

Thaler, Artificial Intelligence and the Law

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Dr Stephen Thaler, the inventor of the Device for the Autonomous Bootstrapping of Unified Sentience (DABUS), is a giant of the Artificial Intelligence (AI) and machine learning world. This is naturally so, given his invention of DABUS, an autonomous programme capable of creation to a limited degree. He cuts a more controversial figure in the legal world, however. In his efforts to have DABUS recognized as an autonomous inventor capable of acquiring a patent as any human inventor, he has engaged in a globe-trotting campaign, launching cases in the UK, US, and in Australia. The most recent of these cases was just this year in 2021, in Australia, and the decision was nothing short of revolutionary: the Australian court permitted Dr Thaler's appeal, holding that an AI is capable of autonomous invention and can acquire patent rights vis-à-vis its invention. What does this decision, in light of prior dismissals across other jurisdictions, mean for inventorship rights and the future of AI?

Each of the cases revealed prevailing attitudes regarding artificial intelligence. The US case of *Thaler v Hirshfeld* suggested that, as at the heart of an invention is an inventive concept, for an inventive concept to be formed or contributed to, first the inventor must be capable of conception. The case set a threshold for invention at conception, holding that this is the rationale for why legal persons like companies and governments are not handled under the same provision as natural person inventors; legal persons, by another device, such as an operation of law or a contractual agreement, gain the patent rights that would ordinarily be assigned to the natural person inventor. Since software does not possess a mental state, it cannot be deemed to have any conception of an idea, and thus cannot be said to have contributed to the inventive concept and be an inventor.

In the UK, under *Thaler v The Comptroller-General of Patents* [2020], courts came to a similar conclusion. The courts disqualified AI from inventorship and patent rights on two bases. Similar to the US courts, they held that 'once the notion of an "inventive step" is factored in, the restriction of the term "inventor" to natural person becomes inevitable...There is some sense in keeping the definition of inventor close to that which must arise out of the mind of an individual.' This is why legal persons are afforded other pathways by having inventorships rights attributed to them by other mechanisms, not by being deemed inventors themselves. AIs are not afforded this route either, as no law has declared AI as legal persons in the manner companies, governments, ships etc have been. Therefore, even if inventorship rights were to be assigned to AI, an inventor without legal personality cannot own or transfer anything – so there are no rights to be owned or to be transferred.

But the Australian courts turned these decisions on their head. In *Thaler v Commissioner of Patents* [2021], the courts ruled that an AI could be considered an inventor. Analogizing to the meaning of 'computer' and how that has changed over time, the courts noted that the definitions of words change to meet with the times and to deny inventorship rights in this case on semantic reasons would be to accept that many otherwise patentable inventions could be denied patents because it cannot sensibly be said that a human is the inventor of said inventions. The courts noted that to keep up with the developments of the modern age the concept of inventor should be seen in a flexible and evolutionary way that reflects that patent law has to be updated to keep pace with current scientific discoveries. Furthermore, not recognizing the reality of AI inventorship would be problematic, as it would be unfair to reward the human owner of an AI with a patent for the recognition of an invention when that 'inventor' has not significantly contributed to the innovative process.

These cases focus the debate on what it means to be an inventor, because inventorship rights include the right to apply for patents, and patents are the core mechanism of how the globe manages intellectual property. The consequences of these decisions however, have a wider impact – what is being asked here essentially is a subset of that grandiose question: can artificial intelligence be sentient? One of the hallmarks of sentience is the capacity for original thinking; the act of creating an inventive concept that is original is hence a hallmark of sentience. The Australian court's decision is radical because it prises open a door in an already oncoming future that we might not be ready to investigate. I will refrain from talk of the Singularity, world-conquering machines, and the Matrix; such conversations are best left to scientists and science fiction authors. But as participants of the legal field, we ought to understand the storm of questions the future of technological development in Artificial Intelligence is about to bring us.

Where does it leave human inventors, if AI is deemed capable of inventorship and is able to far outpace the rate of innovation that human inventors have on average? How can it possibly be moral to allow companies or institutions or individuals to own AI programmes if they are deemed capable of sentience? How can legal personhood provisions be allowed to operate when AI, unlike human inventors, have nothing to gain from such relationships?

These are the very notions that the Australian courts have now invited consideration upon. I do not attempt to answer them, for these queries demand the efforts of minds far more able than my own. I merely seek to concretize the questions that are forthcoming. Though the future of AI is a field of technology that continues to capture the dreams of people, the law has a responsibility to safeguard those it was promulgated to protect. Recognizing that Pandora's box has been prised open and there is no slamming it shut is a first step to doing so.

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