



Thaler v. Vidal, 43 F.4th 1207 (Fed. Cir. 2022)

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***Thaler v. Vidal*, 43 F.4th 1207 (Fed. Cir. 2022)**

*Matthew T. Messina**

*Thaler v. Vidal*¹ asks whether artificial intelligence (“AI”) software is eligible to qualify as an inventor under the Patent Act². As AI software and technology grows increasingly prevalent, the holding of this case shows the Federal Circuit’s unwillingness, or inability, to deviate from current understanding of the Patent Act, without Congressional intervention.

I. BACKGROUND

Stephen Thaler is on a mission: to champion the rights of AI inventors. The case discussed in this article has been a test case, filed in jurisdictions around the world—from Europe, Asia, North and South America—forcing courts to consider the hard questions surrounding AI and patentability.³

The stakes, for Thaler, are high. He and his legal team see the case as an “exercise in public rethinking.”⁴ Patentability of inventions created by AI has the ability to influence investment decisions and the competitiveness of the United States on the world’s stage, if other countries adopt a more progressive view of inventorship before the United States.⁵

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¹ 43 F.4th 1207 (Fed. Cir. 2022).

² 35 U.S.C. §§ 1-376.

³ Samantha Handler, *Inventors Must Be Human, Federal Circuit Rules in Blow to AI*, BLOOMBERG LAW (Aug 5, 2022, 11:55 AM) <https://news.bloomberglaw.com/ip-law/only-humans-not-ai-qualify-as-inventors-federal-circuit-rules>; Matthew Bultman, *Can a Robot Invent? The Fight Around AI and Patents Explained*, BLOOMBERG LAW (Sept 9, 2021, 4:10 AM) <https://news.bloomberglaw.com/ip-law/can-a-robot-invent-the-fight-around-ai-and-patents-explained>.

⁴ Bultman, *supra* note 3.

⁵ *Id.*

68 *DEPAUL J. ART, TECH. & IP LAW* [Vol. XXXIII:A. *What is AI?*

AI, once-antagonist of the science-fiction double-feature, now-protagonist of progress in the science/technology revolution, has already secured its spot in the lexicon of the 2020's. A simple acronym, to some, it means beauty, innovation, a steward of the community of tomorrow. To others, it creeps into the ears like a Hitchcock soundscape, raising hairs on the backs of necks.

Recently, AI has garnered the attention of the masses via OpenAI's⁶ free tools. Instagram has been ablaze with DALLE-2's⁷ visual creations and TikTok's for-you page filled with tech-centered influencers waxing poetic about ChatGPT's⁸ capabilities to streamline the workplace (or alleviate lackluster undergrads of writing that term paper).

But what is AI, really? Artificial intelligence is a branch of computer science dealing with the simulation of intelligent behavior in computers; the capability of a machine to imitate intelligent human behavior.⁹ AI was first theorized at Dartmouth College in 1956, when academics came together to theorize about a combination of robotics, neural networks, and programming.¹⁰ In short, AI is a self-teaching machine—it teaches itself about its environment and adapts accordingly.

Public comments on AI in intellectual property, solicited by the United States Patent and Trademark Office (“USPTO”),

⁶ OpenAI's mission:

“[I]s to ensure that artificial general intelligence (AGI)—by which we mean highly autonomous systems that outperform humans at most economically valuable work—benefits all of humanity. We will attempt to directly build safe and beneficial AGI, but will also consider our mission fulfilled if our work aids others to achieve this outcome.

About, OPENAI, <https://openai.com/about/> (last visited, Feb. 5, 2023).

⁷ DALLE-2 is an AI system, hosted by OpenAI, that creates images and art, in mere seconds, from a description in natural language. *DALLE-2*, <https://openai.com/dall-e-2/> (last visited, Apr. 26, 2023).

⁸ ChatGPT interacts with users in a conversational way. *ChatGPT: Optimizing Language Models for Dialogue*, OPENAI, <https://openai.com/blog/chatgpt/> (last visited Feb. 5, 2023). ChatGPT is able to answer follow-up questions, admit its mistakes, challenge incorrect premises, and reject inappropriate requests. *Id.*

⁹ *Artificial intelligence*, Merriam-Webster (11th ed. 2022).

¹⁰ Christian H. Heller, *Near-Term Applications of Artificial Intelligence*, 72 NAVAL WAR COLLEGE R. 73, 74 (2019).

show there is no universally recognized definition of AI.¹¹ Commentors do agree that currently the field is limited to “narrow” AI, systems that perform individual tasks in well-defined domains.¹² The majority view is that artificial general intelligence (“AGI”) is still only a theoretical possibility¹³ and AI cannot invent, nor author, without human intervention.¹⁴ Thaler’s work rebuts this majority view.

B. Stephen Thaler and DABUS

Thaler, President & CEO of Imagination Engines, Inc. (“IEI”), develops and applies advanced artificial intelligence systems, “capable of generating patentable output under conditions in which no natural person traditionally meets inventorship criteria.”¹⁵

IEI sports the tagline, “. . . ushering in the dawn of conscious computing!”¹⁶ IEI’s scientific mission is to “continually devise highly advanced artificial neural systems that manifest all aspects of human cognition, creativity, consciousness, and sentience, while at the same time harnessing these cognitive architectures to invent and create.”¹⁷ Further, IEI claims its systems develop subjective feelings about their creations, appreciating their accomplishments with a human level of emotional intelligence.¹⁸ While considering itself an incubator/accelerator for new applications of its foundational patents in creative artificial intelligence, IEI supports itself with government contracting, patent licensing, and sales of neural

¹¹ *Public Views on Artificial Intelligence and Intellectual Property Policy*, UNITED STATES PATENT AND TRADEMARK OFFICE (Oct. 2020).

¹² *Id.* Examples include image recognition, translation, etc.

¹³ *Id.* AGI is intelligence akin to that of humankind.

¹⁴ *Id.*

¹⁵ Thaler v. Hirshfeld, 558 F. Supp. 3d 238, 241 (E.D. Va. 2021); IMAGINATION ENGINES, INC., <https://imagination-engines.com/founder.html> (last visited Jan. 17, 2023).

¹⁶ IMAGINATION ENGINES, INC., <https://www.imagination-engines.com> (last visited Jan. 17, 2023).

¹⁷ *IEI’s Scientific Mission*, IMAGINATION ENGINES, INC., https://imagination-engines.com/sci_mission.html (last visited Jan. 17, 2023).

¹⁸ *Id.*

70 *DEPAUL J. ART, TECH. & IP LAW* [Vol. XXXIII:

network tools.¹⁹ As IEI's AI system create and innovate new products/service ideas, these enter IEI's business practice.²⁰

One such AI system is DABUS, "Device for the Autonomous Bootstrapping of Unified Sentience," the machine responsible (at least in part) for the litigation at issue.²¹

The Federal Circuit in its decision describes DABUS as "a collection of source code or programming and a software program."²² However, to Thaler, DABUS is much more than an algorithm.²³ Thaler also rejects the descriptor "invention machine."²⁴ Thaler classifies DABUS as a system to study consciousness, and particularity sentience, within machines.²⁵

Originally, DABUS was conceived to research how subjective feelings arise within neural nets in the brain, specifically imagined concepts—ideas.²⁶ DABUS achieves brain-like functions via artificial (as opposed to biological) neural networks.²⁷ This AI model autonomously transforms simple concepts into more complex concepts, launching a "series of memories," expressing anticipated consequences of those ideas.²⁸ The process mimics the human stream of consciousness, converting these ideas into long term memories, allowing for DABUS to be interrogated for inventions and discoveries.²⁹

To Thaler, DABUS's original concepts—a resume that includes inventions, art, music, and strategies—are a mere

¹⁹ *IEI's Business Model*, IMAGINATION ENGINES, INC., https://imagination-engines.com/bus_model.html (last visited Jan. 17, 2023).

²⁰ *Id.*

²¹ *Id.* at n. 3.

²² *Thaler*, 43 F.4th at 1209 (citation omitted).

²³ Dr. Stephen Thaler, LINKEDIN (Jan. 15, 2023), <https://www.linkedin.com/pulse/dabus-faq-dr-stephen-thaler/?trackingId=Ea0pKnCHTgGR2NRWcRPJUG%3D%3D>.

²⁴ *Id.*

²⁵ *Id.*

²⁶ *Id.*

²⁷ *DABUS Described*, IMAGINATION ENGINES INC., <https://imagination-engines.com/dabus.html> (last visited Jan. 17, 2023).

²⁸ *Id.*

²⁹ *Id.*

byproduct of sentience, springing from the machine's self-acquired preferences.³⁰

Thaler claims he never assisted DABUS as it invented, but nurtured in a way, building a model of the machine's observable world, akin to the role of a parent or teacher to a child.³¹ Thaler describes this formative period in the machine's "life" as preliminary mentorship.³² Thaler analogizes this mentorship to a young Thomas Edison, taught first concepts such as dogs bark, cats meow, then later elementary mechanics and electrical theory.³³ Based on these early, simple teachings, Edison became the inventor we celebrate today, based on cumulative learning from his physical and social environment.³⁴

C. Applications and USPTO Proceedings

In July 2019, Thaler sought patent protection for two inventions, filing two separate patent applications with USPTO.³⁵ Thaler identified DABUS as the sole inventor on two patent applications, U.S. Application Serial Nos. 16/524,350 (the "'350 application") and 16/524,532 (the "'532 application"), claiming 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')," making it easier for robots to grip³⁶, respectively.³⁷

Thaler attached a series of documents relevant to inventorship to the patent applications, in order to adapt for an AI inventor.³⁸

³⁰ Dr. Stephen Thaler, DABUS FAQ, LINKEDIN (Jan. 15, 2023), <https://www.linkedin.com/pulse/dabus-faq-dr-stephen-thaler/?trackingId=Ea0pKnCHTgGR2NRWcRPJUg%3D%3D>.

³¹ *Id.*

³² *Id.*

³³ *Id.*

³⁴ *Id.*

³⁵ *Thaler*, 43 F.4th at 1209.

³⁶ Mark Masutani & Jacob W. S. Schneider, *Making the Case for AI Inventorship: Thaler v. Vidal*, Case No. 21-2347 (*Fed. Cir.*), HOLLAND & KNIGHT IP/DECODE BLOG (June 7, 2022), <https://www.hklaw.com/en/insights/publications/2022/06/making-the-case-for-ai-inventorship>.

³⁷ *Thaler*, 558 F. Supp. 3d at 240-41.

³⁸ *Id.*

72 *DEPAUL J. ART, TECH. & IP LAW* [Vol. XXXIII:

First, on the Application Data Sheets accompanying the patent applications Thaler listed “DABUS” as the inventor’s given name and “[i]nvention generated by artificial intelligence” as the inventor’s family name.³⁹ Thaler listed his own mailing address as the “mailing address of inventor.”⁴⁰

Second, a “Statement of Inventorship” was included, explaining that “[t]he unique aspects under which the instant invention was conceived prompted the inclusion of such statement in order to explain that the inventor of the subject matter of the instant invention of the present application is an AI machine, being a type of ‘creativity machine’ named ‘DABUS[.]’”⁴¹ Additionally, the statement included an explanation of why DABUS should be considered an “inventor” under the Patent Act and USPTO regulations.⁴²

Third, considering DABUS could not execute the necessary oath or declaration required of an inventor by the Patent Act⁴³, Thaler included a “Substitute Statement Under 37 CFR 1.64 in Lieu of Declaration Under 35 USC § 115(d).”⁴⁴ This statement

³⁹ *Id.*

⁴⁰ *Id.*

⁴¹ *Id.*

⁴² *Id.* at 241.

⁴³ “[E]ach individual who is the inventor or a joint inventor of a claimed invention in an application for patent shall execute an oath or declaration in connection with the application.” 35 U.S.C. § 115(a).

⁴⁴ *Thaler*, 558 F. Supp. 3d at 241. A patent applicant is required to make an oath that he believes himself to be the original inventor of that claimed in the patent application. 35 U.S.C. § 115(b)(2). A substitute statement signed by an applicant is typically acceptable where an inventor is deceased, legally incapacitated, cannot be found or reached after diligent effort, or has refused to execute the oath or declaration. *Nonprovisional (Utility) Patent Application Filing Guide*, UNITED STATES PATENT AND TRADEMARK OFFICE (Jan. 2023), <https://www.uspto.gov/patents/basics/types-patent-applications/nonprovisional-utility-patent#heading-21>; 35 U.S.C. § 115(d). Commentors have noted this procedure places control of the prosecution process in the hands of the applicant, as inability to obtain oaths or declarations from unavailable, or uncooperative, inventors could lead to delayed issuance or application abandonment. Christina Sperry & Mark D. Hammond, *Patent Application Declarations for Unavailable or Uncooperative Inventors*, MINTZ (Sept. 14, 2020), <https://www.mintz.com/insights-center/viewpoints/2231/2020-09-14-patent-application-declarations-unavailable-or>. Recently, this procedure has become particularly useful, due to increased employee mobility, health

explained DABUS was “under legal incapacity in view of the fact that the sole inventor is a Creativity Machine (i.e., an artificial intelligence), with no legal personality or capability to execute this substitute statement.”⁴⁵ Thaler signed the statement as “the Applicant and the Assignor of the abovementioned application, as well as the owner of said Creativity Machine, DABUS.”⁴⁶ Finally, the applications included a document assigning all intellectual property rights in the claimed inventions from DABUS to Thaler⁴⁷, entitled “Assignment,” signed “Stephen L. Thaler, On Behalf of DABUS, Assignor,” as well as “Stephen L. Thaler, Assignee.”⁴⁸

The USPTO initially issued Thaler a “Notice to File Missing Parts of Non-Provisional Application.”⁴⁹ Thaler was given two months to submit proper information identifying a valid inventor in the eyes of the USPTO.⁵⁰ On August 29, 2019, Thaler petitioned the USPTO⁵¹ to vacate the “Notice to File Missing Parts of Non-Provisional Application” and reiterated DABUS should be listed as inventor, per the reasoning in the “Inventorship Statement” initially included with the patent applications.⁵² On December 17, 2019, the USPTO dismissed Thaler’s petition, reasoning the statutory language Congress had used to define “inventor” was unique to human beings, as opposed to machines.⁵³ On January 20, 2020, Thaler filled a “Petition to the Director Under C.F.R. 1.181—Request for Reconsideration.”⁵⁴

On April 22, 2020, Thaler’s request was denied.⁵⁵ The USPTO explained in its written decision, relying on multiple

challenges such as COVID-19, and economic downturn. *Id.* Thaler’s definition of unavailability, of course, is novel.

⁴⁵ *Id.*

⁴⁶ *Id.*

⁴⁷ *Id.*

⁴⁸ *Id.* at 241-42.

⁴⁹ *Id.* at 242.

⁵⁰ *Thaler*, 558 F. Supp. 3d at 242; *Thaler*, 43 F.4th at 1210.

⁵¹ Patent applicants may file an administrative petition requesting the USPTO Director, “[t]o invoke the supervisory authority of the Director in appropriate circumstances.” 37 C.F.R. § 1.181(a)(3).

⁵² *Thaler*, 558 F. Supp. 3d at 242.

⁵³ *Id.*

⁵⁴ *Id.* at 243.

⁵⁵ *Id.*

74 *DEPAUL J. ART, TECH. & IP LAW* [Vol. XXXIII:

sections of Title 35 of the United States Code, that Thaler’s broad interpretation of “inventor” was precluded by statutory patent law.⁵⁶ Further, Federal Circuit precedents holding only natural persons qualified as “inventors,” while admittedly in the context of states and corporations, supported the decision as well.⁵⁷ The USPTO concluded “the discussion of conception as being a ‘formation in the mind of the inventor’ and a ‘mental act’ is equally applicable to machines and indicates that conception—the touchstone of inventorship—must be performed by a natural person.”⁵⁸ Additionally supporting its decision, the USPTO cited to Title 37 of the Code of Federal Regulations, which explicitly refers to the inventor as a “person.”⁵⁹ To cement its reasoning that only a natural person may be an inventor, the USPTO looked to the Manual of Patent Examining Procedure, defining “conception” as “the complete performance of the mental part of the inventive act” and “the formation in the mind of the inventor of a definite and permanent idea of the complete and operative invention as it is thereafter to be applied in practice.”⁶⁰

D. The District Court

Thaler pursued judicial review of the USPTO’s decision under the Administrative Procedure Act.⁶¹ The parties filed cross-motions for summary judgment in the United States District Court for the Eastern District of Virginia.⁶² The court granted the USPTO’s motion for summary judgment and denied Thaler’s request to reinstate his applications, concluding that under the Patent Act an “inventor” must be an “individual.”⁶³ The court reasoned the plain meaning of “individual” as used in the statute is a natural person.⁶⁴

⁵⁶ *Id.*

⁵⁷ *Id.*

⁵⁸ *Thaler*, 558 F. Supp. 3d at 243.

⁵⁹ *Id.*

⁶⁰ *Id.*

⁶¹ *Thaler*, 43 F.4th at 1210; *see* 5 U.S.C. §§ 702-704, 706. The Administrative Procedure Act governs the procedure and rulemaking of administrative agencies, including judicial review of agency decisions, relevant here, the USPTO. *See* 5 U.S.C. §§ 551-559.

⁶² *Id.*

⁶³ *Id.*

⁶⁴ *Id.*

II. ANALYSIS

The sole issue on appeal for the Federal Circuit was whether an AI software system can be listed as an inventor on a patent application.⁶⁵ The court declined to engage in an abstract inquiry into the nature of invention and the rights, or lack thereof, of AI machines and refused to ponder what it called “metaphysical matters,” deciding it need only be concerned with considering the definition of “inventor” in the statute.

A. Statutory Interpretation

The court began its analysis with the text of the Patent Act, concluding there was no ambiguity: an inventor must be a natural person, a human being.⁶⁶ The 2011 Leahy-Smith America Invents Act⁶⁷ defines “inventor” as “the *individual* or, if a joint invention, the *individuals* collectively who invented or discovered the subject matter of the invention.”⁶⁸ “Joint inventor” and “co-inventor” are similarly defined as “individuals,”⁶⁹ and in describing the statements required of an inventor applying for a patent, the statute “consistently refers to inventors and co-inventors as individuals.”⁷⁰

The Patent Act does not define “individual,” however the court looked to the Supreme Court’s explanation that, “[a]s a noun, ‘individual’ ordinarily means a human being, a person,” and is in accord with “how we use the word in everyday parlance.”⁷¹ To

⁶⁵ *Id.* Compare the court’s narrow view of the issues presented with Thaler’s: “This case raises the novel legal issue of whether a patent can be obtained for an invention created by an artificial intelligence (AI) in the absence of a traditional human inventor (“AI-Generated Invention”).” Appellant’s Br. at ¶ 2.

⁶⁶ *Id.*

⁶⁷ The Act, also known as the Patent Reform Act of 2011, modernizes American patent law, harmonizing the system with those of the rest of the world. Smitha B. Uthaman, *Summary of the America Invents Act*, THE NAT’L L. REV. (Apr. 12, 2012), <https://www.natlawreview.com/article/summary-america-invents-act>. Critical to patent prosecution, the Act changes the first-to-invent system to a file-to-file system, redefines prior art, and updates various review procedures. *Id.* The Act seeks to create efficiency, predictability, and transparency in the U.S. patent system, enhancing the quality of patents overall. *Id.*

⁶⁸ *Thaler*, 43 F.4th at 1211; 35 U.S.C. § 100(f) (2018) (emphasis added).

⁶⁹ *Id.*; § 100(g).

⁷⁰ *Id.*; § 115.

⁷¹ *Id.*; *Mohamad v. Palestinian Auth.*, 566 U.S. 449, 454 (2012). *Mohamad* does not discuss the meaning of the word “individual” within the context of patents,

76 DEPAUL J. ART, TECH. & IP LAW [Vol. XXXIII:

confirm the common understanding of the word, the court looked to various dictionaries.⁷² Further, the court relied heavily on the Dictionary Act⁷³, noting the legislative use of “person” and “whoever” broadly include “corporations, companies, associations, firms, partnerships, societies, and joint stock companies, *as well as individuals*.”⁷⁴ The court found the inclusion of the phrase “as well as,” preceding “individual,” to be dispositive, showing Congress understands “individual” to mean natural persons, unless otherwise noted.⁷⁵

The court reasoned nothing in the Patent Act signals Congress intended to deviate from the generally accepted meaning of “individual.”⁷⁶ The court referenced the use of personal pronouns “himself” and “herself” in reference to an “individual,”⁷⁷ the absence of the word “itself,”⁷⁸ and the Act’s requirement inventors submit an oath or declaration.⁷⁹ While the court declined to decide whether it believed an AI system can form beliefs, it noted nothing in the record showed on can, as evidenced by Thaler himself submitted the requisite statement on DABUS’ behalf.⁸⁰

but instead within the context of the Torture Victim Protection Act of 1991. The Court held the term “individual” as used in the Act only referred to natural persons and did not implicate organizations. *Mohamed*, 566 U.S. at 451.

⁷² *Id.*; see *Individual*, *Oxford English Dictionary* (2022) (giving first definition of “individual” as “[a] single human being”); *Individual*, *Dictionary.com*, <https://www.dictionary.com/browse/individual> (giving “a single human being, as distinguished from a group” as first definition for “individual”) (last visited Jan. 11, 2023).

⁷³ The Dictionary Act directs courts to apply definitions of certain common words and basic rules of grammatical construction “unless context indicates otherwise” to all federal statutes. Emily J. Barnet, *Hobby Lobby and the Dictionary Act*, 124 YALE L.J.F. 11 (2014), <http://yalelawjournal.org/forum/hobby-lobby-and-the-dictionary-act>. Courts have applied the Act inconsistently and reliance on the Act ranges from presumptive guide to last resort. *Id.*

⁷⁴ *Thaler*, 43 F.4th at 2011; 1 U.S.C. § 1.

⁷⁵ *Id.*

⁷⁶ *Id.*

⁷⁷ *Id.*; 35 U.S.C. § 115(b)(2).

⁷⁸ *Id.*

⁷⁹ *Id.*; § 115(b)(2) (requiring oath or declaration from inventor that “such individual believes himself or herself to be the original inventor or an original joint inventor of a claimed invention in the application”).

⁸⁰ *Thaler*, 43 F.4th at 1211.

2023] *THALER V. VIDAL*

77

Despite the court's concession that statutes are often open to multiple readings, Thaler's challenge required only analysis of the plain meaning of the text. No additional tools of statutory construction were deemed necessary.⁸¹

The court next turned to Thaler's contentions regarding statutory interpretation of the Patent Act as whole, that "inventor" should be read broadly to include AI software, rejecting each in turn.⁸²

First, Thaler pointed to the use of "whoever" in 35 U.S.C. §§ 101 and 217.⁸³ Section 101 states, "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title."⁸⁴ The court commented Section 101 makes clear patents must satisfy the "conditions and requirements of" Title 35 of the U.S. Code⁸⁵, including the definition of inventor.⁸⁶ Section 271 repeatedly uses "whoever," in reference to corporations and non-humans, in setting out what constitutes infringement.⁸⁷ However, the court noted the fact non-humans can infringe patents does not lead to any conclusions about whether non-humans may also be inventors of patents.⁸⁸ The court rejected Thaler's first contention by reiterating its statutory analysis of the Patent Act—the Act's definition of "inventor" uses the word "individual," not "whoever" and the Dictionary Act establishes Congress uses "whoever" in a much broader fashion than "individual."⁸⁹

Second, Thaler contended "AI software programs must qualify as inventors because otherwise patentability would depend

⁸¹ *Id.* at 1213.

⁸² *Id.* at 1212.

⁸³ *Id.*

⁸⁴ 35 U.S.C. § 101.

⁸⁵ Section 101 imposes four requirements to obtain a patent: double patenting prohibited; naming of inventor; subject matter eligibility; utility. U.S. PATENT & TRADEMARK OFFICE, MANUAL OF PATENT EXAMINING PROCEDURE § 2104 (9th ed., rev. 10, 2022).

⁸⁶ *Thaler*, 43 F.4th at 1212.

⁸⁷ *Id.*

⁸⁸ *Id.*

⁸⁹ *Id.*; see 1 U.S.C. § 1.

78 DEPAUL J. ART, TECH. & IP LAW [Vol. XXXIII:

on ‘the manner in which the invention was made,’ in contravention of 35 U.S.C. § 103.’⁹⁰ The court commented Section 103 is not about inventorship, but rather providers inventions may still be nonobvious even if they are discovered during “routine” testing or experimentation.⁹¹ The court dispelled Thaler’s Section 103 theory by concluding a provision relating to how an invention is made does not “trump a provision that specifically addresses who may be an inventor.”⁹²

Third and finally, Thaler contended “inventor” must be interpreted with attention to the “context in which that language is used[] and the broader context of the statute as a whole.”⁹³ However, the court had done just that in its preceding analysis.⁹⁴

B. Federal Circuit Precedent

The court next looked to its own precedent to supports its conclusion that an “inventor” must be human.⁹⁵ While both cases cited addressed different questions, the court took both holdings as confirmation the plain meaning of “inventor” in the Patent Act “is limited to natural persons.”⁹⁶

In both *Univ. of Utah v. Max-Planck-Gesellschaft Zur Forderung Der Wissenschaften E.V.* and *Beech Aircraft Corp. v. EDO Corp.*, the court held inventors must be natural persons and cannot be corporations or sovereigns.⁹⁷

In *Univ. of Utah*, the court was tasked with examining issues of sovereign immunity and federal jurisdiction, arising out of an inventorship dispute between two state universities—University of Utah and University of Massachusetts (“UMass”).⁹⁸ In analyzing the defendants’ argument that the case was a dispute between two states, therefore falling with the exclusive original jurisdiction of the Supreme Court, the court found UMass to not

⁹⁰ *Id.*

⁹¹ *Id.*

⁹² *Thaler*, 43 F.4th at 1212.

⁹³ *Id.*; *Yates v. United States*, 574 U.S. 528, 537 (2015).

⁹⁴ *Id.*

⁹⁵ *Id.*

⁹⁶ *Id.*

⁹⁷ *Univ. of Utah v. Max-Planck-Gesellschaft Zur Forderung Der Wissenschaften E.V.*, 734 F.3d 1315, 1323 (Fed. Cir. 2013); *Beech Aircraft Corp. v. EDO Corp.*, 990 F.2d 1237, 1248 (Fed. Cir. 1993).

⁹⁸ *Univ. of Utah*, 734 F.3d at 1318.

be a real party in interest under Supreme Court caselaw.⁹⁹ With respect to UMass, only inventorship was at issue.¹⁰⁰

The court held a State has “no core sovereign interest in inventorship,” declaring it “axiomatic” an inventor is the individual that conceives of an invention.¹⁰¹ “To perform this mental act, inventors must be natural persons and cannot be corporations of sovereigns.”¹⁰² Considering a state cannot be an inventor, inventorship is not a core sovereign interest of the States.¹⁰³

Beech Aircraft, dealt with the question of ownership, as opposed to inventorship, holding a corporate assignee could not be declared an inventor because only natural persons can be inventors.¹⁰⁴

C. *Thaler’s Additional Arguments*

Thaler first argued, as a policy matter, AI generated inventions should be patentable as a means of encouraging innovation and public disclosure.¹⁰⁵ However, the court found this argument speculative and lacking in textual basis, both in the Patent Act and the record.¹⁰⁶ When text is unambiguous, courts may not “elevate vague invocations of statutory purpose over the words Congress chose.”¹⁰⁷ Finally, the court noted it was not confronted with the question of whether inventions made by humans with AI assistance were eligible for patent protection.¹⁰⁸

Thaler next invoked “the canon of constitutional avoidance.”¹⁰⁹ Thaler argued allowing AI inventors would support

⁹⁹ *Id.* at 1320.

¹⁰⁰ *Id.* at 1323.

¹⁰¹ *Id.*

¹⁰² *Id.*

¹⁰³ *Id.*

¹⁰⁴ *Beech Aircraft*, 990 F.2d at 1248 (citing 35 U.S.C. §§ 115-118).

¹⁰⁵ *Thaler*, 43 F.4th at 1213.

¹⁰⁶ *Id.*

¹⁰⁷ *Sw. Airlines Co. v. Saxon*, 596 S. Ct. 1738, 1792-93 (2022).

¹⁰⁸ *Thaler*, 43 F.4th at 1213.

¹⁰⁹ *Id.* “The canon of constitutional avoidance provides that ‘[w]hen “a serious doubt” is raised about the constitutionality of an act of Congress,’ courts should ‘first ascertain whether a construction of the statute is fairly possible by which the question may be avoided.’” Appellant’s Br. at ¶ 31 (citing *Veterans4You LLC v. United States*, 985 F.3d 850, 860-61 (Fed. Cir. 2021)).

80 *DEPAUL J. ART, TECH. & IP LAW* [Vol. XXXIII:

the constitutional purpose of patents¹¹⁰—in short, progress. In Thaler’s view, excluding the cutting-edge class of AI inventions from patentability would undermine progress because “inventions most benefiting mankind are those that ‘push back the frontiers of chemistry, physics, and the like.’”¹¹¹ The court shut down this argument by noting the patent provision in the Constitution is a grant of legislative power to Congress and Congress passed the Patent Act pursuant to that power.¹¹² The court concluded the canon of constitutional avoidance was inapplicable, considering Thaler did not, and could not, argue limiting inventorship to only humans is unconstitutional.¹¹³

Lastly, Thaler pointed to the fact South Africa granted patents to DABUS as an inventor, which the court found irrelevant.¹¹⁴

III. CONCLUSION AND WHAT’S NEXT?

The court agreed with both the USPTO and the district court that an AI system cannot be listed as an inventor, concluding the Patent Act requires an “inventor” to be a natural person.¹¹⁵ The Federal Circuit later denied Thaler’s request for rehearing en banc, without comment, bringing at least temporary finality to the decision for the two patents at issue.¹¹⁶ However, Thaler remains in the fight, planning to bring the issue to the Supreme Court.¹¹⁷

¹¹⁰ *Id.*; “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.” U.S. Const. art. I, § 8, cl. 8.

¹¹¹ Appellant’s Br. at ¶ 31 (quoting *Diamond v. Chakrabarty*, 447 U. S. 303, 316 (1980)).

¹¹² *Thaler*, 43 F.4th at 1213.

¹¹³ *Id.*

¹¹⁴ *Id.*

¹¹⁵ *Id.*

¹¹⁶ John Villasenor, *Patents and AI inventions: Recent court rulings and broader policy questions*, BROOKINGS (Aug. 25, 2022), <https://www.brookings.edu/blog/techtank/2022/08/25/patents-and-ai-inventions-recent-court-rulings-and-broader-policy-questions/>.

¹¹⁷ Kelcee Griffis & Samantha Handler, *AI Inventorship Ruling Inches Closer to Supreme Court Appeal*, BLOOMBERG LAW (Oct. 20, 2022), <https://news.bloomberglaw.com/ip-law/ai-inventorship-ruling-inches-closer-to-supreme-court-appeal>.

Thaler's test case seems, for the time being, equally doomed in foreign jurisdictions. Australia, the European Union, Germany and the United Kingdom have also rejected applications listing DABUS as an inventor, on similar grounds to the USPTO.¹¹⁸ However, South Africa granted the world's first patent to an AI inventor to DABUS¹¹⁹, though commentators note South Africa does not yet have a substantive examination system.¹²⁰

Thaler's pursuit of AI autonomy in promoting the progress of science and useful arts continues with his recently filed suit against the U.S. Copyright Office.¹²¹ Thaler claims DABUS created a 2D visual work entitled "A Recent Entrance to Paradise." The U.S. Copyright Office refused registration because the application did not name a human author.¹²²

Currently, commentators disagree with Thaler's view that AI should be recognized as inventors. There is a general consensus among practitioners that current intellectual property law in the United States is well-calibrated to address the rise of AI.¹²³ However, some feel it may be difficult to enable certain AI inventions, under 35 U.S.C. § 112(a).¹²⁴ Many agree that gaps left by intellectual property law could be adequately filled by commercial law, such a contract.¹²⁵

The court declined to address the metaphysical matters of this case, as was its prerogative. However, AI is already considering metaphysical matters, within seconds. Perhaps with the speed of our judicial system, courts should start.

¹¹⁸ Masutani & Schneider, *supra* note 36.

¹¹⁹ Andrew Karpan, *South Africa Issues World's First Patent With AI Inventor*, LAW360 (July 28, 2021), <https://www-law360-com.ezproxy.depaul.edu/articles/1407508/south-africa-issues-world-s-first-patent-with-ai-inventor>.

¹²⁰ Masutani & Schneider, *supra* note 36.

¹²¹ Compl. at ¶ 12, *Thaler v. Perlmutter*, Case No. 1:22-cv-01564 (D.D.C.).

¹²² Michael Kasdan & Brian Pattengale, *A Look At Future AI Questions For The US Copyright Office*, LAW360 (Nov. 10, 2022, 4:16 PM), <https://www-law360-com.ezproxy.depaul.edu/articles/1547912/a-look-at-future-ai-questions-for-the-us-copyright-office>.

¹²³ UNITED STATES PATENT AND TRADEMARK OFFICE, *supra* note 11.

¹²⁴ *Id.*

¹²⁵ *Id.*