### Artificial Intelligence and Religion: Recent Advances and Future Directions

with Andrea Vestrucci, "Introduction: Five Steps Towards a Religion–AI Dialogue"; Lluís Oviedo, "AI and Theology: Looking for a Positive—But Not Uncritical—Reception"; Christoph Benzmüller, "Symbolic AI and Gödel's Ontological Argument"; Sara Lumbreras, "Lessons from the Quest for Artificial Consciousness: The Emergence Criterion, Insight-Oriented AI, and Imago Dei"; Marius Dorobantu, "Artificial Intelligence as a Testing Ground for Key Theological Questions"; and Andrea Vestrucci, "Artificial Intelligence and God's Existence: Intersecting Theology and Computation."

# ARTIFICIAL INTELLIGENCE AND THEOLOGY: LOOKING FOR A POSITIVE—BUT NOT UNCRITICAL—RECEPTION

by Lluís Oviedo 🕩

Abstract. Theology and other human sciences present concerns against artificial intelligence (AI) that are often limited to ethical issues, as they appear as the most pressing problems and challenges derived from these new technologies. However, by reviewing the published literature, the article shows that theologians have ventured into broader areas, with a specific focus on the anthropological consequences of current technological advances. New developments and achievements in AI invite further exploration from a theological perspective, and they offer some opportunities and useful applications for theologians. The article moves from the ethical territory toward the more neutral but highly engaging dialogue between science, technology, and religion, their interactions and mutual enrichment. Within this transdisciplinary area, new insights are gained about the role a more committed theology can play in issues like designing the best approaches between religious faith and intelligent systems to achieve a sustainable and equitable future.

*Keywords:* anthropology; artificial intelligence (AI); coping; human flourishing; meaning; religion

INTRODUCTION: LOOKING FOR THE RIGHT FRAMEWORK

For those trying to make sense of science and its technological applications from a theological point of view, the main question is not "What is wrong?" or "What could get wrong?" with scientific advances or with new

Lluís Oviedo is a Professor of Theological Anthropology, Antonianum University, Rome, Italy; e-mail: loviedo@antonianum.eu.

www.wileyonlinelibrary.com/journal/zygon

technologies. The question is rather "What can we learn?" or "What does technology change in our theological understanding?" This does not mean that we ignore the ethical and other concerns; it is just that we pay more attention to other aspects when we take science and technology as "signs of our time" and even as inspiring loci theological or references to enrich our insight for a more engaged theology.

The point is that a theology open to learning from other disciplines, and dialogue with them, a theology looking forward and not just backward, less defensive, and more engaged with the present and future developments, needs to pay more attention to what is being investigated, published in scientific journals, and to the fresher applications new technologies provide, to better assess to what extent those developments become relevant for a theologically informed mind. Theology needs to watch and discern, but at the same time, it needs to adapt to new times and circumstances if it is aiming to stay relevant in new times and with different mind frames as those we were used in former periods.

Since the Christian faith represents an incarnate and historically based religion, what happens in that historical ground becomes very relevant for the self-understanding of that faith, and its way to describe and supply its function and performance. Indeed, many advances through history have constrained Christian Churches to remodel their offering of salvation and to re-design the activities that characterize their mission, and still more to adapt their emphasis and message when what is at stake is the ultimate human and social well-being.

With these premises in mind, I would like to approach the topic of religion and artificial intelligence (AI) by distinguishing three levels. The first one is related to the general consequences that the latest stage in AI development could entail for Christian faith—and more broadly for living religions—as some applications lead to designing a new social and human panorama, in which religious faith would need to redefine its specific contribution or even its identity after some goals to improve our conditions have been achieved. The second level is more specific, and it is related to applications of AI that involve a rethinking of human cognition, and in particular the believing process, as a dynamic that could probably be helped by super-intelligent systems. The third level concerns interactions between humans and those systems, which are growing and becoming more frequent and useful in many fields, and which could posit the question of a religious context for such interactions.

Before moving into the suggested issues, we need to consider what has already been published from a theological point of view and to practice some review—even if not very "systematic"—to connect the present attempt with ongoing research and analysis.

#### Where We Are in the Theological Study of AI

The first question that arises when trying to engage with AI from a theological point of view regards the right approach or at least the most fitting way to establish a fruitful interaction. An immediate and obvious answer is the ethical dimension, since theologians could be quite concerned about risks and moral issues linked to this development. However, a quick review of the published literature on "theology and AI" reveals several more possibilities worthy to explore. A good and pending task is to put some order into this plural panorama to better establish the point of current and incoming engagement. My approach to the issue of AI will be rather constructive and connected with ongoing attempts to make sense of those developments in theological terms.

Taking a summarized approach to the published literature, several directions appear as more relevant. I have explored two bibliographic repositories: the website of the Zygon: Journal of Religion and Science, with an excellent search engine, and the prolific site of Google Scholar, with thousands of entries. Simply writing "Artificial Intelligence" on the Zygon: Journal of Religion and Science site, the browser gave 280 entries. In Google Scholar, we need to be more specific: "Artificial Intelligence, religion and theology" were the browsing words. As it happens in these cases, only the first pages of results offer relevant titles and allow to get a general view of the set, with different variations on the treatment of that issue.

In an attempt to organize the material found, I propose to consider the following fields: first, ethical concerns derived from the current and incoming developments of AI; second, big threats linked to AI, and revealed in science fiction and apocalyptic cultural frames; third, anthropological questions regarding the Imago Dei topic, the personhood we can recognize in these intelligent systems, together with an embodiment; related to this third point, we can add the big expectations linked to the transhumanism program, which raise theological questions; and fourth, questions about the impact of AI on religious faith and practice, or about the magical/religious dimension we could identify in AI.

The ethical aspects of AI are by no means exclusively theological. Indeed, a growing literature shows great interest in several academic sectors regarding those issues (Frischmann and Selinger 2018; Coeckelbergh 2020; Cormie 2020; Liao 2020; Floridi 2021; Green, Singh, and Chia 2022). Theology feels in this case in good company and endowed with a sense of "actuality" and relevance: trying to address ethical issues clearly places theology in the right intellectual milieu and the right time, avoiding being seen as insensitive and ignored in the public square. This trend reveals an understanding toward new and unpredictable consequences of intelligent systems that encompass and could eventually replace many human activities. It would be naïve to neglect the suspicions and fears often linked to such advances, which the media and movies often boost through apocalyptic threats. Several theologians have raised their voices and have shown their concern in the name of a religious vision regarding various dangers and actual abuses that are linked to AI (Brittain 2020; Hefferman 2020; Jackélen 2021; Reed 2021).

The ethical issues are clearly connected with apocalyptic scenarios and fears. A rich symposium on AI and apocalypticism has been already reported in the Zygon: Journal of Religion and Science pages (Geraci and Robinson 2019). This is a topic theology is quite familiar with, and where we can find a clear affinity; a consistent apocalyptic tradition has accompanied the Christian faith and churches for many centuries. Christian theologians can feel quite at home in this approach that senses the end as a close and promising possibility. However, the Christian approach, based on our long historical experience, can be applied in a critical way too: we understand these feelings and we know how to better discern when these fears and expectations are serious and when are they just a "literary genre," which requires the right hermeneutic and a discernment able to distinguish what are the real dangers and what is phantasy. Curiously, some author proposes a kind of "religious AI" (Song 2021) as an antidote or remedy against the darkest aspects associated with these technologies threatening our common future.

The third theological area involved is the anthropological one. Here the stakes are more defined. Several analyses focus on the issue of Imago Dei; it is applied both to how we can understand the human condition when confronted with developments in AI coming close to the human mind, and to what extent Imago Dei interprets our intelligent creations, or whether personhood and what is associated with it can be attributed to machines too. Some studies point to a necessary revision of our theological anthropological categories, after observing the contrast between us and the machines (Barbour 1999; Herzfeld 2002, 2007; Brittain 2020); or the complex issue conceiving alterity in our relationship with these intelligent systems (Chaudhary 2020; Burdett 2020; La Parra 2021). The impression is that many things change when we consider these new arrivals or fresh developments and applications in AI; their status appears as ambivalent, or less clear, mid-way between the mechanic thing and the real person able to interact and even to reveal some intention. However, optimistic voices claim that AI could become a "disguised friend of theological anthropology," as it could help to better discern human qualities (Dorobantu 2021). An ulterior complication has been the convergence between AI and transhumanism as a program or expectation. Even if theology feels less interested in this topic, despite its mediatic impact, the anthropological issues should not be ignored (Dorobantu 2022). Theology has been always an "expert in humanity," and consequently its analyses are always connected with that basic interest together with the central question about how new developments affect the human condition.

The fourth area of interest regards questions of AI, magic, and religion. It is relatively easy to identify two basic tendencies: on the one hand, AI is viewed as a reality that renders obsolete any magic or religious expression; on the other hand, different authors see AI as offering a new magical version. In the first group, some essays point to the disruptive power that AI displays to erase most traditional beliefs, especially those religious (Helmreich 2000; Georges 2004; Anderson 2005). The other position leans toward perceiving AI as a sort of new magic or even a religious flair (Foerst 1998, 2004; Chaudhary 2019; Wilks 2019; Hipple 2020; Schradle 2020; Reed 2021; Obadia 2022). Some reflection is dutiful in this case too. Theology should be the discipline better endowed to approach self-transcendence, religion, and every other form of supernatural or transcending reality, including magic, even in concurrence with other attempts to study religion. We can expect that theologians stop for a while to discern whether the ongoing achievements in AI can be placed more in the areas of no-religion and no-magic, as they culminate a technological dream consisting in rendering other-worldly references redundant; or instead, whether they re-instantiate a fresh expression of transcendence, this time assisted by these technologies that provide augmented reality and virtual worlds. Whether AI will help or distort and jeopardize transcending experience will depend probably more on other factors, and not just on AI as a technology. Indeed, the magic the quoted authors identify with AI could work more as a substitute for traditional expressions that help to transcend the current and dull reality. This is a point we need to come back to in the analysis proposed.

As has been shown through this quick review of academic literature, theology appears as a relevant and needed discipline: it presents an alternative approach to ethical issues, together with other disciplines; it assists in discerning our hopes, or what is reasonable to believe regarding our future; it provides an accurate analysis on anthropological issues, to avoid many risks and to lead toward right models of human flourishing; and it provides qualified expertise on religion and transcendence, helping to discern between the right and the wrong forms AI eventually assumes. Theology dealing with scientific and technological advances recovers a sense of identity and mission, which could be missed when just trying to exercise the right hermeneutics on ancient texts. In my opinion, theology has grown in that critical practice and trying to make sense of AI inside its own framework. However, there are other areas in which theology can show its proficiency in providing the finest analysis and discernment, all of them being very useful in our social uncertain conditions when many of those advances could derail or be an object of abuse. The fields still to explore, from a theological expert gaze, are the relationships between society and religion, or more precisely, how social systems are being redesigned to better distribute performances, or in simple words, what is more helpful for each side—the technological and the theological—and brings "salvation" for all; the question about beliefs and believing process, or how to believe in the right way; and the issue of personal and social well-being.

#### AI IN THE MOVE: WHAT AI CAN AND CANNOT DO RIGHT NOW

As a first step, we need to remind which are the relevant achievements in AI that could be taken as advances, even without ignoring the associated disruptions it can entail. The last wave of AI applies techniques of pattern recognition and machine learning to manage huge amounts of data, and to process such information into outcomes that are useful for some designed activities, like spotting tumors and other diagnosing; driving cars; noticing odd features that could entail big risks; designing a conversation (chatbots); predict weather and other very complex processes; and obviously, all the possible applications linked to face recognition or other traits that can then be applied to different activities: identities, targeting...

The field of AI is now divided between utopiates—which often move to dystopia—and realists. For the first group, AI entails a revolution called to deeply change the world; this is the case, for instance, for Max Tegmark and his book *Life 3.0: Being Human in the Age of AI* (2017). For the second group, the range and performance of AI are much more limited, even if promising, but it can clearly not replace many human functions andeven those systems are threatening us; an example is a recent book by Steven Shwartz, *Evil Robots, Killer Computers and Other Myths: The Truth About AI and the Future of Humanity* (2021). Indeed, a discussion is going on about what AI can really achieve and what it cannot. We find even curious articles about "10 Things AI Can't Do"<sup>1</sup>; some are too obvious, but others point to interesting limits that invite us to assume a more realistic stance.

To get a realistic view of what AI can truly achieve and what are its effects should be the first aim for a theological discernment. Based in what is nowadays working—and less in unsure, positive, or threatening futures—theology can learn several interesting lessons regarding how religious faith could relocate itself according to this new coordinate's axes, and possible specific theological applications, like in the case we need to examine of assistants for the tasks of discerning and testing arguments.

## Theology and New Technologies: Some Possible Displacements

The first issue at stake, after assessing the real impact and effects of AI, is linked to the complex relationships that religion, and more specifically

Christian faith, entertains with new technologies. A great ambiguity has been observed since technological advances burst into everyday lives and became new cultural and social elements: they have been perceived often as disruptions from traditional forms of living (Georges 2004), and since Catholic and other Churches are firmly rooted in tradition, they can suffer as a result. However, and at the same time, these technologies offered often new means that helped the Church mission and were very useful in many realms, like enhancing health or generating more free time for inner growth.

Probably, the greatest problem that new technical advances present to religious faith is the implicit competence they bring: since technologies can solve more efficiently many practical problems, they reveal or expose the deep limits that afflict religious salvific schemas as too fuzzy or ineffective. Technologies solve problems; religion just defers them for promised better times—or does it not? Technology has been identified, perhaps more than science, as a secularization factor, an aspect of the modern world that renders many qualities of religion just redundant, or superfluous: we do not need religion any longer, when we can resort to much better means to address many issues that have afflicted us humans for a long time. Even if that performance is still limited to those aspects, technologies are better at solving several issues, like improving health, transportation, or increasing productivity. The once perceived limits seem to fade away and the new techniques entail the promise of new advances able to improve our quality of life in still broader areas, as it was the case in past decades when several technologies were facilitating living standards; just think of how washing machines improved life quality to many families; or what about television and the entertainment it provides? How much joy has it given to so many people?

The last analysis leads directly to AI as a technology that promises to advance still further and to bring technology benefits to a new degree not yet reached by former developments. This is the case that futurists and transhumanists are making when trusting AI and its performance as an achievement that could take the human condition to new and unexpected heights. This scenario deepens, and takes to a new critical point, the secularization pattern. However, the competition model is not the only game in town. It is quite easy to conceive a different approach with AI that is more focused on collaboration and completeness, and even on task distribution, and that could help to better specify the function of religion in this different time, under circumstances very distant from those we knew in former periods. The point is that besides a "hermeneutic of suspicion," a "charity interpretation"—in the sense Donald Davidson suggested as trying to optimize agreement—may be more helpful in this case.

The hermeneutic of suspicion has been the majority choice. Take for instance a very recent article by Alan Deagon "The Tools that B(l)ind: Technology as a New Theology" (2021). He claims that with the emergence of AI a new stage is reached in which technology plays a similar role to theology in former times, as a provider of meaning and salvation, inside a framework that suggests the malignant character of that process that is exploited by "biopolitics" as a mechanism of manipulation and dominance. Even other recent attempts to deal with AI from a theological point of view do not manage to provide a more positive insight. The second example is the collective book edited by William Anderson, *Technology* and Theology (2020), a project that focuses on AI through many chapters, and applies a "cultural studies" approach to find out how descriptions of AI, often in science fiction literature or movies, rather reflect anxieties and motives from our cultural milieu and searches for meaning in this sometimes disquieting and disrupting new panorama that the new technologies are shaping. The question was posed more radically by Ilia Delio, asking about "AI and salvation" (Delio 2003), an issue that she solved highlighting the incapacity of AI-almost 20 years ago-to provide true alterity and intimacy, a point several voices would dispute nowadays after recent achievements in interacting robots.

I insist that this is not the only hermeneutic we can apply in this case. As shown earlier, technology has often elicited fears and criticism, especially in traditionally driven institutions, like the Catholic Church, to later become welcomed and eagerly applied after adapting the official discourse or developing an alternative theological model. I endeavor for a more collaborative model, in which neither religion nor technology dominates and manages to solve all the human issues, but in which joining efforts results in a much better and fitting outcome for most people, including Christian churches. In which sense could such a model be applied in our case? This is relatively easy: in the same way that former technologies have helped to solve many practical issues and to increase life quality for great population swaths, this could be the case now. In a similar vein, religious coping works better when combined with other secular means, like psychotherapy, good social networks, and cultural cultivation. Something similar can be conceived for AI and religious faith: by collaborating they become complementary instances aimed at improving everybody's living standards. This approach does not suggest just a kind of moderating instance on the side of theology, which would provide some brake before new technologies run too fast and risk too much, but it is conceived rather from a view that stresses tasks distribution and mutual recognition of each own territories or social systems: what belongs to practical issues needs to resort to technological means; and what belongs to the spiritual realm, to meaning and purpose, should be addressed through religious or spiritual means. This rule applies to science and theology too as big intellectual endeavors, linked to important social systems, both necessary and useful, and both called to coexist respectfully in the pursuit of a better world.

The proposed approach is not exempt from tensions and problems. Indeed, a task theology and philosophy of science need to exert is one of discernment and conflict resolution when things become problematic and disputed. Jürgen Habermas suggested in an earlier analysis that the role philosophy could still play in "post-metaphysical times" was one of Platzhalter (Habermas 1971, 1983), or organizer of different areas and working fields. Theology should share in that responsibility and mission: to distinguish where it is to place the works of science and theology, trying to avoid interferences or invasions of alien ground, useless conflicts, and sterile extrapolations. In this sense, theology needs to engage much more in helping us to discern what can be expected from science and advanced technologies, and what is better to reserve for alternative disciplines and research programs. In doing so, I also advocate for providing a healthy reception of new technical developments that helps to avoid mistrust and to overcome anti-technology suspicions and even worse, as those we have witnessed in recent campaigns against vaccination. In that sense, there is still a long way to go if theology has to take seriously what happens in these new technologies and their sometimes astounding applications. The point is that theology can exert an important role in better describing and assigning social functions or in reminding of boundaries between social systems and possible interactions and synergies. Theology and religion are no longer representing the leading instances of a whole society, as could have been the case in former times, but they still can offer a special view to allow for better considering how different social systems can contribute to the common good and achieving the mutually shared goals for general betterment.

#### TRYING SOME POSSIBLE APPLICATIONS OF AI TO SPECIFIC THEOLOGICAL ISSUES: THE QUESTION OF BELIEVING

I hope it will not be too bold to consider applications of super-intelligent systems to theological topics, like the study of beliefs and beliefs and believing process, or even to the analysis of arguments for the existence of God. Obviously, very few would claim that an intelligent machine could be able to determine the rationality of believing in God, but some recent developments come close to determining the validity of arguments in support of some beliefs, as recent studies have reported (Vestrucci, Lumbreras, and Oviedo 2021).

The point is that we are not far from being able to conceive intelligent systems based on AI that could work as a sort of "assistants in the process of believing." This is not a weird and fantastic expectation; indeed, we are used to a lot of such "assistants": entire libraries offer arguments for and against the Christian faith. "Faith enhancers" are countless, from traditional magnificent religious buildings, often conceived to encourage those beliefs, to rituals accompanied with very elaborate music, and visual art, all of which could be seen as "assistants." However, now we are talking about something else: how AI working on pattern recognition and machine learning could help to better determine which beliefs are more reliable than others. This is a point that many authors have made in the last years: the belief process—which is studied in a very broad and well-developed research program—is often represented as a calculation of probabilities, or a Bayesian process in which we arrive from inputs of information to determine possible outcomes in the sense of what is more trustworthy or reliable (Smith 2016; Leitgeb 2017; Porot and Mandelbaum 2020).

Richard Swinburne is among the most outstanding contemporary philosophers of religion that argued for a probabilistic approach to Christian beliefs (Swinburne 1993). Now, a step further leads us to the possibility to formalize arguments or to recodify them in a format that AI systems could process to better assess the probability degrees that Christian beliefs assume.

I am pleading for AI as a possible ally or complement to theological tasks or to deepen the philosophy of religion analysis, a task that can find several more applications. This is not new: consider how biblical scholars apply computer-designed techniques to better research the Bible with means that save a lot of time and effort compared with former resources. Current systems to analyze texts, find out patterns, and assess authenticity of authorship and other clues are being extensively applied in humanities, and they are more and more applied to the study of classical Christian texts. Theology cannot stay behind in the application of all those resources if it intends to reach an academic status and recognition.

Probably there is much more in this area of possible application of super-intelligent systems to theology. I have in mind data analysis as a most needed process when theology turns to the empirical ground and learns to work with huge amounts of data about religious perceptions and experiences that require the finest statistical tools to analyze them most accurately. This is particularly true when we need to analyze thousands of pages of texts, testimonies, letters, and other textual material and we look for patterns and for indications that could reveal tendencies and assist in reading the signs of time.

The point is that AI is already working for the benefit of theology, and not just competing with it; in other words, AI provides tools or useful instruments for theological development, and it is less viewed as a challenge and a threat.

#### Theology, AI, and Models of Sustainable Well-Being

In this case, theology is just exploring a promising territory, but one quite insidious too. The point is that several research programs have drawn theological attention as they could reveal aspects we have neglected and that entail new possibilities to endow meaning and use to religious faith and practice. There is already a consistent tradition in the field of "religious coping"; more than 4,000 articles have been published in the last 30 years on this topic. Studies on religion, well-being and human flourishing are becoming mainstream and not just a minority niche in the scientific study of religion. Connecting religion and meaning, purpose, big values, and strong hope, is something we are used to, but the new research in the last years provides new insight into these issues, as they become more a subject of scientific enquiry (Hicks and Routledge 2013).

All the suggested developments open a new window on the study of religion and its positive effects, and on the ways that we understand the function of religion, its performance and utility in societies where it has been fading away. Strong secularization processes meant indeed that religion would be of little use, or even dysfunctional, in advanced societies able to arrange things rationally or technically. Now we realize that religion can become a big help in many contexts and life situations, such as meaning and purpose provision, coping strategies and human flourishing, opening to a different approach beyond what we were used to until recently (Briggs and Reiss 2021).

The question now is whether such a new perspective does allow for a new framing of AI, as a factor that assists in the interplay between religion, culture, and human needs. A first answer points to the positive effects that AI technologies could offer in several cases, like applications in devices designed to help people with physical or even mental disabilities. This is indeed a promising area where AI delivers surprising assistance to people suffering from impairments and helps them to overcome and to cope with their difficulties by gaining resilience. These technologies become factors that improve the life quality of these persons. This positive view can be extended to other areas in which AI offers experiences that improve different personal aspects: aesthetic, educational, diagnostic, and therapeutic. But there are other cases where AI is seen with big suspicion after learning about the many abuses in applications that could apparently be aimed at satisfying personal needs and desires, but that become forms of manipulation and exploitation through consumerism or biased information.

The issue is that possibly AI needs more theology to better discern what can help persons to flourish and to develop their best capabilities, and what instead can lead to deceptive and self-deceptive risks. This is more a thesis than an analysis: the idea is that AI on its own is incapable to develop a reflective exercise aimed at discerning how to become more useful and how to avoid pitfalls and abuses. Perhaps, this proposal brings us back to the ethical question; the possible overlapping between religious function and new technologies comes to mind when we advance a program aimed at improving human and social conditions through the application of AI. However, the thesis digs deeper and suggests forms of synergy between theology and intelligent systems that could render more fruitful and meaningful developments. It is partly about forming and enforcing a conscience, which can be seen as being very close to the ethical ideals held by Christians and Humanists alike, but it is more about projecting meaning and purpose, an exercise that demands more transcending efforts, and an ability to radically refer to the distinction between absolute and relative, salvation and damnation, or even life and death in its ultimate sense.

The former reflections connect with recent programs about the pursuit of a sustainable model for the economy, social organization, and personal self-fulfillment. Again, many AI applications become very useful in designing sustainable systems, like electric grids and better use of energy and other resources. AI becomes a clear ally for such programs. However, a broader sense of sustainability, as the one expressed in the ESG models (environment, social responsibility, and governance) invite us to consider AI in a fitter context. Theology can assist in forming a conscience able to integrate the benefits of ongoing research and development, and render these means more ingrained into the social fabric, to achieve that big goal. Theology can specialize as a discipline aimed at inspiring and discerning sustainable systems through a deep and long-term vision, able to transcend the immediate and physical level, and so becoming more farsighted. Programs for achieving personal and collective well-being would become counter-adaptive if they are unable to take into account sustainable goals; theology could work as a reflective instance looking for balances and integration among different systems and developments.

#### Some Concluding Remarks

The analysis provided in these pages has attempted to move forward in the interaction between theology and AI systems, beyond fears and suspicions sometimes nourished by a growing literature and media industry exploiting catastrophist expectations. The proposed approach collects the results from published and ongoing interventions and tries to explore alternative areas in which that interface can reveal better and more promising results. As analyzed, this does not exclude the ethical concerns, but it highlights the great importance of anthropological issues. What is interesting is how the irruption of these new technologies can open new horizons for an engaged theology aimed at designing better conditions for personal and collective living. Theology perceives itself in all this process as a discerning instance that assists in several areas to make sense of new and promising developments. From this perspective, the relationship between theological studies and AI offers clear advances: the mutual interaction between the two research areas would provide theology with a confirmation of its relevance (especially in issues spanning from ethics to the relationship between humanity with transcendence), and with a new task: contributing to addressing and discovering issues related to the development of AI systems. This goal can be achieved only through a greater theological engagement with the recent developments of AI and their practical relevance. The anthropological issues appear pressing and they need to be addressed as a previous condition for any ethical analysis. This is an open field after the current developments can take different directions and require steady engagement from a theological side.

One question remains unanswered: to what extent new technologies can be understood as further steps in the process of displacement wearing down religious communication, their symbolic functions, and their presence in the social fabric. The proposed model points to a more collaborative stance. The point is that the fear associated with AI and its applications might lead to a greater, not a lower, religious role and function. In my opinion, this is not just about competing dimensions and achievements, but about how different social systems and instances contribute to the common good, sustainably providing meaning and well-being.

#### Note

1. https://www.linkedin.com/pulse/10-things-artificial-intelligence-cant-do-james-tagg/

#### References

Anderson, Michael L. 2005. "Why is AI So Scary?" Artificial Intelligence 169 (2): 201-8.

Anderson, William. 2020. Technology and Theology., Wilmington, DE: Vernon Press.

- Barbour, Ian G. 1999. "Neuroscience, Artificial Intelligence, and Human Nature: Theological and Philosophical Reflections." Zygon: Journal of Religion and Science 34 (3): 361–98.
- Briggs, Andrew, and Michael J. Reiss. 2021. *Human Flourishing: Scientific Insight and Spiritual Wisdom in Uncertain Times.* Oxford: Oxford University Press.
- Brittain, Christopher Craig. 2020. "Artificial Intelligence: Three Challenges to Theology." *Toronto Journal of Theology* 36 (1): 84–86.
- Burdett, Michael S. 2020. "Personhood and Creation in an Age of Robots and AI: Can We Say "You" to Artifacts?" Zygon: Journal of Religion and Science 55 (2): 347–60. Chaudhary, Mohammad Y. 2019. "Augmented Reality, Artificial Intelligence, and the Re-
- Chaudhary, Mohammad Y. 2019. "Augmented Reality, Artificial Intelligence, and the Re-Enchantment of the World." *Zygon: Journal of Religion and Science* 54 (2): 454–78.
  2020. "The Artificialization of Mind and World." *Zygon: Journal of Religion and Science* 55 (2): 361–81.
- Coeckelbergh, Mark. 2020. AI Ethics. Cambridge, MA: MIT Press.
- Cormie, Lee F. 2020. "Artificial Intelligence: Challenges and Possibilities for Theology and Ethics." *Toronto Journal of Theology* 36 (1): 75–77.
- Deagon, Alan. 2021. "The Tools that B(I) ind: Technology as a New Theology." Law, Technology and Humans 3 (1): 82–95.
- Delio, Ilia O.S.F. 2003. "Artificial Intelligence and Christian Salvation: Compatibility or Competition?" New Theology Review 16:39–51.

Dorobantu, Marius. 2021. "Artificial Intelligence: The Disguised Friend of Christian Anthro-

pology." -. 2022. "Strong Artificial Intelligence and Theological Anthropology: One Problem, Two Solutions." In Humanism and its Discontents: The Rise of Transhumanism and Posthumanism, edited by Paul Jorion, 19–33. Cham, Switzerland: Palgrave Macmillan.

- Floridi, Luciano, ed. 2021. Ethics, Governance, and Policies in Artificial Intelligence. Cham, Switzerland: Springer.
- Foerst, Anne. 1998. "Embodied AI, Creation, and Cog." Zygon: Journal of Religion and Science 33 (3): 455-61.

-. 2004. God in the Machine: What Robots Teach Us About Humanity and God. New York: Dutton.

- Frischmann, Brett, and Evan Selinger. 2018. Re-Engineering Humanity. Cambridge: Cambridge University Press.
- Georges, Thomas M. 2004. Digital Soul: Intelligent Machines and Human Values. Boulder, CO: Westview Press.
- Geraci, Robert M., and Simon Robinson. 2019. "Introduction to the Symposium on Artificial Intelligence and Apocalypticism." Zygon: Journal of Religion and Science 54 (1): 149-55.
- Green, Erin, Divya Singh, and Roland Chia, eds. 2022. AI Ethics and Higher Education: Good Practice and Guidance for Educators, Learners, and Institutions, Geneva: Globethics.
- Habermas, Jürgen. 1971. "Einleitung: Wozu noch Philosophie?" In Philosophische Profile, 11-36. Frankfurt: Suhrkamp.

-. 1983. "Die Philosophie als Platzhalter und Interpret." In Moralbewußtsein und kommunikatives Handlen. Frankfurt: Suhrkamp.

Heffernan, Teresa. 2020. "The Dangers of Mystifying Artificial Intelligence and Robotics." Toronto Journal of Theology 36 (1): 93-95.

Helmreich, Stefan. 2000. Silicon Second Nature: Culturing Artificial Life in a Digital World. Berkeley, CA: University of California Press.

Herzfeld, Noreen. 2002. "Creating in Our Own Image: Artificial Intelligence and the Image of God." *Zygon: Journal of Religion and Science* 37 (2): 303–16. -. 2007. "A New Member of the Family? The Continuum of Being, Artificial Intelligence,

and the Image of God." Theology and Science 5 (3): 235-47.

- Hicks, Joshua A. and Clay Routledge, eds. 2013. The Experience of Meaning in Life: Classical Perspectives, Emerging Themes, and Controversies. Dordrecht, Heidelberg: Springer.
- Hipple, David. 2020. "Encounters with Emergent Deities: Artificial Intelligence in Science Fiction Narrative." Zygon: Journal of Religion and Science 55 (2): 382-408.
- Jackelén, Antje. 2021. "Technology, Theology, and Spirituality in the Digital Age." Zygon: Journal of Religion and Science 56 (1): 6-18.
- Parra La, and Juan Ramón. 2021. "Inteligencia artificial: Aproximación desde una teología amiga de la ciencia." Comprendre 23 (1): 49-75.

Leitgeb, Hannes, 2017. The Stability of Belief: How Rational Belief Coheres with Probability. Oxford: Oxford University Press.

- Liao, S. Matthew, ed. 2020. Ethics of Artificial Intelligence. Oxford: Oxford University Press.
- Obadia, Lionel. 2022. "Spelling the (Digital) Spell: Talking About Magic in the Digital Revolution." Sophia 61:23-40.
- Porot, N. E. Mandelbaum. 2020. "The Science of Belief: A Progress Report." WIREs Cognitive Science 12 (2):e1539.
- Reed, Randall. 2021. "The Theology of GPT-2: Religion and Artificial Intelligence." Religion Compass 15:e12422.

Schradle, Nathan. 2020. "In Algorithms We Trust: Magical Thinking, Superintelligent AI and Quantum Computing." Zygon: Journal of Religion and Science 55 (3): 733–47. Shwartz, Steven. 2021. Evil Robots, Killer Computers, and Other Myths: The Truth About AI and

- the Future of Humanity. New York: Fast Company.
- Smith, Martin. 2016. Between Probability and Certainty: What Justifies Belief. Oxford: Oxford University Press.
- Song, Yong Sup. 2021. "Religious AI as an Option to the Risks of Superintelligence: A Protestant Theological Perspective." Theology and Science 19 (1): 65–78.
- Swinburne, Richard. 1993. The Coherence of Theism. Oxford: Oxford University Press.
- Tegmark, Max. 2017. Life 3.0: Being Human in the Age of AI. London: Penguin.

- Vestrucci, Andrea, Sara Lumbreras, and Lluís Oviedo. 2021. "Can AI Help Us to Understand Belief? Sources, Advances, Limits, and Future Directions." *International Journal of Inter*active Multimedia and Artificial Intelligence 7 (1): 24–31. Wilks, Yorick. 2019. Artificial Intelligence: Modern Magic or Dangerous Future? London: Icon
- Books.