaked. It almost sneaks in these layers and reaches the source without revelation of what it is.

This is a potential threat, primarily for national security. Many Islamic fundamentalists, ones inclined towards terrorist propagandas, use the dark net to facilitate mobilization of people. Many a time's politicians to give effect to their political vendettas use the Dark Net to give effect to their course of action. Another concern is a commercial one.

The Dark Net has created a parallel marketplace where everything imaginable may be purchased and sold. Consumer loyalty and seller credibility is maintained otherwise the smooth functioning and its very existence cannot be vouched for. The viciousness of Dark Net will entail considerable risks for usage in AI outputs. For instance, AI may be used to mimic and completely copy the voice modulations, tone, quality, etc. of a political leader and the same may be securely circulated in the Dark Net cyberspace. This will not only propel cyberspace intimidation but shall lead to actuating in the real space. AI will deliver and the circulation of output on the Dark Net leaves one's hands tied as it will be unregulated. This also implies that there shall be no way to track the organization behind the AI. We loop back to the question- 'Who is to be held liable?'

U.S. sowed the seeds of Tor, anonymity-maintainer software. The object was to maintain the anonymity of military data. However, since its inception, many types of software find a place on the Dark Net, easily downloadable and usable. AI then, in connection to Dark Net, is a medium to spread false information and escape liability. Releasing content or solely using AI systems to safeguard identity and reduce human intervention to mitigate even an iota of chance of identity revelation may turn out to be the new cyberspace itinerary.

In Totality: The Repercussions for Media and Entertainment Industry

Firstly, the *debate between limits of fair dealing and copyright infringement* is an ongoing one. Under Section 51 of the Copyright Act, 1957, provisions as to what constitutes a copyright infringement are defined. When a non-licensee does an act which is the sole prerogative of the

owner of copyrights, sells, hires, distributes, exhibits, imports infringing copies or being profit motivated, allows for communication of work to public and thereby infringes, is said to commit a copyright infringement. On the other side, for "private use, criticism, review, reporting current events, reproduction for any purpose related to judicial proceeding or meant for use by Legislature members or even reading and recitation in public of extracts, etc." gets immunity on grounds of fair dealing. Now, the doctrine of fair use is prevalent in the US, embodies in Section 107 of the US Copyright Act. Though different, there are similarities between fair use and fair dealing.

What the AI leading companies may do is argue that content generated was meant for fair dealing and there is no copyright infringement. This is true only for those specific cases which fall under Section 52 of the Act and none other. The provisions limit what acts can be done and therefore, there are limits to fair dealing. As long as the restrictive concept of fair dealing is practiced, they are no infringement by any AI on legal grounds as infringement and rights, both will be attributed to a person. For example, if any artist makes a painting using AI of a work of architecture, the copyright is with the author and there is not infringement as long as it falls under fair dealing. However, a different debate still continues as to whether a human person or an AI regulated entity should be given rights over the work.

Secondly, *artistic integrity and dignity* will be affected if an artist's work is copied to a great extent. An artist puts in thoughts and always, it is an expression of idea. 'Idea' is possessed by human beings. It is idiosyncratically a characteristic of human beings. There are two series of developments involved distinguished on the basis of consent and reliance. If any artist willingly takes the support of AI for creation of his works, there can be a composite calculation, probably based on advance algorithms as to how much content is AI generated. The rights may then be shared between AI regulators, which are persons and human entity. However, again the problem of accurate quantification and means to measure the weightage of ideas expressed against AI outputs is a cumbersome and confusing task. If, however, there is no consent and AI generates/uses content which is copyrighted, not amounting to any fair use, there is a clear infringement and it affects rightful acknowledgment of artistic endeavors.

Thirdly, *the laws in place and its extension to recently discovered problems* may not give complete solutions. As quite visible in the first two points of discussions, there is a void which needs to be filled. One of the problems is that AI does not fit into the shoes of an author or an owner. As the technological space is ever advancing, we need a new type of identity for AI, so that they can be recognized as potential creators, and for the purposes of liability, human regulators may be held responsible.

Fourthly, *the paradigm shift in the way of utilizing human capabilities* brings us to our next point of discussion. If the way we look at things gets a perspectival shift, human capabilities can be utilised to drive AI-driven platforms making it more secure against copyright infringements. Humans, as regulators imply some sort of control. This control can be exercised when machines or AI err.

Fifthly, *instances of violence and public disturbances* are daily witnessed. If we imagine a world where deepfakes become reality and blackmailing young actors is simplified or the lyrics of a song by any lyricist is tampered with to incite violence affecting his deeply-felt motive, it will cause overflow of false narrative into the public domain and henceforth, will affect the participating units of the Media and Entertainment industry.

Sixthly, *freedom of press and artistic expression in cyberspaces* is intricately linked. All of us may have come across media showing fabricated videos. On WhatsApp, information which is seemingly taken as true, is circulated and successfully creates false impressions. Article 19 under the Indian Constitution grants freedom of press. If the media tends towards ethical dissemination of information, circulation of deepfakes and fabricated videos can be checked. Tampering with artistic outputs, for instance a short movie, to re-create and re-arrange the scenes and the dissemination of same through media, is not only copyright infringement but also misuse of freedom to press, as there is no fact check.

Seventhly*, charging content with plagiarism and damage to originality* is another rampant issue. In today's times, the reliance on software's like ChatGPT causes a knock down of thinking capacities. In one of the articles by IBM, Rob High pointed out that "It is not our goal to recreate the human mind." While AI can be an aid, it must not become a thing to depend on impairing our very own creative senses.

Lastly, *human capital development* is crucial for the economy. The population of India is the largest in the world. To tread on a path of economic development not only in terms of GDP but also poverty exclusion, the population can be instrumental. Particularly, in the light of media and entertainment industry, human capital is the driving force, the people are the mind of the industry. The development in the technological field of AI has a direct impact on the industry people as issues of copyright infringement and fair dealing continue to percolate the media and entertainment sphere. Therefore, it becomes extremely important to address these issues which are linked to innovation, IP laws, technology and the progress of the country at large.

CONCLUSION

Peter Drucker had rightly remarked, "The ultimate resource in economic development is people". Whether it is AI operations, copyright infringement issues, or repercussions for the

media and entertainment industry, the techno-legal sphere is linked to economic development. This is all based out of human capital. What we need right now is to understand the interplay of novelty and standard legal questions, and create accommodative spaces for humankind and technology to stay and grow together, but at the same time, man driving technology and not the reverse overpower by technology on man. Whether it is data flows, text mining or analytics, etc. whichever new technology drives the cyberspace and impacts the real space, must be in coherence with the culture, ethics and values of the human society. Therefore, at the junction of AI and IP, there is a constant influx and out flux of innovative tendencies, and over time, man shall become more efficient in dealing with it.

****