

The COMPUTER & INTERNET *Lawyer*

Volume 39 ▲ Number 2 ▲ February 2022

Ronald L. Johnston, Arnold & Porter, Editor-in-Chief

Artificial Intelligence as Inventor: DABUS Global Status

By Paul Ragusa and Nick Palmieri

Dr. Stephen Thaler is credited with inventing an Artificial Intelligence (“AI”) entity that he called a “Device for Autonomous Bootstrapping of Unified Sentence” (“DABUS”). But the story does not end there. The DABUS entity thereafter went on to generate two new inventions, a food container and a “neural flame,” which Dr. Thaler then used as the basis of several patent applications throughout the world, listing DABUS as the sole inventor.

Despite the significance of having “the first instance of an AI being listed as an inventor in a published PCT application,”¹ the “DABUS Applications” have faced varying success.

Initially filed as an international application under the Patent Cooperation Treaty, the first DABUS Application,

Paul Ragusa is a partner in the Intellectual Property section of the New York office of Baker Botts LLP. His practice encompasses high technology and Hatch-Waxman patent litigation, inter-partes reviews, intellectual property portfolio management and licensing, including of standard-essential patents (“SEPs”). **Nick Palmieri** is an associate in the Intellectual Property section of the firm’s New York office. The authors may be contacted at paul.ragusa@bakerbotts.com and nick.palmieri@bakerbotts.com, respectively.

PCT/IB2019/057809,² discloses a stackable beverage container as well as a device to attract attention. In some countries, inventorship of its AI was allowed; in others, inventorship has been outright denied. Regardless of the ultimate disposition of these applications, they signal a major question facing the patent world in the coming years: Can an AI entity be an inventor?

United States

U.S. Patent and Trademark Office

U.S. Application No. 16/524,350, faced scrutiny at the U.S. Patent and Trademark Office (“USPTO”). During prosecution, the USPTO issued a Notice to File Missing Parts, asserting that the filed Application Data Sheet (“ADS”) failed to identify each inventor by their legal name. In response, rather than amending the ADS, DABUS’s owners filed a petition for reconsideration to the deputy commissioner of the USPTO, under 37 C.F.R. 1.181.

In its response, which affirmed the USPTO’s denial, the commissioner relied on a number of statutory provisions and several appellate cases³ to find that the “rules limit inventorship to natural persons,”⁴ and, since DABUS does

Artificial Intelligence

not qualify as a natural person, to uphold the USPTO's requirement that a proper inventor must be indicated on the application in order for it to be processed. Importantly, neither the USPTO nor the commissioner examined patentability of the applications on their merits, denying further examination as a "proper" inventor was not present, more a procedural denial than a substantive one.

In the denial, the commissioner noted that Title 35 of the U.S. Code consistently "refers" to inventors as natural persons, such as 35 U.S.C. § 101, which states "[w]hoever invents or discovers. . . ." The commissioner also cited to the holding of the U.S. Court of Appeals for the Federal Circuit that "a state could not be an inventor," as further support for the proposition that the inventor of a patent must be a natural person.⁶

U.S. District Court for the Eastern District of Virginia

Undaunted by this denial, DABUS's owners appealed to the U.S. District Court for the Eastern District of Virginia,⁷ asking the court to overturn the petitioner's decision and allow the application through for full examination. Ultimately, though, the court sided with the USPTO, granting its motion for summary judgment and dismissing Dr. Thaler's case.⁸

The court noted that the USPTO's decision was entitled to deference regarding its interpretation of the relevant patent statutes, and even if it was not entitled to deference, that the USPTO's decision was accurate under the law.⁹ Citing to a number of cases, which reinforce not only Congress' intent that an inventor be a natural person, but also that ordinary precepts of statutory interpretation (including the ordinary definition of the term "individual") support this requirement.¹⁰

DABUS's owners alleged that there were significant policy arguments in favor of finding that an AI entity could be an inventor, but the court did not find these arguments persuasive. In its view, such policy arguments could not override Congress' clear intent that an inventor must be a natural person.¹¹ Dr. Thaler has reportedly promised to appeal this decision to the Federal Circuit.¹²

United Kingdom

UKIPO and Patents Court

Within the United Kingdom, the DABUS applications (GB1816909 and GB1818161) faced similar issues as within the United States. After an initial denial at the Intellectual Property Office of the United Kingdom ("UKIPO") for failing the statutory requirements of inventorship, the decision was appealed up to the High Court of Justice, Patents Court, which issued its decision on September 21, 2020.

Justice Marcus Smith, in interpreting the requirements of the Patents Act of 1977, held (as in the United States) that an AI entity must be a natural person, dismissing the policy arguments put forth by Dr. Thaler.¹³

In his opinion, Justice Smith sets forth a number of ways the DABUS Applications could not proceed.

First, under Section 7 of the Patents Act of 1977, the applicant must be either a natural or a legal person (which DABUS clearly is not).¹⁴

Next, the judge determined that (even if Dr. Thaler is the applicant, not DABUS), then DABUS was still not able to legally transfer ownership of the application to Dr. Thaler.

Specifically, Dr. Thaler has conceded that he is not the inventor and that DABUS is not a person. As a result, the application would have to be transferred to him by means of a some legal right; however, DABUS, as an AI (and not a natural or legal person) has no ability to transfer such a right. As such, there was no mechanism in place whereby Dr. Thaler can be made the applicant.¹⁵

Court of Appeal

Dr. Thaler made some progress at the Court of Appeal, though ultimately the DABUS Applications were still denied. In a split panel decision, by Justices Arnold, Laing, and Birss, issued on September 21, 2021, the appeal was dismissed.¹⁶

Justice Birss, who wrote the opinion, first determined that under the Patent Act of 1977, an inventor was required to be a person (natural or legal), which DABUS failed.¹⁷ Regarding identification of the inventor, Justice Birss disagreed with the High Court's decision, stating that Section 13 of the Act did not require the UKIPO to investigate the factual background the applicant's statements about the inventor. Instead, it required the applicant to make a proper statement about the inventor: "[t]he fact that the creator of the inventions in this case was a machine is *no impediment* to patents being granted to this applicant."¹⁸ Where the application fails, though, is under Section 7 of the Patent Act, as there is (similar to the High Court's opinion) no mechanism in place for the transfer of DABUS's "right" to a patent to Dr. Thaler, since DABUS is not a person under the law.¹⁹ Notably, Justice Birss disagreed with his colleagues, and would not have deemed the application withdrawn.²⁰

European Union

EPO

In two decisions issued on January 27, 2020, the European Patent Office ("EPO") denied both DABUS Applications that were pending before the EPO

(EP18275163 and EP18275174), determining that an AI entity could not exercise or fulfill the legal requirements of inventorship.²¹

Following oral argument on November 25, 2019, the EPO determined that designation of a machine as the inventor does not meet the formal requirements of Article 81, Rule 19(1) of the European Patent Convention. In reviewing the legislative history of the law, the board determined that only a natural person could be an inventor.²² This is, in part, a result of the rights that are guaranteed to an inventor under the EPC, including the right to transfer their rights in an invention. Since an AI (or other machine) cannot exercise these rights, it cannot “claim” the benefits of an inventorship.²³ The applicant’s allegation that DABUS was an “employee” under an obligation to assign to its owners was similarly lacking, as machines “cannot have any legal title over their output.”²⁴

EPO Board of Appeal

In response to the EPO’s initial denial, DABUS’s owners have appealed to the EPO Board of Appeal, alleging similar arguments as were made in appeals in the U.S. and U.K. On June 21, 2021, in advance of oral argument, the board issued its preliminary view of the merits of the proceedings.²⁵

In the board’s view, the inventor “must be a person having legal capacity.”²⁶ Expanding the meaning of the term inventor would go beyond the meaning of the relevant statutes and does not conflict with any existing treaties regarding the protection of intellectual property rights, such as patents.²⁷ The board is careful to limit the scope of what its decision (or rather, the scope of what its denial of the appeal) would mean, noting that its ing “would not mean that under the EPC an application is to be rejected where the applicant refuses to indicate a natural person as inventor because in his opinion the invention was made without any causal human contribution.”²⁸ Rather, the decision expressed that a person would have no right to “indicate a machine as inventor in the form to be submitted in order to comply with Article 81 EPC.”²⁹

South Africa

In spite of the setbacks in the United States, the United Kingdom and the European Union, the DABUS Applications gained their first win in South Africa (ZA App. No. 2021/03242), where on June 24, 2021, the application was allowed (and issued in July).³⁰

However, no opinion or ing was provided for the allowance, and South Africa’s patent office does not appear to perform an exhaustive examination of patents on their merits. Instead of examination, South Africa appears to rely upon applicants to make adequate

searches, and an ex post system of invalidation in order to ensure that valid patents remain in force.

So, while the grant is a certifiable win for the DABUS team, ultimately it provides little persuasive force to other patent offices, and it may still be subject to invalidation later on.

Australia

After an initial denial by the Australian intellectual property office, IP Australia, the DABUS applications achieved its first success in court when denial was overturned by the Federal Court of Australia.³¹

In an opinion by Judge Beach, issued on July 30, 2021, the court overturned IP Australia’s denial of AU App. No. 2019/363177, determining that the patent office should not have ruled out substantive consideration of Dr. Thaler’s application. The court set forth six general observations to support its decision, noting that:

- There is no specific provision refuting the proposition that an AI entity can be an inventor;
- There is no aspect of patent law requiring a human inventor (unlike moral rights in copyright law);
- The Act/Regulation does not define the term “inventor”;
- The widening conception of “manner of manufacture” in Australian patent law suggests that “inventor” can be viewed in a widened matter;
- The “object claim” of the Act supports expanding the definition of “inventor” for public policy s; and
- The focus of the act is on inventive step of an application, not inventorship.³²

Judge Beach took particular focus on Section 15 of the Australian Patent Act, which, in his words, governs the grant of a patent, not necessarily the prosecution and examination of the application. This section requires that an inventor be named, and that a patent be granted to a person.³³ So while the patent cannot be granted to DABUS, that detail should not interfere with examination of the application, since Dr. Thaler has clearly named an inventor. Even on this point, Judge Beach also suggested that Dr. Thaler may fall within the bounds of Section 15(1)(b), which allows for grant of a patent to one “who is entitled to it,” and appears to include certain equitable situations where a formal assignment is not executed.³⁴ Regardless, the court noted that he is entitled to make

Artificial Intelligence

this argument when the time arises, that is, at the time of grant of the application, which requires examination.

The court further states that Dr. Thaler falls prima facie under Section 15(1)(c), which allows grant to issue to one who “derives title to the invention from the inventor.”³⁵ Taken together, these two provisions justify a full examination of the DABUS Application on its merits, with questions of grant being resolved at the appropriate time.

IP Australia has already published its intent to appeal the decision. In its words, the patent office considers that the “legislation is incompatible with permitting an AI to be an inventor” and the issue is one of importance to the public and which should be addressed by the Australian courts.³⁶

Pending

In addition to each of the above cases, there are also DABUS applications pending in more jurisdictions, including:

- Brazil (BR11-2021-008931-4);
- China (CN2019-800061580);
- India (IN2020-17019068);
- Israel (268604 and 268605);
- Japan (JP 110001519);
- New Zealand (NZ 776029);
- South Korea (KR10-2020-7007394);
- Saudi Arabia (521422019);
- Switzerland (00408/21); and
- Taiwan (TW108137438 and TW108140133).

Regardless of the decisions in these cases, DABUS has brought the role of the AI entity in patenting to the forefront. Whether these applications are denied or allowed, they have sparked a conversation on whether AI should be, or could be, involved in the patenting process, a conversation that will continue forward as AI becomes more involved in the research and development process.

Notes

1. Benita Rose Matthew, *The First Time an AI Has Been Listed as an Inventor in a Published “International” Application, ARTIFICIAL INVENTOR* (June 9, 2020), <https://artificialinventor.com/the-first-time-an-ai-has-been-listed-as-an-inventor/>.

2. Published as WO2020/079499.
3. See *Beech Aircraft Corp. v. EDO Corp.*, 990 F.2 1237 (Fed. Cir. 1993); *Univ. of Utah v. Max-Planck-Gesellschaft zur Forderung der Wissenschaften e.V.*, 734 F.3d 1315 (Fed. Cir. 2013).
4. Robert W. Bahr, Deputy Commissioner for Patent Examination Policy, *In re Application of Application No.: 16/523,350: Decision on Petition* at 6 (April 22, 2020), https://www.uspto.gov/sites/default/files/documents/16524350_22apr2020.pdf?utm_campaign=subscriptioncenter&utm_content=&utm_medium=email&utm_name=&utm_source=govdelivery&utm_term=.
5. *Id.* at 4 (emphasis in original).
6. *Id.* at 4–5 (citing *Max-Planck-Gesellschaft*, 734 F.3d 1315).
7. *Thaler v. Hirshfeld*, 1:20-cv-00903 (Filed August 6, 2020).
8. See Memorandum Opinion Granted Defendants’ Motion for Summary Judgement, *Thaler v. Hirshfeld*, 1:20-cv-00903, ECF No. 33 (Filed Sept. 2, 2021).
9. *Id.* at 8–9.
10. *Id.* at 10–13.
11. *Id.* at 17.
12. See Gourdin Sirles, Baldassare Vinti, Updated on Artificial Intelligence: Court Rules that AI Cannot Qualify as “Inventor,” *The National Law Review* (Sept. 9, 2021), <https://www.natlawreview.com/article/update-artificial-intelligence-court-rules-ai-cannot-qualify-inventor>.
13. *Thaler v. Comptroller-General of Patents Designs and Trade Marks*, [2020] EWHC 2412 (Pat) (Sept. 21, 2020).
14. *Id.* ¶¶ 34–36.
15. *Id.* ¶ 49.
16. *Thaler v. Comptroller General of Patents Trade Marks and Designs*, [2021] EWCA Civ 1374 (Sept. 21, 2021).
17. *Id.* ¶¶ 49–56.
18. *Id.* ¶¶ 57–78, 97.
19. *Id.* ¶¶ 112, 149.
20. *Id.* ¶¶ 98.
21. See EPO Published Grounds for Its Decision to Refuse Two Patent Applications Naming a Machine as Inventor (Jan. 28, 2020), <https://www.epo.org/news-events/news/2020/20200128.html>.
22. See Grounds for the Decision re. Application No. 18 275 174.3 ¶ 24 (Jan. 27, 2020), <https://register.epo.org/application?documentId=E4B63OBI2076498&number=EP18275174&lng=en&npl=false>.
23. *Id.* ¶ 27.
24. *Id.* ¶ 32.
25. Communication of the Board of Appeal Pursuant to Article 15(1) of the Rules of Procedure of the Boards of Appeal, Appeal No. J0008/20-3.1.01 (June 21, 2021), <https://register.epo.org/application?number=EP18275163&lng=en&tab=doclist>.
26. *Id.* at 5.
27. *Id.* at 5–6.
28. *Id.* at 6.
29. *Id.*

30. Ryan Abbott, First Patent Granted to the Artificial Inventor Project, ARTIFICIAL INVENTOR (July 28, 2021), <https://artificialinventor.com/first-patent-granted-to-the-artificial-inventor-project/>.
31. See *Thaler v. Commissioner of Patents*, [2021] FCA 879 (July 30, 2021).
32. *Id.* ¶¶ 118–22, 135.
33. *Id.* ¶¶ 157–58.
34. *Id.* 166–75.
35. *Id.*
36. Commissioner to Appeal Court Decision Allowing Artificial Intelligence to be an Inventor, IP AUSTRALIA (August 30, 2021), <https://www.ipaustralia.gov.au/about-us/news-and-community/news/commissioner-appeal-court-decision-allowing-artificial-intelligence>.

Copyright © 2022 CCH Incorporated. All Rights Reserved.
Reprinted from *The Computer & Internet Lawyer*, February 2022, Volume 39,
Number 2, pages 3–6, with permission from Wolters Kluwer, New York, NY,
1-800-638-8437, www.WoltersKluwerLR.com

