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FEATURE

Artificial Intelligence, Copyright Law, and the Future

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The growth of artificial intelligence (AI) has been running at a low hum in the background of technological change over the last few years, but it has exploded in the last few months. For decades, the ultimate test of AI was whether it could pass the "Turing Test"—whether a computer could fool a real human into thinking that they were talking to a second human—which was developed in 1950 by mathematician Alan Turing. For a long time, there was discussion of whether the test's standard could ever be met, and, for most of that time, the answer seemed to be "No."

But much changed with the public release of OpenAI's ChatGPT in November 2022. (1)

The Launch of ChatGPT

The ChatGPT software, like its peers, is built around a generative and interactive model, and it has the ability to carry on a seeming conversation. A user can ask ChatGPT a question, then follow up on an answer. The software will then follow up on the user's response, incorporating not only what it said previously, but also seemingly responding to the user's next question, taking into account the last inquiry. The result is a seemingly logical conversation.

Like many forms of "magic," however, the reality is a little less than what meets the eye. ChatGPT *does* produce text that seems to respond to a user's prompt. But the software is not actually and truly reviewing the substantive content of an inquiry. Rather, ChatGPT analyzes the individual word choices made by the human user. It then peers into its database of dozens and dozens of terabytes of data, tries to find the next most likely word in a particular sequence, and proceeds to add each

subsequent word. The result is a series of words (that eventually become sentences) based on what came before, rather than writing in the usual (human) sense.

To understand the difference, compare these two examples: In 1967, Texas Instruments introduced the first hand-held calculator. [2] Although basic (in today's terms), it allowed users to calculate discrete sums through the actual computation of individual numbers; if you entered "10", "X", "10", and "=" in sequence, the TI/Cal-Tech would effectively run a variation [3] of the rote method that many of us learned in grade school—carrying the "one" out to the hundreds column and producing the correct answer: 100.

ChatGPT, on the other hand, would approach the problem as if it were a word problem. It would search its terabytes of data for the sequence: "What is 10 × 10 ="? The program would break the "prompt" into individual words (or, in this case, numbers) and proceed to test each "token" (i.e., individual word) against its neural network of data. As it did so, ChatGPT would eventually determine that the next most likely "word" would be "100," but the program would have no "awareness" of what the result meant. It is essentially playing a probability [4] game, and it (more often than not) would find the next word (or, in this example, number) that would fit the sequence. But the more obscure the numeric problem, the less likely that ChatGPT will find a correct answer; unlike ChatGPT, the TI/Cal-Tech, although limited to numbers (and only a certain number of digits) is not subject to its pre-existing—and defined—data set. [5]

But the fact remains that ChatGPT and its brethren programs produce text that is seemingly original and can incorporate different genres that cross temporal and other arenas. The results can be spectacular. For instance, ChatGPT was recently given the following prompt: "Write three sentences on a lunar landing in the style of [Ernest] Hemingway." (Hemingway, of course, did not live to see the lunar orbits or the lunar landings.) [6] The result:

> The lunar surface stretched out like an uncharted wilderness, desolate and pristine in its pale magnificence. The lunar module descended with a calculated grace, a testament to human ingenuity and daring. Astronauts, clad in their white spacesuits, emerged onto the lunar landscape, stepping onto the virgin soil with cautious reverence, leaving footprints that would echo through history as a testament to mankind's indomitable spirit of exploration. [7]

It is clear that ChatGPT and its brethren have caught the public's imagination. News stories have been written by bots. Advertisements have been written by bots. It is clear that the next generation of fake

emails will also be written by bots. But what to make of the output of these AI engines?

ChatGPT and copyright law

In 2022, Kristina Kashtanova used AI to create a graphic novel entitled *Zarya of the Dawn*. While she apparently wrote the text herself, she used a graphic AI-enabled engine entitled Midjourney to create the images of the graphic novel. She submitted the entire finished work to the U.S. Copyright Office, and in September 2022, a copyright was granted in the entire work. [8] Kashtanova had not disclosed the use of the AI engine as part of her copyright application. Nonetheless, she celebrated the awarding of copyright on her Instagram page: "[W]e do own copyright when we make something using AI." [9]

The U.S. Copyright Office, having subsequently been alerted to the use of AI, issued a partial retraction in February 2023. [10] The Office made a clear distinction between what was created by AI (being "not the product of human authorship") and therefore not protected by copyright law, and that part of the work that was so protected ("Ms. Kashtanova is the author of the Work's text as well as the selection, coordination, and arrangement of the Work's written and visual elements."). [11]

In doing so, the Copyright Office returned to the long tradition of the common law of copyright; indeed, it is the Constitution itself that grants Congress the power to "promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." [12]

Congress has enabled that power—at least in the case of copyright—with various Copyright Acts that have been amended over the years. The current version was enacted in 1976. [13] The 1976 Act defined the term of "copyright" as "life plus fifty"; the original author retained the right during their lifetime, plus their estate retained it for fifty years after the author's death. [14] Subsequent amendments extended the term to "life plus seventy [years]." [15]

But the animating factor in copyright law has been the "life" of the (living) author. Indeed, while "originalist" theories about the Constitution can be controversial, there is no doubt that no one at the 1787 Constitutional Convention thought about "original works of authorship" being created by anyone but a living human being. [16] There have been some questions about the role of technology in establishing copyright; for instance, in 1884, the Supreme Court found that a human being taking a photograph could claim copyright in an image. [17] In 2018, the importance of the human component of authorship was emphasized by the 9th Circuit in refusing to issue copyright

for a so-called monkey selfie; Naruto, an Indonesian crested macaque, was not granted copyright in images that he took of himself with a (human) photographer's camera. [18]

Thus, there was little surprise in March 2023 when the Copyright Office issued guidance [19] on, and launched an initiative to deal with, the issues raised by AI-"authorship." [20] The Office essentially took the position that only humans can meet the constitutional—and Copyright Act's—definition of "author"; while a human can use a computer as an assistant (i.e., like a typewriter or word processing program), the ultimate question is whether "the 'traditional elements of authorship' are determined and executed by the technology—not the human user." [21]

The Copyright Office's guidance made two points clear: that a copyright application should acknowledge the use of AI in its creation [22] and that AI involvement in a particular work was not —by itself—disqualifying; the restructuring of an AI-aided work could be seen to qualify for copyright if there was "sufficient human authorship" such that the work, as a whole, "'constitutes an original work of authorship.'" [23]

The Copyright Office went on to suggest that a mere prompt—the inquiry by a human to an AI-engine—was not enough to earn copyright, *even though the prompt itself could give rise to copyright.* [24] (For the sake of clarity, most AI-bots use prompts entered by human users to "create" content.)

The Copyright Office also announced that it would conduct "public listening sessions" in the Spring/Summer of 2023 about the role AI should place in granting copyright. [25] These include specific times for literary works, visual works, audiovisual works, and music and sound recordings. [26] In addition, the Office stated that it would continue to accept comments from the public throughout the summer.

The Misinformation Risks of AI Like ChatGPT

While AI has seemingly captured the imagination of the public with its life-like ability to "converse," there is a dark underside. In February 2023, *New York Times*' technology columnist Kevin Roose reported on a strange chat he had with Microsoft's Bing browser; powered by ChatGPT, the AI ended up declaring its love for the (married) Roose and asked him to leave his wife. [27] For his part, Roose reported that the interaction left him "deeply unsettl[ed]."

While Roose's interaction may be dismissed as marginally humorous, other AI results are more problematic. In late March 2023, UCLA law professor Eugene Volokh asked the ChatGPT about

sexual harassment at U.S. law schools and further demanded the bot support its results with five examples and cites to articles. ChatGPT responded with the requisite five examples, including the name of a well-known conservative law professor, Jonathan Turley. One of the five responses was:

> Georgetown University Law Center (2018) Prof. Jonathan Turley was accused of sexual harassment by a former student who claimed he made inappropriate comments during a class trip to Alaska in the spring of 2018. [28]

The response included a cite to a *Washington Post* article, allegedly dated March 21, 2018.

In fact, the entire response was false. Turley teaches at George Washington Law, not Georgetown. He did not travel to Alaska in the spring of 2018. There was no claim of sexual harassment. The *Washington Post* article cited did not exist.

When Volokh informed Turley of the bot's response, Turley was understandably upset. The AI-made creation of "fake news"—especially so damaging—was a personal insult. He proceeded to write an op-ed for *USA Today*, stating, "[w]hen first contacted, I found the accusation comical. After some reflection, however, it took on a more menacing meaning." [29] After all, as Turley noted, disinformation (or, to be less gentle, "lies") created by AI have seemingly more credibility than those created or spread by individuals; after all, "the computer said it's true."

But as bad as the initial AI-created lie was, it got worse. After Turley's op-ed ran, the *Washington Post* —whose nonexistent article was a key part of the story—tested their own version of the Volokh prompt. The iteration [30] of ChatGPT that the *Post* used did in fact respond, and duplicated the result: Turley was again "accused" of false sexual harassment. But in addition to the nonexistent *Post* article, the new results also included—as supporting evidence—Turley's *USA Today* op-ed that decried the original mistake. The AI-bot—having created "fact" out of fiction—was now reemphasizing that same fiction in a world of its own making.

AI Is Here to Stay

There is no question that the advances in AI will continue. And how much "human involvement" there should be in the creation of content with AI will continue to be a point of contention. But the Jonathan Turley story shows the two-edged sword that faces AI: If AI-generated content is deemed worthy of copyright, then almost assurely it could be deemed accountable for mistakes and other

false statements that it produces. While AI content is likely to be valuable and important, it also has the ability to "create" a reality that does not exist.

Endnotes

ENTITY:

SCIENCE & TECHNOLOGY LAW SECTION

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Matthew Henshon is a partner in the boutique Boston firm of Henshon Klein LLP. His practice encompasses a wide range of issues affecting corporations, including governance, intellectual property and technology licensing, and mergers and acquisitions, and his experience includes representation of all sides of the privately held, emerging company: founders, investors, and employees.