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ABSTRACT

In 1997, India won a battle against a US patent on the use of turmeric powder for its healing properties. In 1995, the US Patent and Trademark Office (PTO) had granted a patent to two researchers on the medicinal use of turmeric powder for healing wounds. Little did the PTO realise such use of turmeric powder dated back to the ancient period in India and still continues in Indian households as a matter of practice. The practice was cultural and traditional, much less a novelty product.[1] *This case, among many others, stands as an eye-opener to the patenting of traditional knowledge by those who may unduly commercially profit from it, and in the worst case, deprive the same communities who possessed that traditional knowledge to commercially benefit from it. Thus, there comes a need to understand what must be the requisites that would help qualify as 'traditional knowledge' and where should the line be drawn against patenting traditional knowledge. As the objective of intellectual property rights has always been, in the case of traditional knowledge too, a framework of intellectual property protection will help balance interests between those of the innovators or potential IP-protection seekers and of the wider public.*[2] *This paper discusses the "enculturation" of laws, a term used in psychology, of traditional knowledge within intellectual property. The paper introduces the reader on intellectual property and traditional knowledge, its use and misuse of the latter in IPR, ways to combat its exploitation by IPR and its positive inculcation of IPR in order to empower traditional knowledge.*

Keywords: *Intellectual property rights, traditional knowledge, World Intellectual Property Organization, haldi patent, basmati case*

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[1] Jayaraman, K. *US patent office withdraws patent on Indian herb*. Nature 6, 389, (1997). https://doi.org/10.1038/37838

[2] WIPO, https://www.wipo.int/about-ip/en/ (last visited May 15, 2022).

Introduction to IP, IPR and IP Laws

Intellectual property ("IP") is protected by grant of intellectual property rights ("IPR"), which are defined and authorised, although not necessarily codified by intellectual property laws ("IP laws").

IP differs from the traditional sense of tangible property as it is intangible and a creation of the human mind.[3] It is an unconventional form of property wherein an idea or a brainchild while creating the end product, which could be in whatever form real or abstract, is deemed to be considered as 'property'. To provide an illustration, the Coca Cola bottle's shape design is patented[4], and it is considered an IP. This does not denote any relationship of ownership towards the manufactured bottle per se, rather, it denotes a relationship of patent ownership towards the design of the bottle. Thus, IP here means the shape of the bottle and not the bottle in its tangible form. Further, when such IP is 'protected' as in this example, it does not mean that other bottle manufacturers are barred from manufacturing bottles. They are only barred from manufacturing bottles with a shape similar to that of Coca Cola.

IP exists in various forms, such as literary or artistic works, inventions, product designs, and symbols, names and images used in commerce.[5]

Means of IP protection

As conventional tangible property is a subject-matter to the bundle of rights enjoyed by the owner which enables the right-holder to form different relationships with other persons with respect to the subject-matter within the ambit of those rights, such as the performance of sale where there is an eventual owner, of lease where there is an eventual possessor, or of mortgage where there is mortgagee and mortgagor, and many other relationships in the like manner, in the same way, IP forms a subject-matter to the bundle of rights enjoyed by the owner of those rights

[3] *Id.*
[4] RATNER PRESTIA, https://www.ratnerprestia.com/2016/04/15/celebrating-the-coke-bottle-at-100-a-case-study-in-deliberate-differentiation/ (last visited May 15, 2022).
[5] *Supra* note 2.

(and not necessarily of the owner of the IP itself). For example, the rights that accrue from a patent are different from rights that accrue after obtaining permission to use an innovation from its patent holder. IP is thus protected by granting IPR. These rights are required in order to protect innovators from undue commercial exploitation by enabling them to earn recognition of their innovations by the general audience without any hindrances as well as to commercially profit from their innovations.[6]

Some of the most common means of protecting IP are rights such as patents, copyrights and trademarks. Patents are rights granted to an invention based on its technical know-how.[7] The invention should have a design or a technology that is essential to the existence of that invention[8]. Another prerequisite for a patent is that the technical information must be available in the public domain.[9] Thus, innovations that wish to retain "trade secrets" cannot be patented. When a patent is granted to a patent owner on the innovation, no other entity can engage in commercial activities with relation to the intellectual property of that invention, such as to manufacture, replicate or reproduce the invention covered under the patent, without the patent owner's consent. Patent rights generally last for 20 years, depending on the laws of the country. They are also territorial in nature, meaning, they are enforceable only in the region or country they are registered in[10]. As an example, the photocopy machine manufacturer 'Xerox' had patented its invention, the 'Xerox machine'.[11] Copyrights are usually granted on literary or artistic works such as books, music, performances, softwares, databases, web design, film documentation, promotional content, paintings, sculptures, blueprints and maps. The list of items that could be copyrighted are endless as these are forms of expression, which is a key requisite for copyright protection. Copyright does not include elements of brand differentiation, such as a logo or a slogan, but what needs to be proved is that there is a sufficient amount of intent for expression which should be more than its non-commercial use. The benefits of copyright use are

[6] *Id.*
[7] WIPO, https://www.wipo.int/patents/en/ (last visited May 15, 2022).
[8] *Supra* note 4.
[9] *Supra* note 7.
[10] *Supra* note 7.
[11] Jessica Silbey, *How Xerox's Intellectual Property Prevented Anyone From Copying Its Copiers,* SMITHSONIAN MAGAZINE, (July 2, 2019) https://www.smithsonianmag.com/innovation/how-xeroxs-intellectual-property-prevented-anyone-from-copying-copiers-180972536/ .

for economic and moral uses: the former would enable the copyright owner to benefit economically from the product such as commercializing it on his own or being offered remuneration if used by others and the latter would protect the non-economic interests of the author, which may be to gain recognition for himself and for the product.[12] Trademarks are meant for a commercial use and for the purpose of brand differentiation. Trademarks cover a broad range of items that are related to promotional aspects of packaging, marketing and advertising. These include logos, symbols, slogans, colour-combinations and even sounds. Trademarks confer the right to not let other brands or sellers replicate the trademarked item, without prior consent of the trademark owner, in a manner that will mislead the consumers into buying the replicated product.[13] In 2008, Yahoo! Inc., an Internet firm based in California was the first to trademark its three-note sound yodel with the Indian Trademark Registry.[14]

Some other IPRs include trade secrets, right of publicity, royalties, right on the basis of permission taken. Trade secrets are confidential information of the technical build-up or composition of the product[15]. As explained earlier, the difference between a patent and a trade secret is that patents are available in the public domain while trade secrets are kept discreet. The popular food chain that serves fried chicken, KFC, is well known for the fact that its recipes are kept secret and have been protected as a "trade secret". The right of publicity is usually exercised on the persona of well-known persons in the society, for the commercial purposes of ad campaigning.[16] Brand ambassadorships by celebrity actors and sportspersons, who promote a particular product, is a well-known example. Royalty rights arise from a special case where a product of expressional creativity by one (the licensor) is sought to convert into a commercial product by another (the licensee). Royalties are payments made and fixed beforehand by the licensee out of the gross income earned by the licensee on the licensor's product. A royalty agreement, thus, requires for the licensor to agree to provide a 'license' to the licensee to use the licensor's product, in exchange for an amount or percentage of profit that is earned by the

[12] WIPO, https://www.wipo.int/copyright/en/ (last visited May 15, 2022).
[13] WIPO, https://www.wipo.int/trademarks/en/ (last visited May 15, 2022).
[14] CIPAM, *Registration of Sound Marks Made Easy – Let's hear more of 'Dhin Chik Dhin Chik'!,* 3 IP-Palette, 1 (2017) http://cipam.gov.in/wp-content/uploads/2017/08/IP-Palette-April-2017-Issue-2.pdf.
[15] WIPO, https://www.wipo.int/edocs/mdocs/sme/en/wipo_smes_rom_09/wipo_smes_rom_09_q_workshop11_1-related1.pdf (last visited May 15, 2022).
[16] *Ibid.*

licensee on the commercialisation of that product.[17] Writers are often paid royalties by the publishing houses that publish their books. Music composers too, are many times given royalties by the music labels which have produced their music. Often in such cases, it is the licensors who own a copyright on their end commercialized products. "Fair use" of a product by obtaining permission from a copyright holder is another kind of right that is acquired in order to prevent the possibility of a copyright infringement committed by a person who wishes to use the copyrighted product.[18] IPRs are not exclusive to each other. There may be situations where the same intellectual property is granted more than one right. For example, the Coca Cola bottle's shape is both patented and trademarked. It obtained a patent for its utility of the bottle shape - of product differentiation in such a manner that it could be identified even in the dark or when broken. The same overlapped with a trademark - as it is a design.[19]

IPRs are derived through a legal framework that governs them. IP laws differ from every country or region and are territorial in nature. IP laws entail within them definition of each right and grounds for acceptance or rejection of those rights. An intellectual property law also contains jurisdiction, upto the extent of which can only those rights be applicable. For example, IP laws in India are the Patents Act, 1970, Trade Marks Act, 1999 and Designs Act, 2000. These acts prescribe their offices in which the proposed IP needs to be registered. There is no copyright enactment in India and yet there is implied protection on copyright infringement. Although registration of the IP is not mandatory for a copyright, it may be registered as a precautionary step. There are also IP laws that exceed jurisdictions of countries, by international considerations taken by the country. For example, the signatories to a convention that have convened together to protect their IPRs agree that all the signatories are bound as a single jurisdiction when a particular IP is registered in the office authorised by that convention. For instance, India is a signatory to multiple conventions, such as the Paris Convention, the Berne Convention, the Madrid Protocol and the Patent Cooperation Treaty. India is also a member of the World Trade

[17] *Intellectual property royalties – everything you need to know,* ROYALTY RANGE (Apr. 2020), https://www.royaltyrange.com/home/blog/intellectual-property-royalties-everything-you-need-to-know .
[18] Rich Stim, *Permission: What Is It and Why Do I Need It?,* STANFORD LIBRARIES (May 15, 2022, 4:37 AM), https://fairuse.stanford.edu/overview/introduction/permission/#:~:text=Obtaining%20permission%20is%20often%20called,text%2C%20artwork%2C%20or%20music.
[19] *Supra* note 4.

Organisation (WTO) which requires its member states to have their local IP protection laws in place[20]. The World Intellectual Property Organisation (WIPO) is a self-funded subsidiary organisation of the United Nations[21], one of the many international bodies regulating IPRs with the highest number of member states at 193. The Agreement on Trade Related aspects on Intellectual Property Rights (TRIPS) by the World Trade Organization is also an important international legal instrument.

The tussle between Traditional Knowledge and IP

Traditional knowledge (or "TK") for the purposes of IP refers to a shared practice based on shared systems of information or forms of expressions that may be local to a culture, geography or community.[22] For example, the use of certain plants for medicinal or ornamental purposes, local handicrafts and manufacture of toys, art forms such as dance, music, martial arts, etc. For the very prime issue of originality and uniqueness, IP has found itself in loggerheads with TK multiple times. Some instances in the past to illustrate the tussle will be discussed as below. As described previously, the turmeric patent case[23] is one among many cases where IPR protection on traditional knowledge has created a problem at the cost of the culture whose traditional knowledge was being used.

The *'Neem patent'* or *'Grace patent'* case: In 1992, a patent on the use of a neem extract for the formation of a pesticide solution was granted by the United States Patent Office (USPTO) to W. R. Grace & Co. a chemical major. Subsequently, the European Patent Office (EPO) also granted the patent for the same to the U.S. Department of Agriculture and to the multinational company.[24] The patent by EPO was challenged by the Research Foundation for Science, Technology and Ecology (RFSTE) in cooperation with International Federation of Organic

[20] Government of United Kingdom, The Intellectual Property Office, *Intellectual Property Rights in India* (Apr., 2017), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/627956/IP-Rights-in-India.pdf .
[21] WIPO https://www.wipo.int/about-wipo/en/ (last visited May 15, 2022).
[22] WIPO, https://www.wipo.int/pressroom/en/briefs/tk_ip.html (last visited May 15, 2022).
[23] *Supra* note 1.
[24] *Patent On Neem*, NEEM FOUNDATION (May 15, 2022, 12:19 PM), https://neemfoundation.org/about-neem/patent-on-neem/ .

Agriculture Movements (IFOAM) and Magda Aelvoet, former Member of the European Parliament (MEP).[25] The EPO revoked the patent on the ground that there was a lack of novelty on part of the company as well as patents based on genetic resources[26], in this case, the particular neem extract cannot be granted.

The *'Basmati patent'* case[27]: In 1997, USPTO granted patent on the rice crop of the variant 'basmati' which was interbred with other rice crops to a Texas-based company named RiceTec. The patent was issued to the 'basmati' rice lines and grains. Basmati is a rice crop variant grown in South Asian countries, especially in India and Pakistan, distinctly known for its long grains and fragrance. Two Indian NGOs objected to the patent - Centre For Food Safety, an international NGO committed against bio-piracy and RFSTE, a New Delhi-based environmental NGO. Out of the 24 claims of the patent, the USPTO in 2002 cancelled only nine claims and amended two of its claims. Even today the patent on the rice variant still largely remains except for the change in its name.

On *'atta chakkis'* (flour mill) and *'Indian wheat'*[28]: A Nebraska-based company, ConAgra, applied for a patent on its method for producing atta (flour) as well as the atta at the USPTO and was also granted the same. The methodology for producing flour involved the age-old practice in South Asia of wheat flour milling. Another company, Monsanto, following the pattern of RiceTec, claimed a patent in the USPTO for the wheat plant that is derived from locally-grown wheat in farms of India. The patent on the plant was revoked by the European Patent Office[29].

The "learning" of a "culture": Understanding Enculturation in the tussle between TK and IPR

'Enculturation' is a term used in psychology to describe the process by which a person learns a culture, which ranges from day-to-day activities and chores to behavioural patterns and also

[25] Divya Bhargava, *Patent Act:Biopiracy Of Traditional Indian Products - An Overview*, COUNTER CURRENTS (DOT) ORG (May 14, 2009), https://www.countercurrents.org/bhargava140709.htm.
[26] *Supra* note 24.
[27] Utsav Mukherjee, A study of Basmati Case (India-US Basmati Rice Dispute): The geographical Indication Perspective, SSRN Electronic Journal (2018-19).
[28] *Supra* note 25.
[29] *Monsanto loses wheat patent*, DOWN TO EARTH (Nov. 15, 2004), https://www.downtoearth.org.in/news/monsanto-loses-wheat-patent-12032.

practices which are unique to that culture.[30] The way it is used in psychology, the term 'culture' differs from its layman use. Culture simply means shared habits that are practised in an environment and can be learnt from one person to another; it does not necessarily include the element of uniqueness or the need to differentiate it from another 'culture'. *Learning* is the key aspect in enculturation, which could be seen as a form of inculcating or absorbing. However, for the purposes of this topic it is better to imply culture in the way we generally refer to, as one that is identified by its unique elements and seeks to differentiate itself from others. This is to be done as conflict between IPR holders and TK communities arise as a result of difference in cultures. An IPR is not granted or ceases enforcement when the IP is found to be an idea borrowed. When we rely on the general definition of TK, its definition gives us a picture of one culture and the systems of information shared usually inside that culture. Despite considering uniqueness as the focal point of culture, its ideas or information so shared is among a sizeable number of people, at least in comparison to the individual on the other hand who proposes his product as a novel creation. Thus, when such a protected product is largely borrowed from the ideas of a culture and embodies very little or no novelty, it is a sizable amount of the population in that culture who get affected. Hence, it is necessary to imply 'culture' the way we do in our everyday lives because when an IP that is protected belongs originally to a culture, such protection strips away a piece of identity of that culture.

The East v/s West battle

The WIPO describes traditional knowledge as a "living body of knowledge": that the word "traditional" is not limited to antiquity but rather to the practices of passing down information from one generation to another.[31] It is the practice of sharing knowledge and making it available to the participants within that community or culture that makes the knowledge systems "traditional". TK is also, thus, bound to include any new innovation from a community. However, the definition of TK, as technical as it may be, is not to be taken the same way when looking from a sociological perspective. The above instances depict to us a picture of IPR exploitation from practices of communities that are not known in the jurisdictions of the IPR so

[30] APA DICTIONARY OF PSYCHOLOGY, https://dictionary.apa.org/enculturation (last visited May 15, 2022).
[31] *Supra* note 22.

sought. Often in their definitions, TK is best illustrated with practices of indigenous groups, particularly of the East. This happens for two reasons, the first being the culture of the West is not typically perceived as a "culture" because of the commonality it has achieved due to globalisation. The second is the issue of disconnect of communities in the East (umbrella term for developing or underdeveloped) with the West. This also leads to the issue of inaccessibility in enforcing their traditions caused by the lack of recording. The definition of traditional knowledge in the context of intellectual property thus keeps in mind innovators who seek to protect their intellectual property as the general audience, where the existence of traditional knowledge is rather unusual. This perspective is untrue as traditional knowledge is an endless body of knowledge when we consider cultures and communities across the world.

The WIPO recognizes the East-West gap[32] and the weapon of IPR it uses over traditional knowledge to keep the gap intact. For example, when a product from a developed country is patented in that country and is found to not be a novelty as it exists as a "traditional knowledge" in a developing country, the developing country loses its opportunity to tap the export markets of that developed country to sell a product that was always theirs. The industry unduly profits from its patent and prevents the original manufacturers from profiting from it.

Indian environmental activist Vandana Shiva[33] attributes the act of patenting India's vast biodiversity reserves as a form of neo-colonialism. The West's demeanour of championing its IPR protections as an instrument of development, upliftment and recognition of resources unique to developing or underdeveloped countries is merely a reinforcement of orientalism. When such resources based on distinct genetic material are processed in multinational companies of developed nations, the least such companies can do is to flow back a certain amount of profit for the upliftment of such communities, which are mostly economically backward. A broader philosophical issue of the commodification of lifestyle also takes shape. What is a regular day in one region with the people following their own practices, interacting with nature in their own

[32] *Intellectual Property and Traditional Knowledge (Booklet no. 2),* WIPO (2005), https://www.wipo.int/edocs/pubdocs/en/tk/920/wipo_pub_920.pdf .

[33] Emily Marden, BOSTON COLLEGE INTERNATIONAL AND COMPARATIVE LAW REVIEW 22 B.C. INT'L & COMP. L. REV. 279 (1999) http://nationalaglawcenter.org/wp-content/uploads/assets/bibarticles/marden_neem.pdf .

ways and slowly but steadily, evolving with their repositories of knowledge is unfathomably commercialised and sold in another region.[34]

Defensive protection and Positive protection

The process of enculturation is complete when either the individual who seeks IPR bases his product on the available traditional knowledge or when the state on behalf of or the members of the community practising and propagating TK are issued an IPR on a particular TK. In both ways, there is absorption of one by the other. Such absorption, or *enculturation*, may lead to exploitation or enhancement of innovatorship, or both. As we have seen above, traditional knowledge is always at a lower hand over intellectual property based on the TK. In order to protect the communities possessing traditional knowledge from such exploitation, the WIPO introduces us to two methods of protection[35] from an undue IPR exploitation, namely, defensive protection and positive protection. Defensive protection means to simply prevent the scope of exploitation at the hands of individuals who acquire IPR based on traditional knowledge. For example, after the turmeric patent case[36], the Council of Scientific and Industrial Research (CSIR), based in India, compiled traditional knowledge of herbs and medicinal plants into a database.[37] Positive protection goes a step ahead and empowers the communities with TK by issuing them IPRs so that they could commercial profit from their own novelties. However, the major drawback of positive protection is that it is usually taken up by states and thus, the IPRs are only limited to those states. Governments are therefore pushing for an international legal framework in order to empower communities with TK with positive protection.

For positive protection, there are two methods that are gaining popularity in India: the GI (Geographical Indication) tag and the TKDL (Traditional Knowledge Digital Library). Both are forms of documentation. GI is an instrument of IPR protection that is applied on goods that possess their peculiarity owing to their origin. [38] Some examples of GI tags awarded to goods in

[34] *Ibid*.
[35] *Supra* note 32.
[36] *Supra* note 1.
[37] *Supra* note 32.
[38] WIPO, https://www.wipo.int/geo_indications/en/ (last visited May 15, 2022).

India are Darjeeling tea, Nagpur oranges, Kolhapur *chappals,* Odisha's *rasgullas, Muga* silk in Assam and Gorakhpur terracotta. TKDL is an initiative of the Indian government which was constituted in 2005 after the eye-opener turmeric patent case. The TKDL considers the problem of diversity of cultures in India leading to an expansive and diverse amount of traditional knowledge in various local and tribal texts. The TKDL seeks to take up this herculean task of translation and uniform documentation, as well as simplifying all the information into a searchable database that will be available in the public domain.[39]

While our country aims to possess full-fledged mechanisms for defensive and positive protections, in the longer run, there are moral and philosophical dilemmas for any developing or underdeveloped country to incorporate these kinds of protection. Why shall a state, particularly an underdeveloped one, expend its financial and human resources in creating systems that would protect its TK when the exploitation of such TK occurs at the instance of another state? Without an equal participation of all the states, the resources that the protecting state spends is highly prejudicial to that state. In the case of a positive protection, the will of the communities possessing that TK should be held superior. Thus, it may not be ethical to impose a certain model of "development" based on the imitation of the exploiting countries.

Conclusion

Roots of TK and IPR

Contrary to popular belief, the concept of protecting intellectual property has existed since ancient times. The first recorded instance of intellectual property dates back to the 600 BCE, where a *"patent"* for one year was granted to the bakers of Sybaris, Ancient Greece. The first modern patent with legal protection was granted to an Italian inventor in 1421.[40] Traditional

[39] Saipriya Balasubramanium, *Traditional Knowledge and Patent Issues: an overview of Turmeric, Basmati, Neem cases,* INTELLECTUAL PROPERTY AND TECH. LAW UPDATES (March 2017) https://www.manupatrafast.in/NewsletterArchives/listing/SAIPTech%20Singh%20Associates/2017/Mar/IPTech%20March17.pdf.

[40] Abou Naja, *History of Intellectual Property,* ABOU NAJA (Nov. 24, 2021), https://abounaja.com/blogs/history-of-intellectual-property?utm_source=Mondaq&utm_medium=syndication&utm_campaign=LinkedIn-integration.

knowledge, on the other hand, has no roots in civilization but rather, is the basis of civilization itself. Traditional knowledge is as organic as it can be, the innovations are a result of community learning based on processes of experimentation. Traditional knowledge is practical in nature. Thus, the need to record traditional knowledge was never sought as it simply existed. The need to record stemmed after instances of IPR exploitation. As IPR and TK have the common element of antiquity, it cannot be denied that for the seeking of former, to gain individual recognition in a society for individual innovations is a common human instinct, just as in the latter, being an active part of society in order to benefit from its fruits of innovations and to pass on to further generations for their benefit is. The gap between the both widened with the age of industrialization in the West, resulting in a difference in cultures. The West, stereotypically celebrates the "individual" in the form of individual enterprise or innovatorship. The East is more community-oriented where each member seeks to be a part of and retain a significant status in the society. It is thus a just association of IPR as a construct of the West and the labelling of "traditional knowledge" in regions and communities where IPR is not abundantly sought. *"Traditional knowledge"* has existed way longer and before than intellectual property and its labelling today is a result of power dynamic between the West and the East. It is to be noted that even when we claim an innovation as an intellectual property, it is not purely an innovation of the individual. Innovatorship is a combination of different ideas in order to suit a specific purpose, and thus the intellectual property is in fact, not the entire innovation itself but where there is such a skill of combination used and sufficient contribution of the individual, or "novelty".

Road Ahead

When we seek to define any concept in law, we often keep in mind its beneficiaries or the class of persons who are to be deterred. Thus, there is a certain 'audience' that we keep in mind. While defining TK for the purpose of IP laws, the problem of who do we consider as 'audience' occurs. Should the primary beneficiaries be the seekers of IPR or the knowledge-sharing systems of TK? In order to balance the conflicting interests of IPR protection and TK, there needs to be an international framework of guidelines that precisely defines TK and would maintain their own extensive databases of traditional knowledge. There could also be an international treaty-based

binding on the signatories who would ensure that there will not be TK infringement on their part. The Intergovernmental Committee (IGC) by WIPO on Intellectual Property and Genetic Resources, Traditional and Folklore was formed in 2000 is yet to find a legal framework solution to resolve such disputes and shows us a ray of hope in the future.[41]

[41] *Supra* note 32.