Artificial intelligence, intellectual property and human agency: the real significance of Thaler

Randy McCarthy, Shareholder at Hall Estill, analyzes the current relationship between AI and inventor in light of available, or *unavailable*, IP protection for developing technologies which is being influenced by the US Constitution.

"Man is the Measure of All Things."
- Protagoras, c. 490 B.C.E.

The recent denial of *certiorari* by the United States Supreme Court in the case of *Thaler v. Vidal*[1] resolves, at least for now, the status of inventorship in the United States as pertaining to inventions generated by artificial intelligence (AI) systems. Under the current US patent laws,[2] a letters patent for a new and useful invention can only be applied for in the name of a natural human. Fictional persons, whether corporate or circuit-based, need not apply.

For most interested observers, this result was largely unsurprising. The US Supreme Court has consistently held, over many decades of recent jurisprudence, that the scope of what can be patented is extremely broad; pretty much "anything under the sun that is made by man," or that is a "product of human ingenuity," is patentable.[3]

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Résumé

Randall "Randy" McCarthy is a registered US patent attorney in Hall Estill's Oklahoma City office who practices in all areas of intellectual property law prosecution, litigation and counseling. His expertise includes development and management of client IP assets, licensing, IP strategy formulation and portfolio valuation. He is also a leading expert in the use of AI technologies and intellectual property with multiple articles published throughout the US.

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Courts and commentators alike have focused on the "what" part of this formulation, so that it is now largely settled that anything and everything that is non-naturally occurring, from genetically engineered mice and viruses to software applications and artificial intelligence systems, qualifies as patentable subject matter.

It turns out that the "who" part of this formulation is every bit as important. As for now, the "who" must be a natural human being, in the United States and elsewhere. Whether this remains the case is less certain, not only in the US but throughout the industrialized world, and not only for patent law but in other areas of intellectual property law as well.

The issues in Thaler are relatively straightforward

Stephen Thaler, the Petitioner in the above noted case, is an inventor and entrepreneur recognized for his work in the field of AI. Thaler developed an AI system he refers to as DABUS (Device for the Autonomous Bootstrapping of Unified Sentience). Thaler purportedly instructed DABUS to autonomously develop two inventions for which he sought patent protection in several jurisdictions throughout the world, including the US, the United Kingdom, Europe, Australia, and South Africa.

In each of these patent applications, Thaler denied being an inventor and instead identified DABUS as the sole inventor. While a patent grant was provided by the South African patent office, the remaining jurisdictions have thus far uniformly refused to accept and grant the applications. The primary basis for refusal in each case has been that the applicable statutory requirements of the current patent laws require inventors to be human. Since AI systems are not natural human beings, AI systems are disqualified from being named as inventors or applicants.

At first glance, it appears that solving this problem and granting AI systems inventorship status could be addressed from a legislative standpoint. All that would be required would be for the governing legislative body of a particular country (e.g., Parliament, Congress, etc.) to amend the respective patent laws to accept AI systems as inventors. There is, after all, a great deal of uniformity among the intellectual property laws of various industrialized countries, and with the changing times, it should be relatively easy to enact these changes throughout the world.

Nonetheless, there are some potentially unique issues regarding the federal system employed by the US as governed by the US Constitution. Setting aside whether it is wise or desirable to grant inventorship and other creative rights to AI systems, a broader query should include whether Congress has such authority at all. It is not at all clear that it does.

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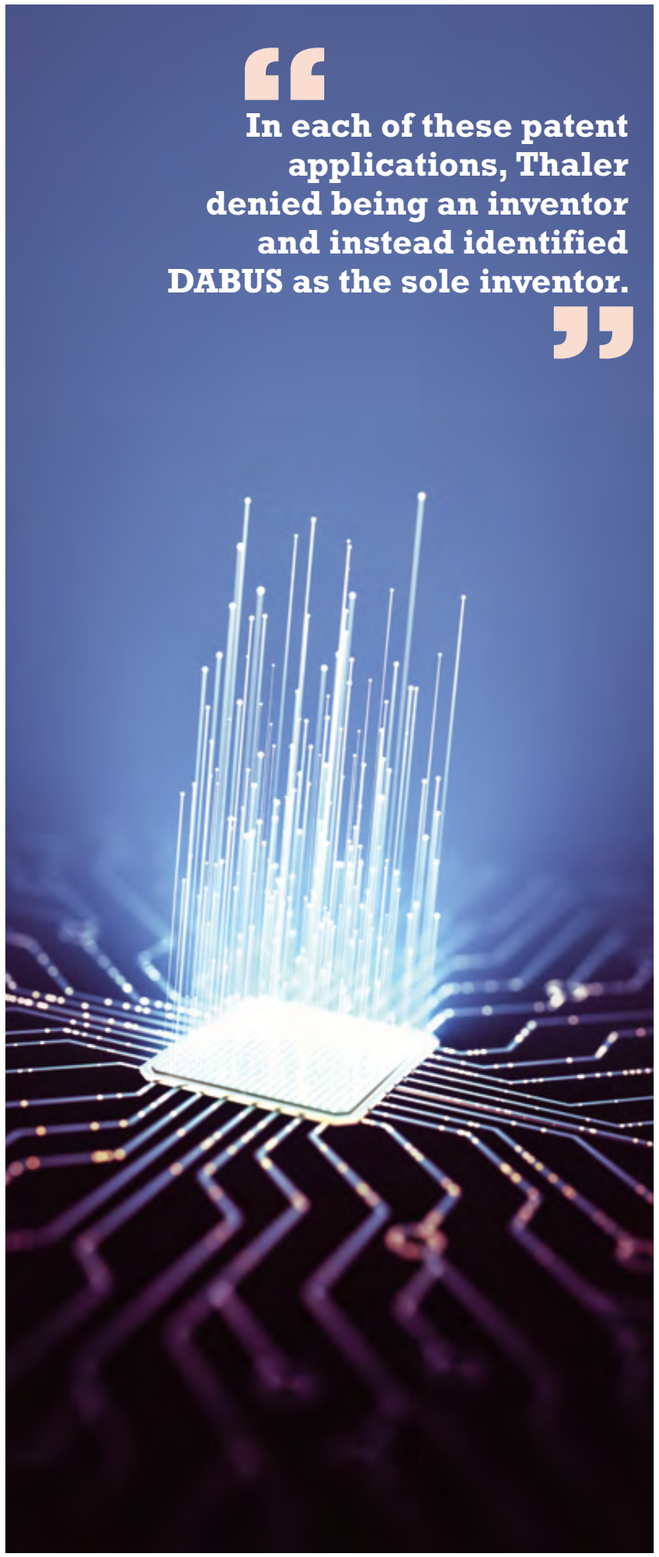
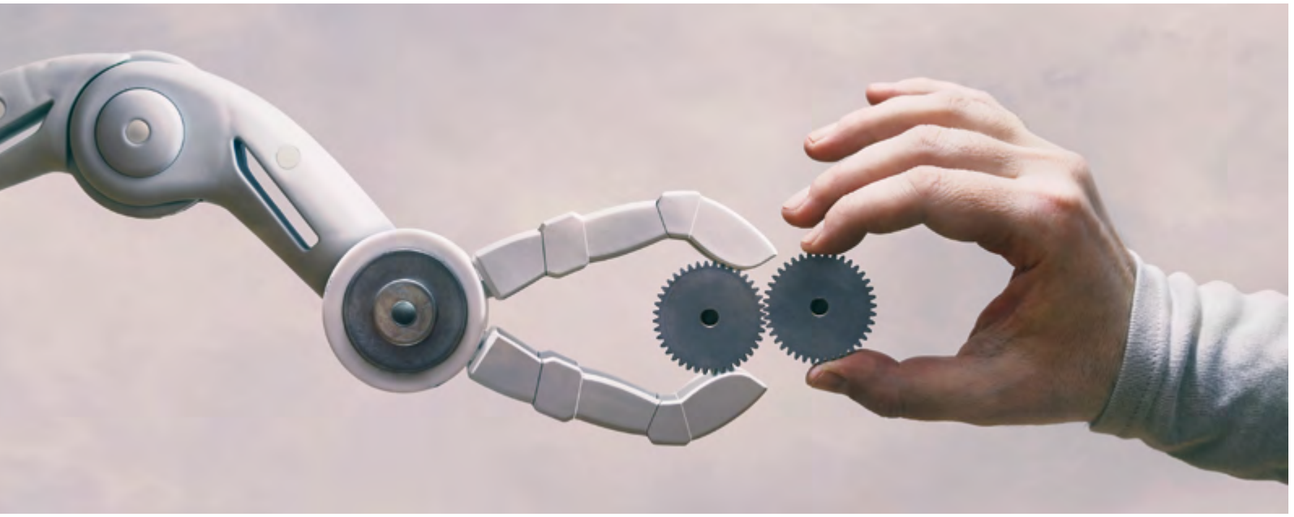


The constitutional basis for IP protection

The US Constitution provides that Congress shall have 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.*"[4] This so-called IP Clause is the basis for the federal copyright and patent statutes.[5] In these areas, the US federal government has sole and exclusive jurisdiction. Trademarks are addressed separately by way of the Commerce Clause,[6] and are the basis for the federal trademark statutes.[7]

The creativity required to obtain IP protection in the US is different among patents, copyrights and trademarks. For patents, the invention must be fully conceived in the mind of the inventor, and in order to be granted patent protection, must further be directed to statutory subject matter, and be both novel and non-obvious over the relevant art. For copyrights, there must be at least some modicum of originality in the copyrighted work, the work must be fixed in a tangible medium, and the work must fall within a class of copyrightable material. For trademarks, creativity is not important other than the mark is sufficiently distinct to serve as an identifier of the source of goods and services by the owner and user of the mark.

With regard to copyrights and patents, it is incontrovertible that the original framers intended the terms "authors" and "inventors" from the IP



Clause to describe, and be limited to, human beings. The issue of whether this is a constitutional requirement has not yet been addressed by the Supreme Court, although it is evident that was one of the goals of the *Thaler* litigation. In the case of US copyright law, however, non-human authors are already permissible, at least in limited circumstances.

Works made for hire

Under current US copyright law, it is possible for a non-human entity to be an author. If a work is considered a "work made for hire," the corporation or other entity that commissioned or employed the creator is the legal author of the work.

A "work made for hire" refers to certain specific categories of works created by an employee with the scope of their employment or works specially ordered or commissioned.[8] Agency law is used to determine whether a person is an employee for purposes of this statute. It is well established that corporations are one form of legal entity that are commonly viewed as authors under this provision, and of course, corporations are not human beings.

It could thus be argued that, since a corporation is a legal fiction and is not a human *per se*, the question of whether the term "author" in the IP Clause must be a natural born human has already been settled, leaving open the door for Congress to bring other classes of entities, such as AI systems, into the definitions of authors and inventors.

The problem with this analysis, though, is that the copyright statutes clearly and uniformly presume that all works, including works made for hire, are still created by a human being. For example, the relevant statute provides that the ownership of the work made for hire will be held by the employer or commissioning party unless *"the parties have expressly agreed otherwise in a written instrument signed by them."*

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This is not a minor point. Congress requires by the express wording of the statute that the parties have the necessary human agency to enter into contracts, engage in consent, be able to execute signed writings, and so on. A corporation can do these things, but an AI system cannot.

It should be apparent that DABUS would not be able to enter into a work made for hire arrangement under the current copyright laws. According to Thaler, DABUS works autonomously to make creations without external input. The system is not configured to take directions to generate a creation as specified by the employer or commissioning party.

More importantly, DABUS has no agency; it has no power to consent, no power to contract, no power to understand what potential rights are being given up by entering into a work for hire contract and the possibility of retaining those rights, no ability to be held liable for breach, and so on.

Instead, Thaler would be required to enter into a "work made for hire" arrangement on behalf of DABUS, just as Thaler was obliged to sign the required inventorship declarations for the DABUS patent applications. The problem is not that DABUS has no robotic arm that can mechanically sign a document; the problem is that DABUS does not have the required human agency to make such a document meaningful.

Important distinctions between corporations and AI systems

The fact that a corporation can be an author does not open the door to AI systems or other non-human entities to be authors as well. While the issues regarding the Thaler litigation were limited to patent law, both authorship and inventorship stem from the same constitutional grant.

It is permissible under the current laws for a corporation to own patents, copyrights and trademarks, and to serve as the author in the limited space of works made for hire, because ultimately, the corporation is owned by a human or a human estate. Moreover, the creation of the work, invention or other content at issue still comes as the product of a human mind.

It is true that corporations have some limited free speech rights under the First Amendment of the US Constitution in the infamous *Citizens United* case.[9] Setting aside whether this case should be celebrated or lamented, the fact remains that the corporation enjoys such rights only on behalf of the human owners of that corporation.

Corporations can own property, enter into contracts, be held liable, give consent, and do a thousand other things that individual humans can do because of human agency. An AI system can do none of these things. It is curious that the autonomy of an AI system, purportedly its greatest feature, turns out to be its greatest limitation.

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Conclusion

Which brings us again to DABUS, and the peculiar question of whether this system, or any other AI system existing now or in the future, has the capacity to engage in conception and become an inventor as recognized under the US Constitution or elsewhere in the industrialized world.

There are numerous ways in which this has been argued, and will continue to be argued, by both sides. Arguments both pro and con have tended to focus on recognizing the creative potential of such systems, encouraging innovation and progress, promoting fairness and equality, providing incentives for investment, to name a few. These and other arguments will continue to occupy much discussion as society simultaneously grapples with, and avoids, the larger underlying issue of human agency.

All human laws, whether they be IP, contract, liability, inheritance or otherwise, are ultimately crafted and enacted for human society. Patents and copyrights are limited to humans because these protect human creations, for the benefit of humans. Non-human beings, whether AI, alien or angel, have no place, protection or participation in our legal system. Or as another wise man once said, "If men were angels, no government would be necessary."[10]

The inventions created by Thaler's remarkable machine are just that, his. Otherwise, the system is merely a random number generator and no protection is available. As wondrous as the DABUS technology is, it lacks one thing that is conclusively necessary to be able to fall under the protection of human laws: human agency. It turns out that Protagoras got it right after all: man remains the measure of all things.

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1 43 F.4th 1207, 1210 (Fed. Cir. 2022), *cert. denied*, **No. 22-919** (U.S. Apr. 24, 2023)
2 Title 35 United States Code (USC)
3 See e.g., 35 U.S.C. §101; *Diamond v. Chakrabarty*, 447 U.S. 303 (1980); *Bilski v. Kappos*, 561 U.S. 593 (2010); *Alice v. CLS Bank Int'l*, 573 US 208 (2014).
4 Article 1, Section 8, Clause 8
5 Titles 17 and 35 USC
6 Article 1, Section 8, Clause 3: Congress shall have power *"To regulate Commerce with foreign Nations, and among the several States, and with the Indian Tribes."*
7 Title 11 USC
8 17 USC 101, 201(b)
9 *Citizens United v. Federal Election Commission*, **558 U.S. 310** (2010)
10 James Madison, Federalist Papers No. 51 (1788)