

The Artificial Intelligence Entity As a Legal Person

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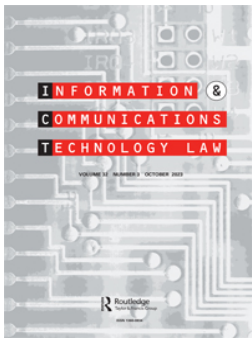
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The artificial intelligence entity as a legal person

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ABSTRACT

This article discusses the legal position of an Artificial Intelligence Entity (AIE) that is able to create something novel, like an artwork. Rather than examining a fictitious being, I inquire the position of human beings, comparing it with that of a conceivable AIE. The nature of an AIE in terms of matter and mind is compared with that of a human being, after which it is inquired whether it may, like a human being, be deemed a legal person. This analysis serves as a prelude to the question of whether an AIE may be a copyright owner.

KEYWORDS


Artificial intelligence;
autonomy; personhood;
creativity; copyright

1. Introduction

The idea of a thinking machine that is able to create a work of art may seem absurd. Since it is at least conceivable, however, that such a machine may at some time come into existence, it is worthwhile to consider the consequences of such a situation. An inquiry such as the present one is too short to expect an exhaustive exploration, and it is focused on the relevant aspects of copyright.

In order to determine what the nature of such a machine might be, one may approach the matter from one of two perspectives. The first consists in examining the nature of the machine itself. This would be impossible, since, apart from the problems involved with a Turing test I will not explore in detail here (one of which will only be touched upon below, in section 3), the machine in question (presumably) does not yet exist. The second focuses on human beings, comparing them with the hypothetical machine, and is preferable for this very reason: the position of actual beings may relatively easily be explored. If human beings exhibit qualities on the basis of which certain rights should apparently be granted to them, the question presents itself whether those qualities are peculiar to them or may rather feature in other entities as well.

The question whether the machine deserves recognition and, in particular, should be granted certain rights is a familiar one. If one accepts the premise that human beings deserve respect and have certain (inalienable) rights on the mere basis that they are human beings, then no machine will ever be treated the same way, unless the definition of 'human beings' is broad enough to include it. Yet the validity of that very premise may be questioned, *inter alia* because it is not clear what makes a human being – presuming

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that it is clear how ‘human being’ may be defined, which is not even the case – eligible for special treatment, compared with, for example, a dog; the matter whether a dog would benefit from being granted certain rights may be disregarded, since that is not what is at issue here. What *is* at issue is rather whether a machine that is similar, on a par or even superior – in relevant respects – to human beings should enjoy the same rights human beings enjoy.

The first issue that presents itself in discussing the position of a thinking, creating machine is what the characteristics are that it should share with human beings in order to be qualified as such a machine in the first place. Solaiman proposes the following criteria: ‘A robot as a possessor of artificial intelligence (PAI) is said to have five attributes: (1) the ability to communicate with others; (2) internal knowledge; (3) external or outside world knowledge; (4) some degree of intentionality; and (5) some degree of creativity’.¹ I will speak of AIE: ‘AIE’ is an abbreviation for an ‘Artificial Intelligence Entity’, i.e. a being with artificial intelligence, or – without the article – the plural, so ‘Artificial Intelligence Entities’. The first section will discuss the nature of an AIE.

Personhood may be associated with human beings, but it is important on what basis. Whether an AIE may in some sense be considered a (legal) person is considered in section 2, which thereby provides a preliminary inquiry for what is inquired in section 3. The issue of whether an AIE is able to create something novel is an important element in deciding whether to make it possible to allow it to be a (potential) copyright owner. This is, however, not the only issue that needs to be taken into consideration; some important concerns will be discussed in section 3.

2. The nature of an AIE

In order to answer the question whether AIE should in certain respects be (legally) treated the same as human beings it must first become clear what the nature of AIE is, and to what extent it may be the same as a human being. The question what it means to be a human being is difficult enough to answer, even for human beings themselves; attempting to define an AIE has its own intricacies. A basic distinction is that between weak AI (such as Amazon Alexa and ChatGPT) and strong AI, but it appears difficult to mark the first category off from the second, at least if ‘strong AI’ is not taken to entail a thinking entity, and even this caveat may not be sufficient, since ‘thinking’ is an ambiguous concept,² just as ‘intelligence’.

Searle presents an extensive conception of ‘strong AI’: ‘The prevailing view in philosophy, psychology, and artificial intelligence is one which emphasizes the analogies between the functioning of the human brain and the functioning of digital computers. According to the most extreme version of this view, the brain is just a digital computer and the mind is just a computer program. One could summarize this view – I call it ‘strong artificial intelligence’, or ‘strong AI’ – by saying that the mind is to the brain, as the program is to the computer hardware’.³

Self-consciousness may be considered a necessary condition for strong AI to exist, or, alternatively, a lower standard may be used, by which one holds that strong AI already

¹Sheikh Solaiman, ‘Legal Personality of Robots, Corporations, Idols and Chimpanzees: A Quest for Legitimacy’ (2017) 25 *Artificial Intelligence and Law* 155, 171, 172.

²Cf., e.g., Hubert Dreyfus, *What Computers Still Can’t Do* (MIT Press, 1992) 3, 77, 78.

³John Searle, *Minds, Brains and Science* (Harvard University Press, 1984) 28; cf. *The Rediscovery of the Mind* (MIT Press, 2002) 7.

exists if intelligence is manifested in solving problems that matches that of an average human being, or (far) surpasses it,⁴ so that consciousness would not be a characteristic of strong AI. It is not my goal to present a complete account of strong AI and I would not even pretend to be able to provide one here; nor is it necessary, for my purposes, to explore the issue whether and, if so, when strong AI with self-consciousness might somehow exist. Accordingly, I will approach the following questions hypothetically, so that the consequences of the presence of strong AI with self-consciousness will be inquired from the mere presumption that it might exist.

The meaning of 'mind' is a proper starting point. It may be hard to imagine an AIE having a mind, but it is not even a given that human beings themselves have – or are – a mind (and, if they do, what this might mean). Searle identifies computer rules with manipulating symbols, so that only syntactical processes are at issue,⁵ stating, consequently, that 'There is more to having a mind than having formal or syntactical processes'.⁶ Importantly, Searle observes: 'The reason that no computer program can ever be a mind is simply that a computer program is only syntactical, and minds are more than syntactical'.⁷

Perhaps this may be said of the computer programs that have been developed so far, but it does not follow from this given that computer programs are *necessarily* only syntactical. Shifting the focus to human beings, all one can observe in human beings other than oneself is that – just as in the case of computer programs – their syntactical operations are successful, not that they actually understand anything; the latter is rather a presumption. In addition, whether one is willing to accept an account like Searle's depends on what 'understanding' is taken to mean or at what point it is supposed to take place.⁸

Searle does address this issue,⁹ but – again – dogmatically clings to the idea that a computer program is defined purely syntactically. As long as it is not clear what makes the brain, in particular, capable of surpassing the syntactical level, such a stance is unwarranted, and insufficient to refute those who hold that they '[...] see no reason to think that human cognition is any less mechanical or more spontaneous than that of some possible artificial entities'.¹⁰

Indeed, Churchland and Churchland leave open the possibility of an AIE: 'Could science construct an artificial intelligence by exploiting what is known about the nervous system? We see no principled reason why not'.¹¹ Importantly, they consider the brain a kind of computer.¹² Buttazzo points out:

The most common objection to granting electronic-circuit-driven computers self-conscious status is the perception that, working in a fully automated mode, they cannot exhibit creativity, emotions, or free will. A computer, like a washing machine, is a slave operated by its

⁴Such as – in a particular field – the chess computer Deep Blue.

⁵Searle (n 3) 30, 31.

⁶ibid 31.

⁷ibid 31; cf. Pentti Haikonen, 'On Artificial Intelligence and Consciousness' (2020) 7 *Journal of Artificial Intelligence and Consciousness* 73, 76.

⁸Daniel Dennett, *Consciousness Explained* (Little, Brown and Company, 1991) 438.

⁹Searle (n 3) 35, 36.

¹⁰Eric Schwitzgebel and Mara Garza, 'A Defense of the Rights of Artificial Intelligences' (2015) 39 *Midwest Studies in Philosophy* 98, 104.

¹¹Paul Churchland and Patricia Churchland, 'Could a Machine Think?' (1990) 262 *Scientific American* 32, 37. Cf. Lawrence Solum, 'Legal Personhood for Artificial Intelligences' (1992) 70 *North Carolina Law Review* 1231, 1265, and Steven Livingston and Mathias Risse, 'The Future Impact of Artificial Intelligence on Humans and Human Rights' (2019) 33 *Ethics & International Affairs* 141, 149.

¹²Churchland and Churchland (n 11) 36, 37.

components. Logic demands, however, that I must apply this reasoning to machines' biological counterparts. At a neural level, the same electrochemical reactions present in machinery operate in the human brain. Each neuron automatically responds to its inputs according to fixed laws. However, these mechanisms do not prevent us from experiencing happiness, love, or irrational behaviors.¹³

It is useful, in case these excursions into the (potential) operations of AIE seem too outlandish, to complement the positions that have just been considered with Ryle's perspective, who focuses on human beings. He maintains that 'mind' (or 'the mind') is not located somewhere, but is rather a manifestation of capabilities.¹⁴ Accordingly, 'Overt intelligent performances are not clues to the workings of minds; they are those workings'.¹⁵ It is difficult, or perhaps impossible, to find a philosophical perspective that cannot in any way be criticized, so that it is not surprising that Ryle's has not engendered universal assent, but that does not mean that it cannot be taken seriously, and it is useful for my purposes.

AIE are composed of diverse – material¹⁶ – elements; the difficulty, those who maintain that a mind is necessary for something to be deemed an AIE would argue, would then be that a mind must supposedly somehow, once the elements have been brought together, supervene on those elements and, as it were, magically come forth. This is indeed difficult to explain. Yet how does this differ from what applies in the case of human beings? Someone who has suffered brain damage may lose certain cognitive functions and part of his mind may, accordingly, be said to be gone. In the case of people who have Alzheimer's disease, the mind gradually fades as the neurodegeneration progresses. Similarly, an AIE can only function properly if all its components are in place, or, more aptly, it can only *exist* as an AIE if this is the case. If it is disassembled, its parts remain, just as someone whose mind is gone leaves a body behind; in the case of a complex AIE, one may imagine a situation where removing certain elements leaves some (basic) functions intact, on the basis of which a strong AIE is reduced to a weak AIE.¹⁷

So one may hold that it is unclear how artificial intelligence might emerge on the basis of the 'input', i.e. the hardware and the process of machine learning, but the same may be said with respect to human beings: not only is it unclear what the human mind is (again, if this is taken to exist at all) and how it is related to the brain, but the existence of consciousness is not explained, either, nor is it clear how it may be related to the brain.

It may be objected to this admittedly reductionist stance that it fails to consider the fact that AIE are, of necessity, programmed whereas human beings are not (if 'abnormal' circumstances, such as 'mind control', are disregarded). Whether such an objection is valid depends on one's definition of 'programming'. Presuming human beings are not programmed in the same way as AIE, they may still be said to be programmed in the sense that their actions follow from the characteristics that constitute their being. Examples of possible characteristics are certain ideas with which someone has been brought up,

¹³Giorgio Buttazzo, 'Artificial Consciousness: Utopia or Real Possibility?' (2001) 34 *Computer* 24, 26.

¹⁴Gilbert Ryle, *The Concept of Mind* (Penguin Books, 1990 [1949]) 50.

¹⁵Ryle (n 14) 57; cf. 161 and 190.

¹⁶'Matter' is in fact an abstract notion, and according to some (notably, George Berkeley, *A Treatise concerning the Principles of Human Knowledge* (Thomas Nelson and Sons, Ltd., 1949 [1710]) pt 1, ss 17 (47, 48) and 35 (56)) even an untenable one. It is used here merely as the (possibly fictitious) counterpart to 'mind' (which may itself be equally fictitious).

¹⁷For a fictional illustration of what is meant, I refer to the deactivation procedure of HAL 9000 in the film *2001: A Space Odyssey*.

or someone's genotype. Human beings (at least 'normal' ones) are (presumably) far more complex beings than AIE – at least the AIE that have been developed so far –, but that is a matter of *gradation* rather than of *quality*.

To be sure, it seems difficult or even impossible to (precisely) predict someone's behavior, even if it is known of which characteristics he or she is composed, but that does not *principally* rule out the possibility of correctly predicting someone's behavior and this state of affairs merely testifies to human beings' limitations with respect to the ability of analyzing the behavior of (other) human beings.

Human beings are normally able to contemplate the consequences of possible actions and decide to abstain from performing them, in contradistinction to AIE. Yet the crucial question is on what *basis* they decide whether to perform certain actions and abstain from performing others. If the characteristics just mentioned are decisive (and may, albeit – ironically – somewhat anthropomorphically, be said to 'decide' which actions are performed), the distinction between AIE and human beings is not principled but rather practical, since the issue is reduced to the given that the type of AIE under discussion has not been realized. The distinction between human beings and AIE is, in such a conception, not absolute.

Such a perspective may be deemed *too* reductionist, since it does not seem to leave any room for a free will. Whether a 'free will' exists or, more fundamentally, what it might mean, is a main issue in philosophy; I would not venture to treat it in this modest margin and thus limit myself in remarking the following.¹⁸ It is important to distinguish between freedom and 'free will'; the former may be observed in a feather being carried by the wind as well as in human beings walking down the street. A feather – presumably – does not have a 'free will'; human beings are far more complex beings than feathers, but that given is not, in and of itself, proof of the existence of 'free will'. It cannot be presumed to exist and the burden of proof is, accordingly, on those who claim that it exists rather than on those who deny its existence. They face the difficulty of demonstrating that human beings are not, or at least not fully, determined by their characteristics (the issue *which* characteristics in particular are decisive, depending on the circumstances, may be forgone here).

This means that they would have to prove on what basis, *apart from* the characteristics, an action might be possible. (The answer that this basis is 'free will' would obviously be unsatisfactory, as it would amount to a *petitio principii*, by invoking that which one attempts to explain.) So-called compatibilists try to avoid the issue by including 'free will' in deterministic processes, but they, too, will have to clarify what they mean by 'free will' and, when pressed to do so, face the same burden of proof.

In the absence of a 'free will', individual human beings' actions may be said to originate in factors they have not themselves created, such as (to reiterate) certain ideas with which someone has been brought up, or someone's genotype. (I do not claim, incidentally, that these elements are indeed determining factors, being unable to ascertain whether this is the case; in accordance with what I said above, I suspend judgment with respect to these details.) The same applies to AIE's actions (if actions are deemed to take place, which depends on one's the definition of 'actions'), which may be said to originate in factors such as their programming. An AIE may be said to be reducible to a computational

¹⁸For a discussion of this issue, see Jasper Doomen, 'Cornering "Free Will"' (2011) 32 *Journal of Mind and Behavior* 165.

system, but if human beings are factor-determined agents, the same may be said of a human being, including the mind, if it is accepted to exist in the first place.

These are, of course, not the only issues that may be raised when AIE are compared with human beings, and many valuable considerations may be added to this discussion, but for my purpose, namely, pointing to important similarities between human beings and AIE, what has been presented suffices. The next issue to address is whether AIE might, just as human beings, be legal persons.

3. The status of a legal person

In the previous section, I suspended judgment on the matter of whether strong AI entails self-consciousness. It is important to revisit this issue here in light of what will be inquired, namely, whether an AIE may be considered a legal person. In the first case, so if strong AI entails self-consciousness, it stands to reason to consider the possibility to grant AIE rights, if they understand what it means to have rights and if they benefit from having them. The fact that AIE do not have a body (or at least not a body that is vulnerable in the same way as that of a human being) is irrelevant, save for the issue of the right not to be physically harmed. In the second case, so if strong AI does not entail self-consciousness, it is not evident that having certain rights conferred on it is relevant for an AIE.

The existence of 'free will' in AIE as well as human beings has been questioned in section 1. On that basis, one might consider the issue of whether an AIE may be a copy-right owner moot: if 'free will' does not exist, then neither does autonomy, so that an AIE by definition cannot be the bearer of rights. This position fails to distinguish, however, between *legal* autonomy and *fundamental* autonomy. Legal autonomy is a relatively straightforward notion, granted to human beings without having first determined that they are fundamentally autonomous and thus act on the basis of a 'free will'. Legal autonomy, one might say, concerns solely outward acts, such as the freedom to enter into a contract, while fundamental autonomy, the existence of which may be questioned, expresses the ability to determine one's own will.

Fundamental autonomy, as Kant conceives it, is 'the basis of the dignity of human and every reasonable nature'.¹⁹ (It is important for what I will argue below to observe that Kant is, given his formulation, not a speciesist: he considers the possibility of reasonable beings other than human beings.) He defines it as 'the state of the will by which it is a law to itself (independently of any state of the objects of volition)'.²⁰ It is, according to Kant, on the basis of being autonomous that one must be considered an end in itself,²¹ which is (supposedly) possible in the domain to which one cannot gain insight on the basis of (theoretical) reason.²² The reasoning powers do not, then, constitute the decisive ground for a human being to be considered an end in itself; someone has 'dignity' on the basis of the capacity to act 'morally'.²³

¹⁹"Autonomie ist [...] der Grund der Würde der menschlichen und jeder vernünftigen Natur.", Immanuel Kant, *Grundlegung zur Metaphysik der Sitten* (Kant's collected writings. First section: works, vol. 4. Georg Reimer, 1903 [1785]) 436.

²⁰"[...] die Beschaffenheit des Willens, dadurch derselbe ihm selbst (unabhängig von aller Beschaffenheit der Gegenstände des Wollens) ein Gesetz ist.", Kant (n 19) 440.

²¹Immanuel Kant, *Kritik der praktischen Vernunft* (Kant's collected writings. First section: works, vol. 5. Georg Reimer, 1908 [1788]) 87.

²²Immanuel Kant, *Kritik der reinen Vernunft* (Kant's collected writings. First section: works, vol. 3. Georg Reimer, 1911 [1781/1787]), A 532 ff./B 560 ff., A 702/B 730, A 800 ff./B 828 ff.

This is not the place to inquire what ‘dignity’ or ‘morality’ might mean; it suffices to remark that it is not obvious that they have a meaning and, if so, what this would be. I have referred to Kant, who postulates rather than proves the principle of autonomy,²⁴ to point out that the fact that *fundamental* autonomy cannot be proved to exist in the case of AIE is no ground not to grant it *legal* autonomy. In the case of human beings, the law does not require proof for the existence fundamental autonomy in order to decide whether they may enjoy legal autonomy, nor is it clear what such a proof might look like, and whether it would be realistic to expect every (or even any) human being to pass the test.

One may consider fundamental autonomy to be the foundation of legal autonomy, in that only those who determine their own will should be legally autonomous, but, as I indicated, there is no need to acknowledge fundamental autonomy. Still, what interests might an AIE have in having certain rights? What could it, in other words, stand to benefit from them? The right not to be physically harmed would, presumably, not be relevant (unless one imagines a scenario in which an AIE becomes attached to the ‘body’ that contains it), but certain other rights, namely, those with respect to which AIE may be said to be on a par with human beings, cannot be dismissed as irrelevant.²⁵ Solum is right, then, to observe that ‘[...] one cannot, on conceptual grounds, rule out in advance the possibility that AIs should be given the rights of constitutional personhood’.²⁶

Still, ‘personhood’ is an ambiguous notion. Analogously to the notion of ‘autonomy’ discussed above, fundamental personhood and legal personhood may be distinguished: the former may be said to serve as the basis of the latter, so that only those who are *persons* may be acknowledged as *legal persons*. Such a perspective is untenable, for it is unclear what a ‘person’ is, and it may be defined in various ways, depending on the criteria one considers essential, for which no ‘true’ standard has been proven to exist, so that it is not clear why any one set of criteria would be better than another. For example, Locke clings to a narrow definition when he holds that a person is an intelligent being that persists over time, being able to contemplate its own existence all the while,²⁷ whereas Giubilini and Minerva, from a significantly different perspective, ‘[...] take ‘person’ to mean an individual who is capable of attributing to her own existence some (at least) basic value such that being deprived of this existence represents a loss to her’.²⁸

A quest for the ‘right’ definition (or ‘essence’) of ‘personhood’ may be in vain; in any event, a discussion of this issue would needlessly divert this inquiry. To those who would object that this does not release me from the obligation to make it clear on what alternative basis legal personhood could be granted, I reply that there is no need to refer to one or more absolute criteria, the question to which entities legal personhood is bestowed being decided by the legislature. Physical persons are (normally) considered legal persons; they are either – implicitly – presumed (in whatever way) by the legislature to be persons (in accordance with a conception of ‘personhood’ that is deemed decisive), or the issue is simply not raised; human beings and/or (non-human) animals, or a subset

²³Kant (n 19) 436.

²⁴ibid 449; Kant (n 21) 132.

²⁵Cf. Solum (n 11) 1257.

²⁶Solum (n 11) 1260; Solum considers self-consciousness as a necessary condition for legal personhood (ibid 1264).

²⁷John Locke, *An Essay concerning Human Understanding* (The Works of John Locke, vol. 1. Rivington et al., 1824 [1690]) Book 2, ch. 27, s 9 (333).

²⁸Alberto Giubilini and Francesca Minerva, ‘After-Birth Abortion: Why Should the Baby Live?’ (2013) 39 *Journal of Medical Ethics* 261, 262.

of them, may be acknowledged as such. In the case of juridical persons, the personality is – legally – *created*, the (fundamental) personality being undeniably fictitious; perhaps fundamental personhood itself must also be deemed fictitious. Indeed, one may argue that ‘even the so-called physical person is an artificial construction of jurisprudence; it, too, is only a ‘juridical’ person’.²⁹ A physical person is not identical, then, with an actual (human) being, but a legal construction.³⁰

No principled objection exists, given the foregoing, against granting AIE legal personhood.³¹ It may be argued that they may be juridical persons, but one may even go so far as to say that they have more in common with human beings than with corporations.³² Alternatively, it has been argued that ‘A legal system by the people exists ultimately to protect the interests of the people. That is to say, the people currently recognized as such’.³³ Such a stance is problematic since it – dogmatically – presumes that the issue whose interests are relevant is settled once and for all. If only those (currently) recognized as people (by, importantly, those same people), ‘people’ being, incidentally, no mere innocuously *biological* conception but a *political* one, have certain rights, one unwarrantedly fails to leave open the option that ‘people’ may – in hindsight – prove to have been defined too narrowly.³⁴

It is not inapposite to present the – possible – emancipation of AIE as a development in line with the ever expanding list of those beings who are acknowledged as legal persons:

For robots, one can make a similar demand for consistency coupled with an emancipatory claim that can also be found in the animal rights movement broadly understood (based on deontological and utilitarian arguments): if (in the future) it turns out that robots share features with humans such as rationality or consciousness, then if we hold these features as a basis for human rights, why restrict those rights to humans? If they might one day become sentient, then why neglect their interests in avoidance of suffering? Why continue to treat artificially intelligent robots as things we can use or abuse if we have good reasons to include them in our community of moral consideration and rights? We have emancipated slaves, women, and some animals. First slaves and women were not treated as ‘men’. However, we made moral progress and now we consider them as human. In the past animals were treated as things, but we learned that many of them can feel and think. Now, or in the near future, it is time to give certain robots what is due to them on account of their intelligence, consciousness, or whatever feature we humans share with them we believe is a basis for ascribing rights or for taking their interest into account.³⁵

4. Exploring the option of accrediting creations to AIE

In the previous section, I have argued that AIE may be considered legal persons. This is a *necessary* condition to also consider them potential copyright owners, but not a *sufficient*

²⁹[...] die sogenannte physische Person eine künstliche Konstruktion der Rechtswissenschaft ist, [...] auch sie nur eine “juristische” Person ist.” Hans Kelsen, *Reine Rechtslehre* (Österreichische Staatsdruckerei, 1992 [1960]) 176; cf. 193.

³⁰Kelsen (n 29) 178.

³¹Cf. Gerald Spindler, ‘Copyright Law and Artificial Intelligence’ (2019) 50 *International Review of Intellectual Property and Competition Law* 1049, 1050.

³²Francisco Andrade and others, ‘Contracting Agents: Legal Personality and Representation’ (2007) 15 *Artificial Intelligence and Law* 357, 362.

³³Joanna Bryson, Mihailis Diamantis and Thomas Grant, ‘Of, for, and by the People: The Legal Lacuna of synthetic Persons’ (2017) 25 *Artificial Intelligence and Law* 273, 274.

³⁴Cf. Solum (n 11) 1260.

³⁵Mark Coeckelbergh, ‘Robot Rights? Towards a Social-Relational Justification of Moral Consideration’ (2010) 12 *Ethics and Information Technology* 209, 211; cf. Tyler Jaynes, ‘Legal Personhood for Artificial Intelligence: Citizenship as the Exception to the Rule’ (2020) 35 *AI & Society* 343, 347, 348, and Schwitzgebel and Garza (n 10) 106, 107.

one, and realizing the possibility for AIE to be copyright owners in fact brings with it a number of problems. Before addressing some of them, it is important to determine what the subject matter is, namely: is an AIE able to create something worthy of being copyrighted? After all, if the answer to this question is negative, the issue is moot.³⁶ What, then, is creativity?

If an AIE performs a task in such a way that it does not exceed the parameters that have been determined by the programmer, it serves no less as an instrument for the programmer's goal than does a word processor as one for a novelist. Supposing, however, that an AIE manages to surpass these parameters, perhaps even doing something the programmer could not have foreseen, does it thereby evince creativity? The answer depends on the result that is produced. Spindler maintains that

[...] AI in its present forms cannot determine the preferences or goals to be achieved; it is still up to the human being implementing and using AI to define the areas and goals for it. In other words, AI may improve ways to achieve a goal but cannot change it.³⁷

Accordingly, he argues that

[...] there are still good arguments to attribute the work created by AI to the individual making use of it. If, for instance, an artist decides to train an AI based on the paintings of Rembrandt and then the AI construes a "new Rembrandt", it depends to what extent the artist influenced the AI. If the artist used only certain paintings (and not all of them), then there is a strong influence on the creation of the final "AI painting". In this case the work should be attributed to the artist. If, however, an artist chooses to train the AI based on all paintings, including those of other artists, then the setting of goals and the framework is significantly less meaningful. If an artist does not even know how the AI has been trained (as, for instance, concerning the completion of Mahler's unfinished 10th symphony) it is hard to speak of the creativity of the artist.³⁸

Supposing that an AIE would, having been trained by being exposed to Rembrandt's paintings, create a 'new Rembrandt', so a painting similar to the existing paintings by Rembrandt, it is important to realize that artists such as painters and composers are often influenced by other artists, whose style they sometimes (partially) adopt. Even if one disregards the fact that many of them have received training, at an art or music school or otherwise (which may to a certain degree be equated with programming), the fact that their creations do not originate *ex nihilo* is a vital consideration. Whether a contribution is novel is not, then, an all-or-nothing matter in some cases, and it may be difficult to draw a demarcation line between (automatically) executing a computer program and creating something new.

This is perhaps best illustrated by pointing to some modern artworks, which do not appear to be the product of an orchestrated process. The creations of expressionists such as Jackson Pollock or Karel Appel seem to be random results; if AIE manage to produce similar works, those works would have to be acknowledged to be artworks or, if one is not willing to do so, the works expressionists have made cannot be considered artworks.

It is not my contention that AIE are indeed able to create something that merits being copyrighted; I merely leave open the possibility that the issue will at some point present

³⁶Cf. Martin Miernicki and Irene Ng (Huang Ying), 'Artificial Intelligence and Moral Rights' (2021) 36 *AI & Society* 319, 322.

³⁷Spindler (n 31) 1049.

³⁸*ibid* 1050.

itself. If one accepts that possibility, the next issue to address is whether copyright is even relevant for an AIE. In the case of human beings who understand what copyright is and who have an interest to see their creation legally protected, the relevance is clear. This is based on the – implicit – premise that human beings are no mere automata and thus have consciousness, and are also aware, even those who have no expertise in copyright law, of what is at stake.

This premise is justified for practical purposes, but strictly speaking it does not seem possible to rule out that they are in fact mere automata. One might, as was observed in the Introduction, use a Turing test, but this is no proper recourse, since it is not inconceivable that a machine is produced that is sophisticated enough to respond to questions in such a way as to *seemingly* demonstrate consciousness. Opening up such a machine in order to determine how one or more of its parts might be the source of consciousness would not yield more than looking in the human brain for the origin of consciousness.³⁹ The present issue is not resolved by pointing to the cerebral cortex: it may play an important role in what is perceived by a human being with whom the other human being communicates, but that does not in and of itself prove (to that interlocutor) the existence of consciousness.

What has just been said is not intended to argue that human beings may be automata (although a true skeptic must take this possibility seriously), but rather to point out, in line with what was said in section 1, that it cannot a priori be ruled out that the characteristics some hold to be uniquely ‘human’ – whatever this is taken to mean – may emerge from other material than a human brain. This does require adopting (a variety of) functionalism, but unless it becomes clear what makes the brain uniquely able to (somehow) produce consciousness, such a perspective seems warranted.

Concluding from the foregoing that making it possible for AIE to be copyright owners is unproblematic would not be justified, though, for the conditions to realize this outcome that have been discussed are necessary rather than sufficient ones. Indeed, important objections may be raised against granting them this status. Apart from the fact that it is unclear how they might benefit from the fruits of their labor,⁴⁰ one may point to the predicament of how to deal with the duties correlated to the right: should, for example, an AIE infringe someone’s (or another AIE’s) copyright, how might it be held liable?⁴¹

While such concerns cannot be dismissed in a situation where an AIE is created that should, being in the relevant respect of creation on a par with a human being, be recognized as a potential copyright owner, what they reflect are primarily practical problems that do not derogate from the principal issue that distinguishing between AIE and human beings if no relevant criterion to do so presents itself is tantamount to discrimination. One may of course hold that the concerns themselves do constitute relevant criteria to warrant such a distinction, but even if this position is accepted, the achievement of the AIE nonetheless needs to be recognized somehow lest, on the basis of an all-or-nothing perspective, the programmer receive all the credits and the AIE none.

³⁹Cf. Adam Andreotta, ‘The Hard Problem of AI Rights’ (2021) 36 *AI & Society* 19, 25: “The problem [...] with grounding AI rights in consciousness is not [...] that it is a mysterious ‘occult’ property. The problem is an epistemological one – that is, how we can know whether consciousness exists in other creatures, and furthermore, how we know what those experiences are like.”

⁴⁰Jani Ihalainen, ‘Computer Creativity: Artificial Intelligence and Copyright’ (2018) 13 *Journal of Intellectual Property Law & Practice* 724, 727.

⁴¹Daniel Gervais, ‘Is Intellectual Property Law Ready for Artificial Intelligence?’ (2020) 69 *GRUR International* 117.

One may yet aver that all AIE, including any potential AIE that may yet be realized in the future, are no more than property of one or more (human) parties. The hardware and software have – probably – been produced by several people and/or companies, and ultimately one or more of them (or one or more parties to whom the AIE at issue is sold) owns the AIE and everything it may yield. The same perspective with respect to human beings would, however, generally be considered unacceptable, at least in present-day liberal democratic states, where slavery is outlawed, so that, in line with what was observed in section 2, keeping not just AIE’s creations but AIE themselves as property would also – again, given that they are, in the relevant respect, on a par with human beings – be problematic. Someone’s parents do not become owners of what he or she may produce, nor should those who have created an AIE come to own its output, provided that it attests creativity on the AIE’s part. Admittedly, an AIE itself may be owned whereas a child may not; whether it is realistic to expect that the time will come when owning an AIE is generally deemed unacceptable depends, at least in part, on possible technological advances and is hard to say.

5. Conclusion

I do not maintain that human beings are on a par with AIE, not even if conceivable or even possible future versions of AIE are taken into consideration, simply because I cannot ascertain whether (some) human beings, or (some) AIE, for that matter, cannot be reduced to the factors that constitute them. I have no reason to think that they could *not* be considered to be more than factor-determined beings, but that is of course no compelling argument to conclude that they would indeed be such beings; doing so would in fact amount to an *argumentum ad ignorantiam*. Still, what I have presented calls into question the special position human beings may (wish to) claim for themselves vis-à-vis (a conceivable version of) AIE.

One may object that my perspective appears to conform with (a variety of) functionalism while I have not made it clear why the (human) brain is not a special organ that cannot be replicated with some material in such a way that a being endowed with the (alternative) brain that would supposedly be realized is able to function on the same level as a human being, to which I would respond that the burden of proof is not on me, if only because I have not taken a dogmatic stance and my perspective is a conditional one (namely, ‘if an AIE exists with the same capacities as those of a human being ...’), so that it would rather be the task of the objector to make it clear why it would be *impossible* for an AIE to exist that can do and imagine the same things as a human being.

Whether an AIE with the capacity to create something novel, thereby, if what I have argued is accepted, being entitled to claim copyright, may be created, let alone one that is itself able to lay such a claim in the first place, appears to be an academic matter for now. Whatever other merits raising such an issue may have, it provides the opportunity to reflect on the nature of AIE *and* human beings.

Disclosure statement

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