WIPO Conversation on Intellectual Property (IP) and Artificial Intelligence (AI)
Second Session WIPO/IP/AI/2/GE/20/1

Draft Issues Paper on Intellectual Property Policy and Artificial Intelligence

Comments, 14 February 2020

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Introduction

We welcome this consultation on IP policy issues relating to AI, which presents both opportunities and risks in the creative sector. We note that the Draft Issues Paper WIPO/IP/AI/2/GE/20/1 identifies important policy issues relating to the purpose of IP protection such as 'appropriate recognition of authorship or inventorship, the promotion of innovation and creativity, and the assurance of fair market competition' (p.6).

To date, intellectual property protection has aimed to reward the creativity of humans/individuals and not 'creativity' as such. In many cases, human creators already use computer technology for their work, like any other tool. However, if a non-human 'artificial intelligence' (AI) is autonomously 'creating' and 'inventing' then foundational concepts of IP such as authorship/inventorship, ownership, originality, novelty as well as theories of IP that drive policy decisions and justify protection (such as the incentive theory, the labour theory and personality theory) may require re-examination. Should copyright and other IP policies place the same or higher value on human creations as AI-generated works (p.5), and should they enjoy the same level of protection? What might be the rationales, mechanisms and outcomes of including or excluding AI-generated works from IP protection?

The Issues Paper discusses some specific challenges regarding IP issues in relation to the use of AI in patents, designs, and copyright, and the more practical questions of IP liability, enforcement and administration. In relation to patents, for example, the paper discusses the following questions:

- Identification of the inventor and ownership of inventions 'autonomously generated' by AI
- The level of protection (if any) for such inventions
- Determination of issues of 'novelty' and what constitutes the 'state of the art' which arguably is a less contentious issue (than issues of inventive step mentioned below) since determination of novelty involves a quantitative assessment rather than a qualitative assessment

[1] Please note that these views are personal and do not necessarily represent the views of our respective institutions. We are also grateful for the insights on AI provided by Simon Fraser, Lecturer, Information Systems, E-commerce and Business Strategy, University of the West Indies.

- 'Who' or 'what' constitutes the 'person skilled in the relevant art' when considering issues of 'inventive step'

In terms of copyright, the pertinent issues addressed include:

- Identification of authorship and ownership of literary and artistic works that are 'autonomously generated' by AI
- The level of protection and nature of protection for such works
- Whether the unauthorized use of data protected by copyright for machine learning constitutes an infringement. In such a case, 'who' or 'what' can be liable for copyright infringement?

We have two comments, which relate to broader considerations than these. First, when considering the recalibration of broad IP policy goals, we would like to highlight the importance of considering questions of ethics and human rights in relation to culture and creativity. Second, we would like to suggest that these policy discussions may benefit from considering the issues raised by IP protection of AI-generated creative expressions based on traditional knowledge and traditional cultural expressions (collectively abbreviated as TK/TCEs). Some of these issues are specific to this subject matter (which is not currently protected in most IP regimes). However, other issues are also of more general relevance, for example relating to the use of databases of unprotected works and the impacts of policies on creative communities.

Ethics and human rights considerations

The Issues Paper considers questions of bias, inequality and ethics (deep fakes, and use of copyrighted works for machine learning) mainly in relation to copyright protection of AI-generated works. However, these questions are of much broader relevance to other forms of IP including patents or designs, as the discussion on traditional knowledge databases below may demonstrate. When considering ways to reduce adverse effects of the technology gap between countries, the Issues Paper suggests that 'questions of labor policy, ethics, human rights and so forth' 'lie well beyond IP policy': 'This present list of issues, and WIPO's mandate, concerns IP, innovation and creative expressions only' (p.8). We believe that this approach should be expanded, given the significant role AI will play, and is already playing, in the world and the far-reaching effects IP protection of AI will have on the role of human creativity in sustainable development.

We believe that questions of ethics, human rights and creative sector markets are central considerations, both in re-examining or reaffirming existing IP policy goals in a changing world, and in assessing ways in which IP protection can achieve these policy goals. A recent study at Harvard's Berkman Klein Center for Internet & Society Research[2] showed that 'current implementations of AI [positively or negatively] impact the full range of human rights guaranteed by international human rights instruments, including civil and political rights, as well as economic, cultural, and social rights.' Because AI is based on large data sets, which may be biased in different ways, and reward systems or algorithms that it uses

[2] Raso, Filippo and Hilligoss, Hannah and Krishnamurthy, Vivek and Bavitz, Christopher and Kim, Levin Yerin, Artificial Intelligence & Human Rights: Opportunities & Risks (September 25, 2018). Berkman Klein Center Research Publication No. 2018-6, p.4. Available at SSRN: https://ssrn.com/abstract=3259344 or http://dx.doi.org/10.2139/ssrn.3259344

or generates are also potentially biased, its use may perpetuate existing inequalities, for example. IP protection for AI-generated works may exacerbate these problems, and create new ones. Interestingly, this survey did not specifically explore impacts on the 'right to participate in the cultural life of the community',[3] so it requires further investigation.

In recalibrating IP policy goals for the future, we suggest the need for a stronger consideration of the relationship between individual creativity and collective cultural and social life. This would require some deeper reflection on the rationales behind IP policy, in which the promotion of collective cultural life, including networks of creative people, have received relatively little attention.[4] Considering these broader socio-cultural goals, as well as the conventional balance between rewarding individual creativity and access to the commons, is essential at a time when the nature of creative endeavour in society is facing significant disruption and change through AI, with positive and negative effects.[5]

Traditional knowledge and traditional cultural expressions

The Issues Paper does not directly discuss AI-generated creative expressions based on TK/TCEs, a subject matter whose proposed protection through IP already forms part of WIPO's mandate. Considering the use of AI in regard to TK/TCEs could be helpful, not just as a separate section in the Issues Paper, but also to explore more general ethical and human rights questions raised by this subject matter.

TK/TCEs, like AI-generated works, have been the source of considerable debate around the purpose and functioning of the established IP system, and are currently largely unprotected in most IP laws and policies, except in a few (mainly developing) countries. The underlying works or inventions are usually not protected by conventional IP rights either. This makes it difficult for indigenous and local communities who developed and have sustained their TK/TCEs over time, to enforce consent, attribution, benefit sharing or sensitivity to cultural restrictions when third parties make use of them. This is why WIPO's Intergovernmental Committee on TK/TCEs has been exploring the possibility of developing an international instrument providing *sui generis* IP protection for this subject matter.

In some countries, such as Kenya, where TK/TCEs already enjoy *sui generis* IP protection at the national level, derivative works generated by AI based on traditional designs, for example, would already likely be subject to protection without formalities.[6] Policy provisions regarding use of a community's TK/TCEs by third parties include the need for free and prior informed consent of the relevant community, attribution, avoiding cultural offence through use of the TK/TCEs, and benefit sharing. These provisions may be affected by the fact that the work being exploited is generated by AI using cultural data from the

[3] Universal Declaration of Human Rights, Article 27, see Raso et al. 2018 p.6.
[4] See for example the discussion on Social Planning Theory in Fisher, William "Theories of Intellectual Property," in Stephen Munzer, ed., New Essays in the Legal and Political Theory of Property (Cambridge University Press, 2001).
[5] World Economic Forum, Creative Disruption: The impact of emerging technologies on the creative economy 2018. Accessed at https://www.weforum.org/whitepapers/creative-disruption-the-impact-of-emerging-technologies-on-the-creative-economy
[6] Republic of Kenya, Protection of Traditional Knowledge and Cultural Expressions Act (no.33, 2016).

community, but little attention has been paid to such situations to date in countries where the TK/TCEs are protected.

Data relating to TK/TCEs (for example, traditional artwork, craft designs, traditional medical knowledge) is being collated and digitized at a rapid rate in archives, museums and cultural institutions. Google Cultural Institute, for example, has partnered with UNESCO's World Heritage Centre and over 1,000 other cultural institutions worldwide to digitise and display collections of art, craft, culture and architecture online.[7] This data has been used for experimentation with machine learning and AI technologies. The Lab at the Google Cultural Institute is encouraging the development of free public immersive and interactive experiences with the database,[8] including finding artworks that look like user selfies, and exploring connections between artworks.[9] Microsoft has now established a partnership with UNESCO on cultural heritage and AI.[10] In some countries, databases of TK such as medicinal knowledge, that can be accessed by Patent Offices, have been created to help deter erroneous patenting of inventions based on TK that are not novel. There is enormous potential value (both in terms of commercial benefit and health outcomes) of using AI to analyse traditional medicinal knowledge databases.

While digitization of public domain cultural works, and the associated use of AI technologies, can play an important role in protecting them and making them available, there are also important considerations around ethical access and use, for example where cultural materials have associated indigenous protocols or have been stolen or misappropriated without community consent. Even where no IP protections exist for TK/TCEs, the ethical implications of community stewardship and benefit could be taken into account, in line for example with provisions for access and benefit sharing in the Nagoya Protocol to the Convention on Biological Diversity.[11] (One could compare this with the situation in some national copyright laws, where moral rights may subsist in artworks in perpetuity and are inalienable from the artists' estate even when copyright has expired. How will these rights be affected by rights in AI-generated works based on such an artist's corpus?)

Databases based on cultural heritage collections may potentially be used to generate autonomous AI creations in the style of indigenous designs or musical works. If these AI-generated works attract IP protection, various considerations arise. Who should be acknowledged as author? What rights should be given for exploitation of the work, and by whom? Who should benefit, and how? Such questions have broader relevance than TK/TCEs, as the Issues Paper notes. AI-generated creative works could inspire or assist innovation in traditional music or crafts, where communities are able to use the AI for their own creative practice. However, strong IP protection for AI-generated works might

[7] See https://www.google.com/culturalinstitute/about/partners/
[8] https://experiments.withgoogle.com/collection/arts-culture
[9] https://artsexperiments.withgoogle.com/xdegrees/8gHu5Z5RF4BsNg/BgHD_Fxb-V_K3A
[10] See Microsoft's initiative on AI and cultural heritage https://www.microsoft.com/en-us/ai/ai-for-cultural-heritage
[11] Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS) to the Convention on Biological Diversity. Accessed at https://www.cbd.int/abs/doc/protocol/nagoya-protocol-en.pdf

discourage the ongoing practise and transmission of traditional skills and knowledge within communities, and restrict innovation. Such works could be very cheaply produced in high quantities, undercutting the market for products created by indigenous and local communities using traditional skills.

Considering the impact of IP protection for AI-generated works on the livelihoods of creative entrepreneurs, among whom those practising traditional arts may be uniquely vulnerable to exploitation, would be in line with some of the proposed ethical principles for AI. The Beijing AI principles, developed in 2019, for example, affirm the need to ensure that 'stakeholders of AI systems are [involved] with sufficient informed-consent about the impact of the system on their rights and interests. When unexpected circumstances occur, reasonable data and service revocation mechanisms should be established to ensure that users' own rights and interests are not infringed.' Designers of AI systems should ensure that they benefit humanity and the environment, especially the marginalised, and respect human rights, privacy, dignity, freedom, autonomy and rights. AI development should be responsible, reflect inclusiveness and diversity, and try to avoid creating monopolies. Risks and impacts should be carefully considered and mitigated.[12]

Recommendations: proposed text

Correct identification of issues:

1. Issue 5: Given that AI innovation will proceed well beyond the development of IP policies covering it, what principles should be used to differentiate between protection for human and machine-generated innovations?
2. Issue 7: If the use without authorization of the data subsisting in copyright works for machine learning is permitted under an explicit exception without benefiting the artists who created those works, would this be consistent with using IP policy to reward artists for their creations? What would be the impact on artist income and livelihoods?
3. Issue 7: In some national copyright laws, moral rights may subsist in artworks in perpetuity and are inalienable from the artists' estate even when copyright has expired. How will these rights be affected by rights in AI-generated works based on such an artist's corpus?
4. Issue 9: How can copyright policy in particular take into account the need to foster and maintain collective cultural life? How could artists benefit from the use of their works in AI systems?
5. Para 26: Ethics, human rights and creative sector markets are central considerations, both in re-examining or reaffirming existing IP policy goals in a changing world, and in assessing ways in which IP protection can achieve these policy goals. This includes considering questions relating to the technology gap.

Missing issues:

1. Do the fundamental aims of IP policy need to be reconsidered and/or revisited when considering the granting of IP rights over autonomously generated AI innovations?

[12] Beijing AI principles 2019. Accessed at https://www.baai.ac.cn/blog/beijing-ai-principles

How does this link to broader ethical and human rights issues (e.g. article 27 of the UDHR)? How does it link to AI ethics discussions such as the Beijing AI Principles?

2. TK/TCEs: what specific issues should be considered when using data about TK/TCEs for machine learning or creating AI-generated content?
3. TK/TCEs: If data subsisting in TK/TCEs is used for machine learning or the creation of AI-generated works, without authorization by the indigenous or local communities concerned and/or without benefiting them, what ethical and human rights issues does this raise? How would this affect their livelihoods, and the maintenance of their cultural life?
4. TK/TCEs: how could artists practising TK/TCEs benefit from the use of their works in AI systems?