The Picture of Artificial Intelligence and the Secularization of Thought

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Date of deposit	23/09/2019
Document version	Author's accepted manuscript
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Citation for published version	Leung, K-H. (2019). The Picture of Artificial Intelligence and the Secularization of Thought. Political Theology, 20(6), 457-471.
Link to published version	https://doi.org/10.1080/1462317X.2019.1605725

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This article offers a critical interpretation of Artificial Intelligence (AI) as a philosophical notion which exemplifies a secular conception of thinking. One way in which AI notably differs from the conventional understanding of "thinking" is that, according to AI, "intelligence" or "thinking" does not necessarily require "life" as a precondition: that it is possible to have "thinking without life". Building on Charles Taylor's critical account of secularity as well as Hubert Dreyfus' influential critique of AI, this article offers a theological analysis of AI's "lifeless" picture of thinking in relation to the Augustinian conception of God as "Life itself". Following this critical theological analysis, this article argues that AI's notion of thinking promotes a societal privilege of certain rationalistic or calculative ways of thought over more existential or spiritual ways of thinking, and thereby fosters a secularization or de-spiritualization of thinking as an ethical human practice.

Keywords:
artificial intelligence; secularization; selfhood; ontology; philosophy of technology

Introduction

Recent years have witnessed an increasing presence of Artificial Intelligence (AI) in everyday life, from the popularization of virtual personal assistants such as Apple's Siri and Amazon's Alexa to frequent news stories and reports on the latest developments of AI technology. Although AI as a technological phenomenon has brought about many changes to the contemporary way of life, at a less obvious and perhaps deeper level, the cultural phenomenon of AI is also shaping our "way of life" in terms of how we value things in the world and the ways in which we *think*.

While AI as a technological phenomenon is likely to have significant and potentially disruptive effects on the structure of human society and economy in the future,[1] as a *socio-cultural* phenomenon AI has already captured much of the public imagination in current popular culture—which may in turn impact the future developments of AI as a technology.[2] The public fascination with AI is perhaps most

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[1] See Singler, "Artificial Intelligence and Religion", 219–222.

[2] The significance of cultural imagination of AI and its relation to the development of AI technology is the focus of the AI Narratives Project recently launched by Cambridge University's Leverhulme Centre for the Future of Intelligence and the Royal Society. See Dihal, Dillon and Singler, "3,000 years of AI

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notably reflected in a number of highly-acclaimed movies and TV series on the theme of AI such as *Westworld* (2016–), *Ex Machina* (2015), *Blade Runner 2049* (2017) and *Terminator Genisys* (2015) which re-launches the classic cinematic franchise. [3] However, as opposed to the new approach of statistics-based "Machine Learning" which underlies recent AI devices such as virtual personal assistants and Internet search engines, the type of AI depicted and envisioned in contemporary cultural narratives is what is commonly known as "Artificial *General* Intelligence" (or sometimes "Strong" or "Good Old Fashioned" AI),[4] which aims create technological entities which can closely replicate the intelligent behavior of human beings.[5]

In light of the societal cultural fascination with AI as well as the increasing scholarly interest in the cultural narratives and depictions of AI in public imagination, this article offers a critical interpretation of AI—specifically "General" or "Strong" AI—not primarily as a technological or a technical phenomenon, but rather as a socio-cultural or even politico-theological notion: AI as a cultural or even philosophical model which shapes the contemporary societal conception of what it means to be intelligent or indeed what it means to be thinking.[6] After all, as the AI researcher and theorist Hector Levesque points out in a recent work, AI is a thesis about what it means to think, what the meaning of *thinking* is: "The hypothesis underlying AI—or at least one part of AI—is that ordinary thinking, the kind that people engage in every day, is also a computational process."[7]

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narratives". See also the project's website at http://lcfi.ac.uk/projects/ai-narratives-and-justice/ai-narratives/. Cf. Craig, *How Does Government Listen*, 40–42.

[3] It is worth noting that the highest grossing blockbusters in recent years, *Star Wars: The Force Awakens* (2015) and *Avengers: Infinity War* (2018), also feature (General) Artificial Intelligent characters such as C-3PO (*Star Wars*) and Vision (*Avengers*).

[4] As noted in Craig, *How Does Government Listen*, 40.

[5] For a discussion of the relation between "Good Old Fashioned" AI and Machine Learning, see Levesque, *The Quest for Real AI*; see also note 44 below.

[6] Cf. Floridi, *The Fourth Revolution*, especially 129–166.

[7] Levesque, *The Quest for Real AI*, ix; cf. Levesque, *Thinking as Computation*.

While scholars have argued that the socio-cultural phenomenon of AI as an aspiration or ideal may be reinvigorating for contemporary religion,[8] this article seeks to offer an alternative account of the relation between AI and religiosity: that despite the many recognizable religious motifs in the cultural narratives of AI,[9] there is an implicit "secular" or "secularizing" dimension to AI as a model of thinking. Drawing specifically on Hubert Dreyfus' well-known "Heideggerian" critique of AI and Charles Taylor's influential account of secularity in *A Secular Age* (which is also deeply informed by Heideggerian phenomenology), this article suggests that underlying the socio-cultural phenomenon of AI is nothing other than a picture of "thinking" that may be regarded as fundamentally "secular" in outlook.[10]

This article consists of three parts. The first part examines how the formal conception of "thinking" relates to one's sense of self and spirituality by drawing on Taylor's account of secularity and his critique of the modern secular sense of self. The second part then questions whether AI inherently entails a secular "Godless" outlook in light of the perspective laid out in the first part. Finally, part three concludes the article by considering the possible implications of AI's conception of intelligence and thought for the human practice of thinking and philosophizing in the contemporary world.

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[8] See Singler, "Artificial Intelligence and Religion".

[9] See ibid., 223–225, cf. 216–218; see also Burdett, *Eschatology and the Technological Future*, 55–56, 65–67.

[10] Taylor notes that the "Heideggerian" notion of "background" prevalent throughout *A Secular Age* is deeply influenced by Dreyfus' reading of Heidegger. See Taylor, *A Secular Age*, especially 13–14, 95, 172–174, 323, 325, 780fn14, 794fn12. The notion of "*picture* of thinking" used throughout this article is adapted from Dreyfus and Taylor's more recent development of their notion of "background" in *Retrieving Realism*, 1: "the picture is anchored in our whole way of thinking, our way of objectifying the world, and thus our way of life… It is a largely unreflected-upon background understanding which provides the context for, and thus influences all our theorizing in, this area." While Dreyfus' and Taylor's critiques of AI may admittedly be somewhat dated as they are primarily targeted at Artificial *General* Intelligence, their "Heideggerian" insights are still pertinent for this current article's examination of AI as socio-cultural phenomenon, given that the popular imagination of AI portrayed in contemporary cultural narratives is largely based on "Strong" or "General" AI. Accordingly, the "Artificial Intelligence" discussed in this article primarily refers to the conception of "General" AI as opposed to Machine Learning. The issue of Machine Learning is further discussed in note 44 below.

Secularity and the Cartesian Picture of "Thinking"

In his influential *A Secular Age*, Taylor sketches three senses of what it means to be secular. The first concentrates on institutions and social structures, especially the separation of church and state. The second meaning of secularity "consists in the falling off of religious belief and practice, in people turning away from God, and no longer going to Church."[11] The third sense of secularity—and this is the one which Taylor proposes to examine over his 800-page book—is the change in what Taylor calls "the conditions of belief":

> Secularity in this sense is a matter of the whole context of understanding in which our moral, spiritual or religious experience and search takes place. By "context of understanding", I mean both matters that will probably have been explicitly formulated by almost everyone, such as the plurality of options, and some which form the implicit, largely unfocussed background of this experience and search, its "pre-ontology", to use a Heideggerian term.[12]

Taylor proceeds to offer two phenomenological accounts of selfhood to depict the difference between pre-modern and modern "pre-ontologies": namely, the notions of the porous self (which inhabits the pre-modern "enchanted" world of) and the disengaged buffered self (which is representative of modern secularity).[13]

While *A Secular Age*'s phenomenological analysis of secularity has received much scholarly attention, Taylor's critical conception of the modern buffered self can already be found in his earlier work *Sources of the Self* where he critiques the modern "disengaged" selfhood that emerges from Descartes' philosophy of inwardness.[14] As Taylor notes in the final paragraph in his chapter on Descartes in *Sources of the Self*:

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[11] Taylor, *A Secular Age*, 3.
[12] Ibid.
[13] Ibid., 25–42.
[14] Cf. Mahmood, "Can Secularism Be Otherwise?", 283: "Not unlike his earlier book *Sources of the Self*, *A Secular Age* provides a rich account of this subjectivity, its experiential and phenomenological dimensions."

this new conception of inwardness, an inwardness of self-sufficiency, of autonomous powers of ordering by reason, also prepared the ground for modern *unbelief*. It may even provide part of the explanation for the striking fact about modern Western civilization as against all others: the widespread incidence of *unbelief* within it.[15]

As we can see, in this characterization of the Cartesian disengaged self, Taylor already anticipates his later critical work on secularism where he explicitly identifies the secular way of life with the modern "disengaged" selfhood.

While Taylor primarily associates this "disengaged" or "buffered" sense of self with Descartes' early modern philosophy in *A Secular Age*, in his earlier study of selfhood in *Sources of the Self*, Taylor argues that Descartes' influential account of disengaged selfhood is very much prefigured by St. Augustine's account of inward reflexivity from the fourth-century.[16] As Taylor remarks in his chapter on Augustine which immediately precedes the one on Descartes in *Sources of the Self*:

> It is hardly an exaggeration to say that it was Augustine who introduced the inwardness of radical reflexivity and bequeathed it to the Western tradition of thought. The step was a fateful one, because we have certainly made a big thing of the first-person standpoint. The modern epistemological tradition from Descartes, and all that has flowed from it in modern culture… For those of us who are critical of the modern epistemological tradition… Augustine has a lot to answer for.[17]

Taylor's "proto-Cartesian" reading of Augustine has been challenged and critiqued by a number of theologians such as Rowan Williams and John Milbank, however, there is

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[15] Taylor, *Sources of the Self*, 158 (emphasis added).
[16] Although Taylor refers to *Sources of the Self* frequently throughout *A Secular Age*, the similarities between Augustine and Descartes is however not explicitly made in *A Secular Age* or Taylor's other later works.
[17] Taylor, *Sources of the Self*, 131.

one notable difference between Augustine and Descartes that has been overlooked in both Taylor's account as well as the sophisticated critiques of these theologians.[18]

In establishing a link between Augustine's and Descartes' accounts of inwardness, Taylor draws specifically on book II of Augustine's *De libero arbitrio*:

> Augustine makes the step to inwardness… Augustine offers us such a proof in the dialogue *On Free Will*, Book II… in order to prove that we know something, Augustine makes the fateful proto-Cartesian move: he shows his interlocutor that he cannot doubt his own existence, since "if you did not exist it would be impossible for you to be deceived" [*De libero arbitrio* II.iii.7.20]. As Gilson points out, Augustine makes frequent use of this proto-*cogito*.[19]

As we see in the quote above from *Sources of the Self*, Taylor draws specifically on book two of Augustine's *De libero arbitrio* to argue that Augustine presents what Etienne Gilson calls a "proto-*cogito*". However, in the line immediately following the one cited by Taylor in *De libero arbitrio* (II.iii.7.21), Augustine adds that:

> since it is clear that you exist, and it would not be clear to you unless you were alive, this too is clear: You are *alive*.[20]

As opposed to Descartes' formulation of the *ego* as a *pure* thinking thing, Augustine insists that the thinking agent is first and foremost *alive*. Contrary to the two terms of "being" and "thinking" in Descartes' *cogito*—"I *think* therefore I *am*", if there is a "proto-*cogito*" in Augustine, it would instead consist of three terms—"being", "living", and "thinking".[21] These three terms are reflective of the three types of entities according

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[18] For a critical overview of debate between Taylor, Williams and Milbank, see Hankey, "Between and Beyond Augustine and Descartes". For an insightful critique of Taylor (and Hankey) which builds on the work by Williams and Milbank, see Hanby, *Augustine and Modernity*.

[19] Taylor, *Sources of the Self*, 132.

[20] Augustine, *De libero arbitrio*, II.iii.7 (emphasis added). Translations of *De libero arbitrio* throughout this article are taken from Peter King's translation: Augustine, *On the Free Choice of the Will*.

[21] This triad of "being" (*esse*), "living" (*vivere*), and "thinking/intelligence" (*intelligere*) may be traced back to Plato's *Sophist* (248a–249e) and is also found in the Christian theological tradition following Augustine (e.g. Thomas Aquinas, *Summa Theologica*, I-II.93.2). Anthony Kenny, a formidable authority on both Descartes and Aquinas (who closely follows this Augustinian triad), argues that Augustine and Aquinas' Latin phrase *intelligere* is best translated as "thinking" in his classic *Aquinas on Mind*, 41–42:

to Augustine's Christian Neo-Platonic outlook as explicitly stated in *De libero arbitrio* (II.v.11.43):

> (a) what merely exists;
> (b) what is *also* alive;
> (c) what *also* thinks (or has intelligence).[22]

As opposed to the simple move from "thinking" *directly* to "being" in the Cartesian *cogito*—from I *think* straight to I *am* (or I *exist*), for Augustine, "thinking" and "being" are always *mediated* through "life": For one to have thinking, understanding or intelligence, one must not only already be existing but *also* be alive. For Augustine, *thinking* is always formally a *living* activity.[23]

This formal emphasis on thinking as a *living* activity—that the activity of thinking always involves and presupposes *life*—is crucial to Augustine's theological outlook, as he also writes in book II of *De libero arbitrio*, "life" is said of God himself, and God is "life in the highest".[24] Furthermore, in *De doctrina Christiana* Augustine specifically speaks of God as "Life itself" and that the theological inquiry into the

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"English does not have a handy verb 'to intellege' to cover the various activities of the intellect, as the Latin has in *intelligere*. To correspond to the Latin verb one is sometimes obliged to resort to circumlocutions, rendering *actu intelligere,* for example, as 'exercise intellectual activity'. An alternative would be to use the English word 'understanding'… But 'understand' is, on balance, an unsatisfactory translation for *intelligere* because it always suggests something dispositional rather than episodic, an ability rather than the exercise of the ability; whereas *intelligere* covers both latent understanding and current conscious thought… the expression is often better translated 'think' than 'understand'." In addition to Kenny's sights, in what follows the term *intelligere* is rendered primarily in terms of "thinking" as it may be said that all acts of "understanding" or "knowing" involve some basic mental activity which may be broadly called "thinking", whereas not all acts of "thinking" may be called "understanding" or "knowing". Cf. Hanby, *Augustine and Modernity*. On the historical interpretation of the Being-Living-Thinking triad from Plato to Augustine, see Hadot, "Etre, vie, pensée chez Plotin".

[22] Augustine, *De libero arbitrio*, II.v.11.43 (translation modified), see also II.iii.7.22: "Because existing, living, and understanding are three [distinct] things. A stone exists and an animal is alive… it is quite certain that one who understands both exists and is alive… For anything alive surely exists too, but it does not follow that it also understands."

[23] See King, "Augustine on Knowledge", 145–147, see also 162n7: "Commentators have identified [Augustine's 'proto-*cogito*'] as a source for Descartes, although in Augustine's argument it is subordinate to his main point about the certainty of knowledge that one is *alive*" (emphasis added). Out of the seven places where King identifies Augustine's proto-*cogito*, Augustine explicitly emphasizes the aliveness of the thinker in *De libero arbitrio* II.iii.7, *De beata vita* II.7, *Soliloquia* II.ii.1, *Enchiridion* VII.20 and *De Trinitate* XV.21.

[24] Augustine, *De libero arbitrio*, II.xvii.46.176.

existence of God begins with the consideration of the phenomenon of "life" or "aliveness":

> Now all who think about God think about Him as something alive; so the only thinkers whose conceptions of God are not absurd and unworthy can be those who think of God as Life itself [*vitam ipsam*], and take as axiomatic that whatever physical form may occur to them, it only lives, or does not live, with life... Next, they proceed to examine this life, and if they find it simply of a vegetative kind, without sensation, like the life of trees, they put sentient or sensitive life above it, such as the life of animals; and again above this they place intelligent life, such as the life of human beings. When they observe that even this is still subject to change, they are obliged to put above it some kind of unchangeable life, namely that kind which is not sometimes wise, sometimes unwise, but is rather Wisdom itself.[25]

Augustine's emphasis on the thinking human being as a *living* entity stands in direct contrast to Descartes' account of the thinking ego as expressed in his *cogito* dictum "I *think* therefore I *am*": Thinking is immediately linked to being, life is not part of Descartes' equation.[26]

The Cartesian pure *thinking* thing might necessarily have *being* but it does *not* need to be *living*: It is ultimately an account—what Taylor calls a "pre-ontology"—of thinking *without life* or indeed of *lifeless* thinking.[27] As Jacques Derrida puts it in his critical characterization of Descartes' *cogito*:

> the indubitability of existence, the autoposition and automanifestation of "I am" does not depend on being-in-life but on thinking, an appearance to self that is determined in the first place not as respiration, breath, or life, indeed, on *a thinking soul that does not at first appear to itself as life.*[28]

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[25] Augustine, *Teaching Christianity*, 109–110 (I.viii.8.17–18). For a survey of Augustine's account of God as "Life" in the *Confessiones*, see Hefty, "The Light of Life".
[26] Cf. Derrida, *The Animal That Therefore I Am*, 86: "[Descartes' dictum] proceeds, therefore, from 'I think' to 'I am', or from 'I think that I am living' to 'I am', and not from 'I am living' or 'I am breathing' to 'I am'."
[27] Cf. Jonas, *The Phenomenon of Life*, 54–63.
[28] Derrida, *The Animal That Therefore I Am*, 86–87 (emphasis added).

According to Descartes' reasoning, true *pure* thinking does not and *must* not require any preconditions other than existence—not even life. While Descartes does not exactly assert that it is possible for one to think without life, his postulation of a "lifeless" thinking *ego* may nonetheless be regarded as a theoretical or even moral ideal which all humans are to aspire to attain as thinking beings.[29] As opposed to Augustine's formulation of the *living* proto-*cogito* that is formally bound up with to a theological conception of God as "Life" itself, Descartes' "lifeless" *cogito* is a picture of "thinking without life" that formally opens up a model of "thinking without God"—indeed a *secular* picture of "Godless" thinking.

As Jean-Luc Marion points out, one of the key differences between Descartes' "lifeless" *cogito* and Augustine's proto-*cogito* lies in their implications on the thinker's ontological relation with God as the source of life and being. As opposed to the account of the *ego* in terms of "thought" in Descartes' *cogito*, Augustine's *living* proto-*cogito* is phenomenologically bound up with a theocentric ontology of *creatio ex nihilo*: For whereas one can produce or "create" one's own thoughts, the same cannot be said of one's own life; one's own life is *not* something that one can generate or give to oneself, rather, one's life is always given from a source of life other than the thinking self—life is something which *transcends* the realm of thought. To quote Marion at length:

> [For Augustine,] the issue is, in contrast to Descartes, the evidence of life or, more exactly, of the life in me, different from me, but without which I would not be… For—and here is the chief point—no living thing *is* its own life; every living thing lives through the life that it is not and does not possess, not through itself. Nobody lives by himself. Saint Augustine says it literally: "*vivere nemo*

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[29] Cf. Adam, *Artificial Knowing*, 102–103: "The Cartesian ideal of reason also informs what it is to be a person, and in particular a good person… [Such an account of] rationality is represented in AI systems." See also the critical discussion of the ethical implications of Descartes' ontology in Taylor, *Sources of the Self*, 149–158, especially 155–156: "Descartes's ethic, just as much as his epistemology, calls for disengagement from world and body… It is of the essence of reason, both speculative and practical, that it push us to disengage."

nisi vita potest" (nobody can *live except by life*).[30] What is proper to the living consists in that it does not possess its own life but remains a tenant of it. "To live" means "to live for the time being" because, more essentially, by a proxy— by virtue of the proxy that life accords the living... If life certainly constitutes my essence, then it becomes certain that my existence is not a certainty for me, except in the instant… I am not my life, but I live by proxy from life... Only [God] the Living par excellence lives from itself.[31]

Whereas the activity of "thinking" is *dependent* on "life" as an ontological precondition which *transcends* the phenomenon of "thinking" in Augustine's formulation of the *living* proto-*cogito*, Descartes' *cogito* of "thinking without life" does not entail such a proto-theological structure of ontological dependence and transcendence which point to God as the source of life and being.

While he does not focus on the issue of "life" in his analysis of Augustine and Descartes, Taylor also highlights Descartes' divergence from Augustine's emphasis on the thinker's ontological dependence on God:

For Augustine the path inward was only a step on the way upward… the thinker comes to sense more and more his lack of self-sufficiency… In contrast, for Descartes the whole point of the reflexive turn is to achieve a quite self-sufficient certainty… note how different this is from the traditional Augustinian order of dependence… God's existence has become a stage in *my* progress towards science through the methodical ordering of evident insight [in the Cartesian outlook]. God's existence is a theorem in *my* system of perfect science.[32]

In light of all this, one can see why Taylor argues that Descartes' new conception of inward self-sufficiency "prepared the ground for modern unbelief" and that the

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[30] Augustine, *De beata vita*, II.7; cf. *Confessiones*, X.xx.29.
[31] Marion, *In the Self's Place*, 59–60.
[32] Taylor, *Sources of the Self*, 156–157.

Cartesian "disengaged" picture of thinking is that which gave rise to the "buffered" pre-ontology that defines modern secularity.[33]

AI and the Computational Picture of "Thinking"

As we saw earlier with Levesque's characterization of AI research in the introduction: "The hypothesis underlying AI—or at least one part of AI—is that ordinary thinking, the kind that people engage in every day, is also a computational process."[34] By positing that *non-living* artificial devices *can think*, the notion of AI effectively affirms the formal or even ontological possibility of a kind of thinking without life—a type of *lifeless* thinking. Comparing AI's conception of "thinking" to the Cartesian *cogito* may first appear odd, for Descartes notoriously defines "thinking" as something that is essentially *immaterial* (which transcends the mechanistic material world) whereas the notion of AI presumes that "thinking" is fundamentally a *mechanistic* process that can be (re-)produced and explained as a *material* phenomenon.[35] However, according to Taylor, Descartes' division between the immaterial thinking of the mind (the human subject) from the mechanistic material world (objects that appear as "representations" to the human subject) is that which provides the conceptual basis for the modern conception of thinking as "information-processing" assumed by AI research.[36] To quote Taylor at some length again:

> the dominant rationalist view… has given us a model of ourselves as disengaged thinkers. In speaking of the "dominant" view I am not only thinking of the theories which have been preeminent in modern philosophy, but also of an outlook which has to some extent colonized the common sense of our civilization. This offers us the picture of agents who in perceiving the world

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[33] Ibid., 158; see also Taylor, *A Secular Age*, 130–137, 257–258.
[34] Levesque, *The Quest for Real AI*, ix.
[35] Cf. Floridi, *The Fourth Revolution*, 69–71.
[36] Cf. Dreyfus and Dreyfus, *Mind Over Machine*, 99: "Current AI is based on the idea, prominent in philsophy since Descartes that all understanding consists in forming and using appropriate represenations."

take in "bits" of information from their surroundings, and then "process" them in some fashion… The popularity of this view is part of what makes computer models of the mind so plausible to laypeople in our day… The "information-processing" construal builds on a long-supported earlier conception… Classical Cartesian and empiricist epistemologies provided earlier variants of this conception.[37]

It is beyond the scope of this article to explicate Taylor's rich critique of "rationalism", the remainder of this article simply focuses on how social changes are brought forth by the formal conception of thinking presented in the notion of AI or what Taylor calls the "computer model of the mind".[38]

Throughout his critical discussions of AI, Taylor draws heavily from his close colleague and collaborator Hubert Dreyfus, who shares with Taylor a great interest in promoting Heidegger' phenomenology.[39] As Dreyfus remarks in his influential Heideggerian critique of ("Strong" or "General") AI:

AI is based on the Cartesian idea that all understanding consists in forming and using appropriate symbolic representations. For Descartes, these representations were complex descriptions built up out of primitive ideas or elements… Given the nature of computers as possible formal symbol processors, AI turned this rationalist vision into a research program.[40]

Although Dreyfus does not explicitly characterize Cartesian thinking in terms of "lifelessness", drawing on Heidegger (and the later Wittgenstein), Dreyfus argues that the Cartesian conception of thinking is one that is disengaged or abstracted from one's way of life or what Dreyfus calls the human "form of *life*".[41]

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[37] Taylor, *Philosophical Arguments*, 63.
[38] Ibid., 4, 6, 63, 67–70, 169, 170.
[39] See also Dreyfus and Taylor, *Retrieving Realism*, 15, 51, 92, 95, 103.
[40] Dreyfus, *What Computers Still Can't Do*, xi, cf. 246, 266–268.
[41] See ibid., 221–224, 279–282, 290–291.

For Dreyfus, such an account of thinking is ultimately misguided, as according to him, "intelligent activities" cannot be isolated from "the whole mature human form of life" which is rooted in the ontological condition of the human as a *living* being:

> Computers can only deal with facts, but man the source of facts is not a fact or set of facts, but a being who creates himself and the world of facts in the process of *living* in the world.[42]

Although it is admittedly questionable whether Dreyfus' epistemological critique of "General" or "Good Old Fashioned" AI is applicable to recent *technological* developments in AI—especially with regards to the statistics-based approach of "Machine Learning",[43] Dreyfus' ethical concerns with the impact of AI and computational thinking on human behavior and society is undoubtedly still relevant to this article's current concern with AI as *socio-cultural* phenomenon in light of the ongoing popular cultural fascination with AI and the increasing presence of AI technology in contemporary society.[44]

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[42] Ibid., 290–291 (emphasis added).

[43] For a recent assessment of Dreyfus' contributions to AI theory, see Nadin, "Machine Learning", 4–8. See also Dreyfus' more recent remarks on AI in Dreyfus, *Skillful Coping*, 249–273.

[44] As opposed to the "buffered" stance which Taylor attributes to the "Cartesian" picture of thinking which informs "Good Old Fashioned" General AI, the contemporary engineering principle underlying "Machine Learning" (hereafter "ML") is one which may be described as what Taylor calls "porous", insofar as ML aims to *learn* from interactions with humans: Instead of a self-enclosed "buffered" mode of thinking, ML is in principle a "porous" form of "thinking" that is in a recursive relation to human experience. However, just as ML devices are in a porous recursive relation with us humans, we are also in a porous recursive relation with these machines—being constantly reciprocally shaped by our interactions with ML devices (unless one adopts a "buffered" Cartesian stance of disengagement). As Sherry Turkle notes: "We are shaped by our tools. And now, the computer, a machine on the border of becoming a mind, was changing and shaping us" (*Alone Together*, x). Just as we transfer our *living* experience to ML devices, ML devices are also transferring their "machine-like" patterns to us. While it is beyond the scope of this article to articulate a fully developed consideration of the ethical, spiritual or indeed political-theological implications of ML technology, it may be said that insofar as the ethos of ML differs from "Good Old Fashioned" AI in that it does not seek to attain "general" intelligence or humanlike understanding, ML "thinking" is one that is in principle incapable of holding any religious or spiritual views: ML is in this regard "secular" in its mode of "thinking". To this extent, the increasing interactions between human users and ML devices in contemporary society may be regarded as formative process of secularization. I am grateful to one of the anonymous reviewers for their insight on the "porous" nature of Machine Learning. See also the critical discussion of ML in Nadin, "Machine Intelligence", especially 23–24: "the reality that machine learning with a well-defined target (as complicated as one chooses) and immense datasets is quite different from how the living operates… in the living, targets are continuously changing, and, more important, the data on which the living relies are minimal most of the time… The

One of Dreyfus' key concerns is that what the phenomenon of AI produces is not so much the technological advancement of mechanical computation becoming more like human thinking, but rather that *human thinking is at risk of becoming more machinelike*:

> In our tradition the computer seems to be the very paradigm of logical intelligence.[45]

This worry that AI facilitates a technological computational picture of thinking which en-frames our way of thinking and our form of life is obviously not unique to Dreyfus, one can also find critical remarks on the computational or "technological" conception of human thinking in the works of analytic philosophers such as John Searle or computer scientists such as John Daugman, who notes:

> That we should have chosen to model the brain as a computing machine, and even to believe that we have found at last the essence of our personhood in personhood, is perhaps in historical perspective no more surprising than the fact that Freud's pre-eminent metaphor for personhood involved hydraulic forces … We should remember that the enthusiastically embraced metaphors of each "new era" can become, like their predecessors, as much *the prisonhouse of thought* as they at first appeared to represent its liberation.[46]

AI, as a conception of thinking and intelligence, is precisely such a "prisonhouse of thought": It is, in Dreyfus and Taylor's terminology, a technological picture of thinking which "holds us captive" to modern secularity.[47]

Although Dreyfus does not see the technological advancement of AI and computers as the sole cause of the "Cartesian" paradigm of rational thinking or what he

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rather high consumption of energy to achieve what the living performs naturally, with limited resources, is indicative of the illusions of deep [machine] learning as the new frontier of AI."

[45] Dreyfus, *What Computers Still Can't Do*, 231.

[46] Daugman, "Brain Metaphor and Brain Theory", 33 (emphasis added). Cf. Searle, *Minds, Brains and Science*, 44: "Because we do not understand the brain very well we are constantly tempted to use the latest technology as a model for trying to understand it. In my childhood we were always assured that the brain was a telephone switchboard… At present, obviously, the metaphor is the digital computer."

[47] See the characterization of the Cartesian conception of thinking as "a picture which holds us captive" in Dreyfus and Taylor, *Retrieving Realism*, 1–15.

calls "technological rationality" in modern society, he nonetheless believes that the phenomenon of AI is a major catalyst for the "technologization" or even "becoming-machine" of human thinking:

> People in every field will start asking themselves AI-type questions about how they model the knowledge in their field in the form of an understanding system… AI will change the questions people ask and the methods they use.[48]

For Dreyfus, the Cartesian conception of thinking as "calculative rationality" promoted by AI is problematic not only in terms of AI development or what he calls "the relatively harmless domain of philosophy", but moreover for its effect on the way of life in wider society:

> The assumption of calculative rationality implies that society can be improved by teaching children to think more analytically and by requiring adults who wish to advise us to justify their thoughts and actions in a supposedly rational manner… [leading to] the hierarchical organization of decision-making, the increasingly bureaucratic nature of society, and the pervasiveness of economic metrics of success and failure encourage an excessive reliance on calculative rationality.[49]

Perhaps it is not unfair to add to Dreyfus' list of social features the increasing secularity of society: Just as contemporary culture privileges scientific and technological thinking, it also privileges and promotes certain "rational" atheistic outlooks that are often critical of traditional religious commitments and non-empirical approaches to philosophy.[50]

As such, it may be argued that AI—or at least the cultural notion or common perception of AI—very much captures and transforms the public imagination of what it means to be intelligent or indeed what it means be "thinking" or "thoughtful" in

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[48] Roger Schank, as quoted in Dreyfus and Dreyfus, *Mind Over Machine*, 193.

[49] Dreyfus and Dreyfus, *Mind Over Machine*, 193–194.

[50] Cf. Stephen Hawking's controversial remarks in *The Grand Design*, 5: "Philosophy is dead… Scientists have become the bearers of the torch of discovery in our quest for knowledge." See also the discussion below on Turkle's observations on the "anti-philosophical" effects of computational thinking.

contemporary secular culture.[51] As David Bentley Hart puts it: "We have become so accustomed to speaking of computers as artificial minds and of their operations as thinking… we have imposed the metaphor of an artificial mind on computers and then reimported the image of a thinking machine and imposed it upon our minds."[52] To the extent that Artificial *Intelligence* is not only something which contemporary society seeks to achieve in terms of technological invention and innovation, but moreover something which society seeks to attain in terms of human imitation and idealization, one may indeed think of AI as the exemplification of a certain sense of self, a way of being and of understanding the world which Taylor calls a "pre-ontology".[53]

Following the Augustinian perspective sketched in the first part of this article, it may be further argued that, as an account of thinking without being alive—of *lifeless* thinking, the cultural-philosophical notion of AI is a model of thinking that is inherently non-religious and secular: Not only does AI (at least as we currently know it) appear to be incapable of existential reflections on the issues of life and death or survival and finitude, AI is moreover a mode of thinking that is essentially without "life"; AI is a way of thinking that is, at least *formally* speaking, incapable of "thinking God" or "thinking about God"—insofar as God is formally understood as "Life itself".[54] To this extent, one may even argue that the technological conception of *thinking* embedded in

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[51] Cf. Floridi, *The Fourth Revolution*, especially 129–166.

[52] Hart, *The Experience of God*, 217–218.

[53] This idealization of artificial or computer intelligence as a model for human imitation is most notably exemplified by the international movement known as "transhumanism" which seeks to use technology to radically enhance human intellect. For a discussion of the "secularized religious impulse" underlying transhumanism and human enhancement technologies, see Burdett, *Eschatology and the Technological Future*.

[54] It is not the purpose of this article to consider (or speculate) whether it is technically possible to develop modes of AI which will be able to have survival instincts and existential reflections of its own existence. However, it may be argued that should computers and robots gain a sense of self-awareness or indeed a sense of "living", then this may lead an apocalyptic moment in which artificially intelligent agents begin to consider humankind as an obstacle to their own survival—ultimately resulting in human extinction, as often found in popular cultural imagination. For an influential the possibility and ethics of the existential risks related to AI, see Bostrom, *Superintelligence*.

the notion of AI may be regarded as an "anti-theological" way of thinking: It is an axiological affirmation of "thinking without God".[55]

The Ethics and Practice of "Think*ing*"

The aforementioned theoretical parallels between Cartesianism and AI does not simply concern the modern formal conception of "thinking", but is moreover reflective of how "thinking" is *practised* in philosophical modernity, which in turn has significant consequences for modern "ethical" cultural practices as well as the understanding of what it means to be "human".[56] Descartes' "turn" to modern philosophy—what Richard Rorty calls the "Cartesian change" or what Michel Foucault calls the "Cartesian moment"—is often represented as a transition from the pre-modern "spiritual" practice of philosophy as a way of *life* to the modern "technological" conception of philosophy as a quasi-scientific enterprise.[57] For instance, Foucault notes in *The Hermeneutics of the Subject*:

> The Cartesian progression belongs to the realm of intellectual method... The transition from spiritual exercise [*exercice spirituel*] to intellectual method is obviously very clear in Descartes. I do not think we understand the meticulousness with which he defines his intellect method unless we have early in mind his negative target, that from which he wants to distinguish and

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[55] Paraphrasing Heidegger's assertion that the Cartesian "technological" picture of thinking fosters "the forgetting of Being" (see Heidegger, *The Question Concerning Technology*), it may be said that AI's "lifeless" picture of thinking facilitates a forgetting of "Life" and "God". While Heidegger would undoubtedly take issue with such an "ontotheological" association of God with "Being", Don Cupitt argues that "where Heidegger put Being, ordinary language prefers to put Life" (*The New Religion of Life*, 5, cf. 37: "there waits to be written a history of the forgetting of Life, parallel to Heidegger's history of the forgetting of Being"). According to Cupitt, the notion of "Life" has replaced "God" and "Being" in contemporary everyday expression to designate the public's "focus of spiritual aspiration—an ideal of perfection." Cupitt, *The New Religion of Life*, 77–88 (quote 87).

[56] Cf. Singler, "Artificial Intelligence and Religion", 216, 225–228.

[57] See Rorty, *Philosophy and the Mirror of Nature*, 61: "The Cartesian change… was not the triumph of the prideful individual subject freed from scholastic shackles so much as the triumph of the quest for certainty over the quest for wisdom. From that time forward, the way was open for philosophers either to attain the rigor of the mathematician or the mathematical physicist, or to explain the appearance of rigor in these fields, rather than to help people attain peace of mind. *Science, rather than living, became philosophy's subject, and epistemology its center*" (emphasis added). See also Foucault, *Hermeneutics of the Subject*, 14–15, 17–18.

separate himself, which is precisely these methods of spiritual exercise that were frequently practiced within Christianity and which derived from the spiritual exercises of Antiquity.[58]

This Cartesian departure from the ethical practice of philosophy as a way of life or spiritual exercise is also recently highlighted by Kavin Rowe:

> [This is] the ancient understanding of the word *philosophy* itself: loving wisdom for a wise way of life. Only after Descartes has the word come to mean thinkable thought in abstraction from the disciplined life that is the guide of thought… a division that explicitly severs what the ancients tried to keep together: the unity of thought and life.[59]

What we find in Descartes' philosophical formulation of "thinking" as an inherently "lifeless" activity is thus not only a departure from "the unity of thought and life" at a purely abstract and formal level of theory but moreover at a *practical* level in terms of how one understands oneself and in turn how one comports oneself to the world and society.[60]

Perhaps the most significant yet under-noticed impact of the notion and phenomenon of AI lies not in the technical theoretical conception of "thinking", "mind" or "consciousness" in AI research and the corresponding scholarship in philosophy of mind, but in the effects AI has on the way in which "thinking" is *practised* in everyday

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[58] Foucault, *Hermeneutics of the Subject*, 294. In addition to the obvious relevance of Foucault's insights on surveillance and societal control to the increasing use of Machine Learning AI programing and data-collection in online platforms (such as search engines and social media), Foucault's influential account of bio-power and biopolitics is also hugely important for the understanding of human identity in light of "transhumanist" aspirations to incorporate Artificial Intelligence—and indeed Artificial *Life*—as technological mechanisms to re-fashion oneself. While it is beyond the scope of this article to adequately discuss the significance of Foucault's work in relation to the phenomenon of AI, it is important to note here that unlike Taylor's (and Rorty's) association of the turn to modern epistemology with Descartes, Foucault's notion and characterization of the "Cartesian moment" does not refer to a specific chronological turning point in the history of philosophy, but as a "conceptual moment" which is the result of an ongoing current in Western thought which may be traced back to earlier developments in philosophy and theology.

[59] Rowe, *One True Life*, 216. Rowe sees this "Cartesian" division between thought and life as reflective of "the distinction between philosophy and theology", which is intrinsically connected to the secularization of thought (ibid.).

[60] Cf. Kimbriel, *Friendship as Sacred Knowing*, 14–18.

society and culture: not its effects on "thinking" as an abstract theoretical model but on "think*ing*" as an ethical *practice*.[61] Embedded in the "loss of life" in the formal conception of "thinking" and "intelligence" in Cartesian philosophy and in the notion of AI is not just a breakaway from "spiritual life" in terms of secularization as a societal decline in religious belief or observance, but a departure from "spiritual life" as a certain "de-spiritualization" of the practice of thinking: Thinking or indeed intelligence is no longer understood primarily in terms of a spiritual exercise related to one's ethical way of life but instead more dominantly as a scientific theoretical "intellectual method" under the paradigm which Dreyfus calls "calculative rationality".[62]

The extent to which AI as a notion of "intelligence" fosters a "loss of life" and "calculative rationality" in human thinking can be noted from Sherry Turkle's important empirical research on how "life" or "aliveness" is understood amidst increasing interaction between humans and computers—and indeed AI technology—in contemporary society.[63] Noting that "the meaning of intelligence changed when the field of artificial intelligence declared it was something computers could have",[64] Turkle observes:

> [In the 1970s and 1980s,] people wondered [if] the human mind is just a programmed machine, much like a computer… these conversations occurred not just in seminar rooms. They were taking place around kitchen tables and in playrooms. Computers brought philosophy into everyday life; in particular, they turned children into philosophers. In the presence of their simple electronic games—games that played tic-tac-toe or challenged them in spelling—children asked if computers were alive.[65]

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[61] The discussion of the "ethics of thinking" here is indebted to Philip Goodchild, *Capitalism and Religion*, see especially 250–251.

[62] Cf. Hadot, *Philosophy as a Way of Life*.

[63] See also note 44.

[64] Turkle, *Alone Together*, 72.

[65] Ibid., x.

However, after the turn of the century, Turkle observes that "aliveness seemed to have no intrinsic value" for children who have been brought up with computers since their childhood, for aliveness is now considered as "useful only if needed for a specific purpose".[66]

The "anti-philosophical" effects of contemporary children's "technological" or "computational" upbringing are striking, as Turkle summarises:

> In the late 1970s and early 1980s, children tried to make philosophical distinctions about aliveness in order to categorize computers. These days, when children talk about robots as alive enough for *specific purposes*, they are not trying to settle abstract questions. They are being pragmatic.[67]

Put in Dreyfus' terminology, they are "held captive" to the computational picture of "calculative rationality".[68] Accordingly, if the theological inquiry into the existence of God is one that begins with the consideration of the phenomenon of "life" or "aliveness" (as Augustine submits in *De doctrina Christiana*), then the effects of recursive human-AI interaction (as we see in Turkle's research on attitudes to "aliveness") may be said to be not only anti-philosophical but *also* "anti-theological" insofar that it hinders one's "theological" inquiry into the existence of God who is "Life itself".[69]

While the agenda of AI research does not explicitly promote a secularist political outlook or certain secularist social behaviors (what Taylor calls the first and second senses of secularity), from the politico-theological perspective sketched above,

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[66] Ibid., 4.

[67] Ibid., 26.

[68] Although Turkle's category of "aliveness" in her empirical research differs slightly from the notion of "living thought" discussed in this current article, it is worth noting that in her recommendation of Sean Kelly's 2017 article on Dreyfus, entitled "Waking Up to the Gift of 'Aliveness'", Turkle tweets: "A must read. The argument for the meaning of aliveness. And it must be added that Hubert Dreyfus also made the best case for 'What computers can't do'." Sherry Turkle (@STurkle), Twitter post, December 25, 2017, 6:25 am, https://twitter.com/STurkle/status/945299551694610432.

[69] Cf. Nadin, "Machine Intelligence", especially 10: "the fundamental distinction between the living and the non-living [which has been] adamantly cast aside since Descartes is essential for understanding why machine intelligence, despite spectacular technological performance, remains a chimera."

the socio-cultural phenomenon of AI may be regarded as nothing less than a concrete embodiment of a secular "pre-ontology" (Taylor's third sense of secularity). In this respect, corresponding to the popularization of AI as a picture of "lifeless thinking" is an implicit promotion of an axiological ideal of intelligence and the privileging of certain "rationalistic" or "computational" ways of thinking in wider society over more "existential" or indeed "spiritual" ways of thinking. [70] As such, underlying the phenomenon of AI is not only a secularization of thought in the theoretical sense that the notion of AI entails the postulation of the ontological possibility of "lifeless thinking" that may be understood as an affirmation of a "secular" model of "Godless thinking" (if one adheres to an Augustinian conception that "God is life"),[71] but also in a "practical" sense that the formal conception of the separability of life and thought in the notion of AI can also foster a "secularization" or "de-spiritualization" of thinking as a practice.[72]

Conclusion

As opposed to analyzing AI as a technical or technological phenomenon, this article has sought to offer a new perspective on evaluating the ethical issues related to AI as a cultural-philosophical or indeed a politico-theological model of thought and its social impact on the practice of "think*ing*". While AI technology has undoubtedly contributed to many changes—indeed often improvements—in the contemporary way of life, the

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[70] Discussing the impact of technological culture on spirituality, Michael Burdett argues that "contemporary technological practices on the internet and with our mobile devices have far-ranging consequences for the stability for our human capacities, so much so that the way in which we interact with information and others online drastically affects our attention and ability to think". See Burdett, "Technology and Artificial Intelligence".

[71] See Hefty, "The Light of Life"; cf. Cupitt, *The New Religion of Life*.

[72] Cf. Goodchild, *Philosophy as a Spiritual Exercise*, 13–14: "the concept of 'life' fulfills the functions formerly attributed to God: It replaces God… [But] the substitution of concepts such as 'God' and 'life' are less significant than our frameworks of thinking insofar as these constrain or enable us to perceive reality, to touch it, participate in it, and live it… just as the thinking of God has been shaped by the practice of life within institutional religion, the thinking of *life* may be shaped by the practice of philosophy as a way of life."

socio-cultural phenomenon of AI has also shaped our "way of life" or "pre-ontology" in terms of the way we value things in the world and the ways in which we *think*. In light of the increasing presence and popularization of AI in contemporary society, reflection on the "ethics of thinking" related to AI as a formal conception of what it means to "think" or what it means to be "intelligent" seems all the more important, for "thinking" is after all an activity that underlies all cultural expression and ethical reflection. Insofar as AI is a theoretical hypothesis on the nature—and practice—of "thinking", one must not overlook the ethical or indeed politico-theological implications of Artificial Intelligence for contemporary societal culture and indeed for human *thinking* per se.