Kluwer Copyright Blog

Can Machines be Authors?

Daniel Gervais (Vanderbilt University Law School) · Tuesday, May 21st, 2019

Using newer forms of Artificial Intelligence (AI), including General Adversarial Networks (GANs), AI machines are increasingly good at emulating humans and laying siege to what has been a strictly human outpost: intellectual creativity. AI machines have composed polyphonic baroque music bearing the "style" of J.S. Bach. "Robot reporters" routinely write news bulletins and sports reports, a process called "automated journalism." Machines write poems and draft contracts. A machine named e-David produces paintings using a complex visual optimization algorithm that "takes pictures with its camera and draws original paintings from these photographs." Machines can even write or enhance their own code.

At this juncture, we cannot know with certainty how high on the creativity ladder machines will reach when compared to or measured against their human counterparts, but we do know this: They are far enough already to force us to ask a genuinely hard and complex question, one that intellectual property (IP) scholars and courts will need to answer soon, namely whether copyrights should be granted to productions made not by humans, but by machines. This question is the subject of my forthcoming article, the key points of which are discussed in this post.

Both art in its myriad forms and quality journalism have had and, in my view, should continue to have a role in helping humans understand and better their world. The presence of art and journalism capable of playing this type of cultural and political role may be the difference between a future of change (a difference between points A and B on a timeline) and one of progress (an

improvement at point B). If copyright is meant to create incentives, creating incentives for machine productions may mean fewer human ones.

Clearly, AI machines can generate *value*, and this value is likely to increase over time as AI processes become more sophisticated. Who then, if anyone, can and should capture this value, and how? For example, if an AI machine using a corpus of copyrighted works (say all novels published in the last 20 years) were able to write fiction that is attractive enough to reach an audience willing to pay, it would be natural for the programmer, owner or user of the machine to try to protect this value in every possible way, including by copyright law, technological measures and contract. The idea that, because some machine productions are worth something to someone, they should be protected by law is a normative error based on a vague restitutionary (or "reap/sow") impulse that some value was misappropriated.

Another pro-protection reasoning goes like this: if *A* owns the AI code, *A* also owns what the AI code produces. The same reasoning could be applied to a machine's user or owner. This is not an entirely new debate, as courts have grappled in the past with the protection by copyright of works "generated by" machines—indeed the UK statute specifically refers to computer-generated works. The old paradigm on which this proxy-based rights attribution is based is a poor reflection of the technological picture painted by AI. A videogame in which the user chooses among *predetermined options decided by the programmer*. "AI can function not just by virtue of what it has been programmed to do but learns and changes of its own accord" (here at 56). The automated decision-making feature of AI machines adds unpredictability—but not randomness—and in doing so it breaks the causal link between humans (the author of the code or the user of the machine) and the output.

There are solid arguments to find that literary and artistic productions of AI machines belong to the public domain. As Professor Sam Ricketson opined, the "need for authors to be 'human' is a longstanding assumption in national copyright laws." The notion of creativity normatively embedded in copyright law since its very origin has inexorably been linked to the human mind. As Professors Craig and Kerr explain, "[t]o say authorship is human, that it is fundamentally connected with *humanness*, is not to invoke the romantic author, and nor is it to impose a kind of chauvinism that privileges human-produced artifacts over those that are machine-made. Rather, it is to say that human communication is the very point of authorship as a social practice; indeed, as a condition of life."

Another powerful argument to justify the public domain nature of AI productions is that, *if one is responsible for one's writing, then one can legitimately ask for a right in protecting moral or material interests in that writing*. For example, one might want one's name associated with the text, or have a right to prevent its misappropriation (such as republication under someone else's name) as a form of plagiarism or as copyright infringement (unauthorized copy) or both. This linkage between right and responsibility has been actively pursued by author advocates since before the Statute of Anne, and it is now reinforced by a freedom of expression argument. The *same doctrinal linkage* applied to machine productions means that copyright rights should not be recognized in the outcome of AI processes until and unless the machine, as purported or a proxy human author can accept full responsibility, e.g., in case of libel or infringement.

AI machines are capable of autonomous decision-making. Once the autonomy threshold has been crossed and a determination made that it is the *machine* that is making the relevant choices, literary and artistic productions produced by such machines belong to the public domain.

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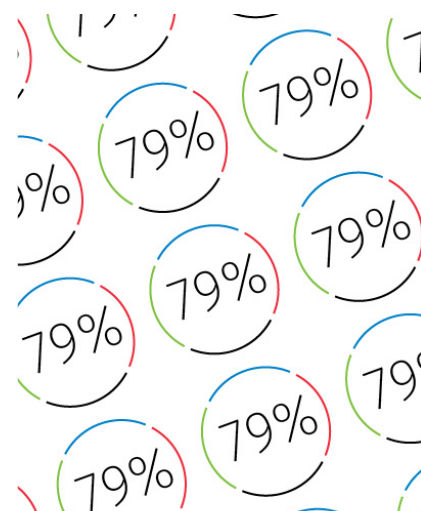
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