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PERSPECTIVE

The humans win round one

By Robert A. McFarlane and Rosanna W. Gan

Artificial intelligence (AI) has long been a subject of fascination and has populated science fiction stories for decades. Isaac Asimov imagined intelligent robots in the 1940s and fashioned his immutable "Three Laws of Robotics" to prevent them from harming their human creators. Astronaut Dave Bowman fought for his survival in a confrontation with an intelligent computer named HAL in the climactic scenes of 2001: A Space Odyssey. An episode of Star Trek the Next Generation called "The Measure of a Man," depicted a judicial hearing to determine whether the sentient android Lieutenant Commander Data was an autonomous being with legal rights or nothing more than a complex machine that could be downloaded and disassembled in the name of research. And, more recently, an AI robot named Ava prevailed over her human creator in the 2014 movie Ex Machina.

AI now exists outside the confines of futuristic stories and is embedded in a multitude of commonly used technologies. AI curates what we see on social media, encourages our online shopping with disturbingly accurate suggestions for things for us to buy, and interacts with us through personal assistants like Siri and Alexa. AI tools are being used to diagnose cancer and other life-threatening diseases. AI is controlling self-driving cars and autonomous vehicles. Indeed, AI has become so ubiquitous that we interact with it every day without giving it much thought at all.

Predictably, the widespread use of AI has led to numerous complex legal issues. Some of the issues currently being considered include: whether datasets supporting AI tools used to screen job applicants perpetuate discrimination based on race and gender; whether the use of proprietary AI systems in generating criminal sentencing recommendations violate a defendant's due process rights; and whether the extensive use of AI circumvents important privacy protections. In August, the Federal Circuit Court of Appeals, which has exclusive jurisdiction over patent appeals, weighed in on an issue of particular interest to intellectual property attorneys – whether an AI machine can be named as the inventor on a U.S. patent. *Thaler v. Vidal*, 43 F.4th 1207, 2022 WL 3130863 (Fed. Cir. 2022).

Steven Thaler developed the AI system "Device for the Autonomous Bootstrapping of Unified Science," or "DABUS," that he contends generates patentable inventions. *Id.* at *1. Thaler subsequently filed applications seeking patent protection for two of DABUS' purported inventions. The first application, titled "Devices and Methods for Attracting Enhanced Attention," disclosed a beacon or light source that was calibrated to a specific frequency corresponding to certain human brainwave activity. The second application, titled "Food Container," disclosed a design for a container with a complex, interlocking surface structure that was based on a fractal geometry pattern.

Thaler maintained that the inventions were "generated by artificial intelligence," that he "did not contribute to the conception of either of these inventions[,] and that any person having skill in the art could have taken DABUS' output and reduced the ideas in the applications to practice." *Id.* If DABUS was a person, such evidence of conception would have established that he or she was the inventor. *See, e.g., C.R. Bard, Inc. v. M3 Sys. Inc.*, 157 F.3d 1340, 1352 (Fed. Cir. 1998) ("The 'inventor,' in patent law, is the person or persons who conceived the patented invention.").

In determining whether DABUS could properly be named as an inventor, the Federal Circuit found that it did not need to engage in "an abstract inquiry into the nature of inventions or the rights, if any, of AI systems." *Thaler*, 2022 WL 3130863 at *1. Instead, the court determined that the analysis "begins and ends with the plain meaning of the [statutory] text." *Id.* at *4.

"The Patent Act expressly provides that inventors are "individuals." *Id.* at *2 (citing 35 U.S.C. §100(f)). Supreme Court precedent establishes that "'individual' ordinarily means a human being," and dictionaries confirm that "individual" is commonly understood as a "single human being." *Id.* at *3 (citations omitted). Moreover, the Federal Circuit's own precedent holds that "inventors must be natural persons and cannot be corporations or sovereigns." *Id.* at *4 (citations omitted). Thus, the court concluded that inventors must be "natural persons," i.e., human beings, thereby categorically excluding AI systems from being named as inventors on United States Patents. *Id.* at *5.

Thaler does not address patent protection for "inventions made by human beings with the assistance of AI," *id.* at *4 (emphasis in original), which is perhaps a question of greater immediate interest

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given the current state of AI development. However, the holding that AI by itself cannot be named as an inventor will have increasing significance as ever more sophisticated AI is used in the creation of novel and valuable inventions.

Patent rights originate with the inventor, see 35 U.S.C. §101 (providing that "whoever invents" any patentable subject matter, "may obtain a patent therefor"), and a patent that does not name the correct inventor is invalid. *See id.; In re Verhoef*, 888 F.3d 1362, 1365 (Fed. Cir. 2018) (interpreting former 35 U.S.C. 102(f)). Under *Thaler*, if a patent application names an AI as the inventor, the patent cannot issue. If, on the other hand, an application names the person who used or controlled the AI when, in fact, the AI independently generated the patentable idea, will that patent be invalid for naming the wrong "inventor"? This potential Catch-22 could leave inventions created by AI outside the protections of the patent system.

Thaler's holding raises a host of issues for innovators using AI. Companies and their attorneys will need to evaluate whether AI-created inventions can be protected as trade secrets. They will need to determine the scope of AI-generated subject matter when deciding whether to seek patent protection and will need to insure any patent claims they file have human, rather than AI, inventors. Finally, companies relying on AI will need to work with their attorneys to develop case-specific IP strategies that encourage investment in ground-breaking inventions developed using AI that, under *Thaler*, cannot be protected by the traditional step of seeking patent protection. Barring Supreme Court or Congressional action that permits an AI to be designated as an inventor, these strategies may be increasingly important as AI becomes even more valuable as a research and development tool.