

Fed. Circ. AI Inventor Case Offers A Glimpse Into The Future

By **Mark Davies** (June 22, 2022)

The U.S. Court of Appeals for the Federal Circuit is skeptical that an artificial intelligence system can qualify as an "inventor" under the Patent Act. That was the consensus **assessment** of the recent oral argument in *Thaler v. Vidal*.^[1]

Given the ever-increasing importance of artificial intelligence, the questions raised at argument in the *Thaler* matter are worth special attention.^[2] Appreciating the broader context of this appeal can provide strategic guidance for future AI litigation matters.



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Stephen Thaler is the owner of the Device for the Autonomous Bootstrapping of Unified Sentience, or DABUS, an artificial intelligence system named the Creativity Machine.^[3]

Thaler filed patent applications listing DABUS as the inventor.^[4] The claimed inventions include a "light beacon that flashes in a new and inventive manner to attract attention ('Neural Flame')," and a "beverage container based on fractal geometry ('Fractal Container')."^[5]

After the U.S. Patent and Trademark Office declined to issue the patents and the U.S. District Court for the Eastern District of Virginia declined to disturb that agency ruling, Thaler sought relief from the U.S. Court of Appeals for the Federal Circuit. The substance, tenor and frequency of questions from the appellate court arguably suggest that no relief is coming.

This appeal was the first time that the Federal Circuit has substantively considered artificial intelligence. Prior to *Thaler*, the Federal Circuit has only addressed artificial intelligence in the context of procedural disputes.

For example, in the 2020 *Fitbit Inc. v. Valencell Inc.* decision, the court considered a dispute involving a Patent Trial and Appeal Board clerical error in the context of a claimed method of generating data relating to physical activity.^[6]

What the Federal Circuit judges chose to ask about artificial intelligence in *Thaler* was revealing for the direction that judicial responses to AI may take in future cases.

Chief Judge Kimberly A. Moore and Judges Richard Taranto and Leonard P. Stark asked questions that highlight three areas that AI patent litigators must navigate.

First, AI patent litigation raises novel issues of statutory interpretation. Judge Moore began the judicial questioning^[7] by quoting the Patent Act's "definition of inventor," a definition that includes "individuals."^[8]

Judge Moore asked how an artificial intelligence system could meet the statutory term inventor. Judge Stark also pressed this statutory question,^[9] observing that the definition of an inventor as an individual was added to the statute relatively recently.^[10]

Counsel for DABUS^[11] responded that the U.S. Supreme Court has elsewhere ruled that a

corporation can be an individual,[12] and urged that the statutory reading of the Patent Act should include artificial intelligence given the "purpose and context of the Act."

Second, AI patent litigation raises novel questions concerning the role of humans in artificial intelligence. Judge Taranto set up his line of questioning by invoking dictionary definitions of artificial intelligence.[13] On his reading, the term "artificial intelligence" is "nearly always used to refer to the capability and not to the machine that has it." [14]

Accordingly, it must be the "human with" the machine,[15] and not the machine itself, that invents using artificial intelligence. Counsel for DABUS[16] responded with an example that included using a supercomputer instead of a group of people to find a new pandemic-related drug, and a system that optimizes industrial components used by a different team to optimize the structure of brake pads.[17]

Notably, the appellate attorney for the USPTO conceded[18] that cases where a human was expressly acknowledged as involved in the invention process could "open a Pandora's box" of issues, an answer that Judge Taranto found "less than comforting." [19]

At least for now, however, the court seemed inclined not to engage further on the issue since the Thaler litigation assumes by stipulation that Thaler had no role in the invention.[20]

Third, AI patent litigation will have consequences for other substantive areas of AI law. Judge Taranto asked DABUS counsel about the possibility of copyrights for the "mythical monkeys who type up Shakespeare." [21]

Before answering, DABUS counsel noted he was out of argument time. There was then laughter in the courtroom, perhaps because some thought DABUS counsel did not want to address the question.

Notably, however, the day before this oral argument, Thaler had sued the U.S. Copyright Office over its refusal to grant him a copyright for a computer-generated image of a landscape called "A Recent Entrance to Paradise." [22]

Whether or not the copyright suit was the source of the judicial question, or whether or not counsel's response would have referenced that new suit, we do not know. The argument ended. But the copyright law question and suit demonstrate that questions about AI are not limited to patent law.

As district court litigation involving AI continues to heat up, the Federal Circuit will certainly have other opportunities to address AI. Meanwhile, many are advocating for new laws in light of artificial intelligence's increasing importance. [23]

Indeed, the district court in this case wrote that "[a]s technology evolves, there may come a time when artificial intelligence reaches a level of sophistication such that it might satisfy accepted meanings of inventorship." [24] And should that time arrive, "it will be up to Congress to decide how, if at all, it wants to expand the scope of patent law." [25]

But while specific changes to laws are certainly possible, this case shows that our litigation system is itself capable of handling AI disputes. There is nothing new about a patent dispute turning on contested readings of statutory text. [26] There is nothing new about a dispute turning on contested understandings of technology. [27]

And there is nothing new about patent rulings influencing other substantive areas of law.[28] In many settings, artificial intelligence is pushing all of us into new places. But for the legal system, the systematic learning from existing data should work just fine.[29]

To end with a familiar and particularly on-point truth from Oliver Wendell Holmes Jr., "[t]he life of the law has not been logic: it has been experience." [30]

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[1] See, e.g., Britain Eakin, Fed. Cir. Doubts Argument That AI Can Be An Inventor, LAW360 (June 6, 2022).

[2] Patent applications involving artificial intelligence continue to increase. See *Inventing AI Tracing the diffusion of artificial intelligence with U.S. patents* <https://www.uspto.gov/sites/default/files/documents/OCE-DH-AI.pdf>

[3] DABUS is an acronym for "Device for the Autonomous Bootstrapping of Unified Sentience." *Thaler v. Hirshfeld*, 558 F. Supp. 3d 238, 241 n.3 (E.D. Va. 2021).

[4] *Thaler*, 558 F. Supp. 3d at 241.

[5] *Thaler*, 558 F. Supp. 3d at 241.

[6] See also, e.g., *Ajindi v. United States*, 2022 WL 1464476 (Fed. Cir. 2022) (jurisdiction of Tucker Act claims relating to artificial intelligence).

[7] Oral Argument at 1:25, *Thaler v. Vidal*, No. 21-2347 (Fed. Cir. June 6, 2022).

[8] 35 U.S.C. § 100(f).

[9] Oral Argument at 7:20, *Thaler v. Vidal*, No. 21-2347 (Fed. Cir. June 6, 2022).

[10] In 2011, Congress promulgated the America Invents Act, which amended the Patent Act to provide a statutory definition for the term "inventor" to mean "the individual or, if a joint invention, the individuals collectively who invented or discovered the subject matter of the invention." Both Chief Judge Moore and the counsel for the PTO pointed out that the Act used "gendered personal pronouns," that is, "himself and herself," to refer to inventors. Counsel the PTO argued this language bolstered an understanding of "individual" as a human, and not artificial intelligence. Oral Argument at 12:35, *Thaler v. Vidal*, No. 21-2347 (Fed. Cir. June 6, 2022).

- [11] Oral Argument at 1:54, Thaler v. Vidal, No. 21-2347 (Fed. Cir. June 6, 2022).
- [12] Clinton v. City of New York, 524 U.S. 417, 429 (1998).
- [13] Oral Argument at 3:30, Thaler v. Vidal, No. 21-2347 (Fed. Cir. June 6, 2022).
- [14] Oral Argument at 4:19, Thaler v. Vidal, No. 21-2347 (Fed. Cir. June 6, 2022).
- [15] Oral Argument at 6:20, Thaler v. Vidal, No. 21-2347 (Fed. Cir. June 6, 2022).
- [16] Oral Argument at 5:25, Thaler v. Vidal, No. 21-2347 (Fed. Cir. June 6, 2022).
- [17] Oral Argument at 11:42, Thaler v. Vidal, No. 21-2347 (Fed. Cir. June 6, 2022). But see e.g., Drug design by machine learning: support vector machines for pharmaceutical data analysis - PubMed (nih.gov). See also Commissioner of Patents [2021] FCA 879 ¶ 131 (DABUS arguably raises the human role in "contexts in which autonomous invention-generating computers would be particularly useful, from deep sea or outer space exploration where humans cannot practically perceive and solve problems in situ.").
- [18] Oral Argument at 19:29, Thaler v. Vidal, No. 21-2347 (Fed. Cir. June 6, 2022).
- [19] Oral Argument at 20:26, Thaler v. Vidal, No. 21-2347 (Fed. Cir. June 6, 2022). See A future for "prompt engineers"? – Augmented Lawyer (June 9, 2022), <https://augmentedlawyer.com/2022/06/09/a-future-for-prompt-engineers>.
- [20].Oral Argument at 18:32,Thaler v. Vidal, No. 21-2347 (Fed. Cir. June 6, 2022). Counsel for the PTO conceded there could be a path forward to use of artificial intelligence in inventions where, for instance, Thaler listed himself as participating in the invention. Id. at 18:55.
- [21] Oral Argument at 26:01, Thaler v. Vidal, No. 21-2347 (Fed. Cir. June 6, 2022).
- [22] <https://www.law360.com/articles/1499561/copyright-office-sued-for-refusing-to-register-ai-made-work>. See also OpenAI's DALL-E 2: Even More Beautiful Results! <https://gmenaria.medium.com/openais-dall-e-2-even-more-beautiful-results-dd2f50ecce4>; How DALL-E could power a creative revolution - The Verge, <https://www.theverge.com/23162454/openai-dall-e-image-generation-tool-creative-revolution>.
- [23] See, e.g., Clark Bakewell, Patent Act Must Be Updated To Protect Quantum, AI Industries, LAW360 (February 7, 2022).
- [24] Thaler, 2021 U.S. Dist. LEXIS 167393, at *25.
- [25] Thaler, 2021 U.S. Dist. LEXIS 167393, at *26.
- [26] See, e.g., Microsoft Corp. v. AT&T Corp., 550 U.S. 437 (2007) (discussing the meaning of "component" under 35 U.S.C. 271)(f)).
- [27] See, e.g., Google, Inc. v. Oracle America, Inc., 141 S.Ct. 1183 (2021) (discussing Java SE).
- [28] See, e.g., Bonito Boats, Inc. v. Thunder Craft Boats, Inc., 489 U.S. 141 (1989)

(discussing Patent and Copyright Clauses). See also Chapter 3: Computers and Copyright, Final Report of the National Commission on New Technological Uses of Copyrighted Works (CONTU) (1978), <http://digital-law-online.info/CONTU/PDF> (discussing whether artificial intelligence can create a new "work" under the Copyright Act of 1976).

[29] See, e.g., Joshua Fairfield, Runaway Technology: Can Law Keep Up? (2021).

[30] The Common Law (1881).