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AI as Legal Investors?

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Thaler v. Hirshfeld, decided by the U.S. District Court for the Eastern District of Virginia on September 2, 2021, ruled that artificial intelligence (AI) systems could not be listed as inventors on patent applications. The court wrote that, "based on the plain statutory language of the Patent Act… the clear answer is no." However, this interpretation insufficiently addresses the ordinary meaning of the statutory text and the ambiguous congressional and constitutional intent behind U.S.C. Title 35, or the Patent Act. In contrast to the court's view, the Patent Act leaves enough room for granting AI inventorship. Ultimately, the ambiguity around AI's ability to be an inventor demands more congressional clarity and less judicial intervention.

Before I defend my argument, I want to note that this article does not explore Skidmore deference, which implies that the court ought to defer to federal agency interpretations in proportion with the agency's ability to persuade, such that the court may be obligated to default to the US Patent Office's interpretation of the Patent Act in *Thaler.* Because of this, I do not argue against the *Thaler* ruling specifically; rather, I question the statutory interpretation employed in the court's decision absent its deference to the United States Patent and Trademark Office (USPTO). My argument takes issue with the court's claim that "[e]ven if no deference were due, the USPTO's conclusion is correct under the law."

The Patent Act uses the word 'individual' to define inventors, meaning that if 'individual' can be found to imply natural personhood, inventorship must also be restricted to natural persons. The court relies on the Dictionary Act—which defines "persons" as "corporations, companies, associations, firms, partnerships, societies, and joint stock companies," followed by the phrase "*as well as* individuals"—

to support its purported ordinary meaning interpretation of 'inventor.' In theory, the use of "as well as" here establishes "individual" as "distinct from the list of artificial entities that precedes it." It is not clear, however, that artificial intelligence would inherently fall under the same category as corporations, companies, and associations. The court's analysis does not properly account for this nuance.

The court then cites several federal circuit holdings to support its interpretation, particularly referencing the ruling in *Univ. of Utah v. Max-Planck* (2013) that "[i]t is axiomatic that inventors are the individuals that conceive of the invention: [c]onception is the touchstone of inventorship," and that "[t]o perform this mental act [of conception], inventors must be natural persons and cannot be corporations or sovereigns." This ruling, however, was made in deciding whether *corporations* ought to be granted inventorship and does not necessarily provide a justification for the exclusion of AI: the philosophical discussion regarding AI's ability to "think" or have conscious experiences like humans is ongoing, but AI systems can clearly generate and thus "conceive" of ideas in some sense. In *Thaler,* the plaintiff is explicit in stating that he did not conceive of the invention he was attempting to patent, nor did any other natural person. The invention, however, undeniably *exists,* and if conception is indeed the "touchstone of inventorship," we might ask ourselves who, if not Thaler's AI system, could have done the conceiving.

When statutory interpretation based on ordinary meaning is at best, ambiguous, it is worth looking at the broader statutory context. Specifically, one must examine Congress's intent in crafting what is both the most recent reform to the Patent Act at the time of writing and the legislation that introduced the term "individual." The Leahy-Smith America Invents Act of 2011 substantially reformed the existing Patent Act with a first-to-file rather than first-to-invent system, new procedures for patent application reviews, and the expansion of prior user rights. This legislation also established the aforementioned definition of "inventor" as "the individual(s)… who invented or discovered the subject matter of an invention." Reviewing the legislative debate, this definition seems to have been added merely to ensure that upon the introduction of a first-to-file system, applicants would still be tasked with proving they truly invented what they were trying to patent; they would just need to prove that they invented it *first.* In other words, the definition was not included with the intention of restricting the entities who could access inventorship. Rather, it was included to restrict 'inventor' to an authentic source of invention.

Congress almost certainly did not intend to exclude AI systems through the use of the word "individual." Although 2011 saw advancements in AI image recognition and natural language processing, the subject remained an academic niche and was

never mentioned in the years of legislative debate that preceded the America Invents Act. Indeed, AI only gained significant attention in US political discourse a decade later, when Andrew Yang made its potential to disrupt the labor market a key issue in his 2020 presidential campaign. Congress likely did not foresee that AI systems would ever demand consideration in questions of inventorship. The 2011 law, then, gives no specific answer to the question posed by *Thaler*. If anything, the exigency for the America Invents Act—articulated as to promote economic growth, global competitiveness, and scientific progress—implies that this Congress may have been amenable to AI inventorship, were it a pressing issue at the time.

If congressional intent regarding AI is *also* ambiguous, the Patent Clause of the Constitution may provide insight. Article I, Section 8, Clause 8 of the Constitution gives Congress 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." This clause is clearly intended to promote innovation and is purposefully vague, as the Founders knew they could not predict how or what inventions would be made hundreds of years in the future. The only specifications made here are that patents can be granted to "authors and inventors" for "writings and discoveries." This language does not preclude the possibility of AI inventorship, and it may even be interpreted as a deliberate way to account for the ever-changing landscape of innovation without requiring constant legislative amendments. Of course, the Founders likely thought that "authors and inventors" included only natural people, since no other beings at their time would count as inventors. More historical context would be needed to answer this definitively, but the ambiguity I have isolated is sufficient to show there is still room to think that AI inventorship is not beyond the congressional or constitutional pale.

Ambiguous statutory context ought to guide courts in the direction of affirming AI inventorship, or at least practicing judicial restraint. New technology and statutory opaqueness demand clear congressional input, and the courts risk overstepping their boundaries into legislative territory if they ignore this. As the innovative potential of AI systems becomes more apparent and legal scholarship in the field advances, we should not expect *Thaler* to be the final word on this matter.