

Can God Be an AI With Robo-Priests?

“You may love your computer, but your computer [and AI] do not love you” (Kallistos Ware) [1, p. 26].

I. IN IMAGE AND LIKENESS

IN OUR increasingly technicized and secular world, divisive issues that polarize the public are only intensifying. We experience this not only in our private lives, but also more pervasively in the public square with the rise of the so-called New Atheism which prizes empirical science above all else and posits that religious beliefs have completely natural explanations. This ideological exchange between the purely secular and non-secular worldview [Weltanschauung] at its center concentrates on the value and significance of our existence. This conversation mainly revolves around the place [or not] of God as supreme being and ultimate source of moral authority.

For growing numbers, the idea of an all-knowing God, that is, of an omniscient divinity who knows everything at all times, is thought of as a human-made construction developed, perhaps as an evolutionary adjustment, to comfort our limited brain before nature’s mighty unknowns. Non-believers point to religion as a system of organization as opposed to a “way of life”. Some philosophers, particularly in the 19th century, argued there was a need for this religious myth in order to explain our own conception and practice of virtue.

We should also note that the idea of gods created by mere mortals and the critique of such endeavors is nothing new. We can trace the basics of such arguments to the Ancient Greeks (fifth/sixth century BCE) who found exclusivity to be one of the irrational elements when it came to the belief in gods and to view theogonies through the lens of rational myth theory [60]. Even earlier, prophets of the Old Testament (eighth century BCE) saw gods of competing nations as useless idols and condemned them as substitute deities. “They have made false gods for themselves out of silver and gold” (Hos. 8:4).

In our time, it is not mythologies or idols in the place of God, but improbably a new divinity, an “AI-centric” God, *deus ex machina* or more to the point *dei ex machina*, which according to some in the transhumanist movement, advocates for the enhancement of the human condition in terms of both its longevity and cognition. This AI-centric God will be made in the *image* and *likeness* of humans *by* humans simulating the famous *imago Dei* of Genesis 1:27.

This *neoteric supreme being* may function as the ultimate brain trust of the world’s knowledge and wisdom literature, and conflate into an interactive conversational agent (i.e., AI-enabled chatbot) that is *always on* and *always with you*. A kind of uberveillant Jiminy Cricket, Pinocchio’s conscience [52],

but fueled with positive psychology and a static random access memory (SRAM) that knows you better than you know yourself. One can quite easily imagine at moments of indecision, instead of phoning a friend or asking an elder about a given course of action, bypassing all interpersonal relations to ask the AI!

The famous Delphic maxim “know thyself” takes on new connotations, as does the well-known Cartesian philosophical statement, “I think, therefore I am.” In the context of uberveillance, this AI artefact (in effect, a blackbox [2], [3]) masquerades as omnipresent and omniscient surveillance [30], [45], [46], [47], which depending on your place in the *axis of access* [48], [49], [50], may be unable to be turned *on* and *off* [4]. In some instances, the AI may even over-ride your decisions based on whether you have been categorized as someone living with certain conditions (e.g., dementia) or retaining a certain status (e.g., parolee). For now, we might call this a wire-line/less intervention. A denial-of-service (DoS) attack could be analogous to an exile or a call to contrition to be admitted back into the community of the faithful.

The rubrics of this divinatory algorithm would be shaped dependent on one’s philosophical or religious orientation or even all of the wisdom literature merged together. All hours of the day, 24 × 7, the spirit agent would be there to listen and respond and assist in the process of self-realization. Like self-talk, but only more powerful, in externalized form; it would learn about our likes and dislikes and potentially challenge us on our behaviors and choices [51]. We could confess to the spirit machine and pour out our hearts about those things most plaguing us and to seek out possible ways to overcome these troubles, being connected to a global brain, a distant yet personal Internet, a kind of recently touted Metaverse [5].

Some might say that this phenomenological development, in the sense of religious experience, is comparable to the golden calf described in Exodus 32. While Moses was on Mount Sinai receiving the *Ten Commandments*, his people below growing more and more frustrated at his delay in coming down from the mountain, fashioned a molded calf out of gold, built an altar to it, and started worshipping and sacrificing to it. In our day, instead of the *golden calf*, we could be said to be molding the Artificial Intelligence (AI) *God*.

II. THE RISING TECHNO-MYTH

Have we had enough of the traditional *God-Myth* [6]? Are we now looking for meaning in the *Techno-Myth* that has been anthropomorphized in substantial form, despite AI algorithms being digital and invisible to the naked eye? And here a suggestion of the *Incarnation*, “the Word” taking on flesh (Jn. 1:1). Except for the critical fact the former is a “what”

and the latter is a “who”. Do we wish to build something of a digital twin of our very selves in the form of a consciousness that may live beyond our own lifetime? An enduring avatar? Might we be choosing to confess to a replicant as the “best” type of our very selves, thus becoming our own Maker? The machine as an extension of our “whoness”, an artificial algorithmized “who” that collapses back into “whatness”, as the mathematician-philosopher Michael Eldred has posited in recent times [7], [53], [54].

In past generations we looked to socially transform and develop the inner person through prayer and meditation with some worshippers even using a simple prayer rope as an aid to reflection and mindfulness. Today, given the context of the attention economy, increasingly locking us into a digital realm [8], [9], it is manifest that individuals feel overwhelmed [10], [61]. We are told that the only way forward out of this digital entanglement is not through personal struggle [*agon* the Greek word for conflict, struggle, or contest] but to further seek in the aid of yet another technological fix (yes, *there’s an app for that too*); a type of computer-supported solution to addressing the development and the angst of the inner person. If there is agreement on one thing in all of our received wisdom literature it is that spiritual attainment presupposes a long endurance and solitude from any unnecessary noise.

We are seeking instant answers to our needs and prayers. But, of course, an instantaneous button press on a handset or screen cannot respond to our most profound needs nor fill an existential void. Similarly, to the king of Corinth, the tortured Sisyphus, we keep rolling the boulder up and down the hill to nowhere. Responses to our personal problems take time and require patience and need to be well thought out with reference to wisdom. But our machines teach us the opposite, almost condition us in a way to believe the answer is here and now. In addition, as our attention to social media posts and other online platforms continues to decrease, our impatience continues to grow [11]. COVID restrictions aside, which were temporary in any case, our theatre venues struggle to remain open as people prefer to watch Netflix on their home entertainment systems, and viewers of multimedia content on social media platforms prefer *shorts* rather than full-length videos [12], [13]. Something measurable has happened to our attention span [14] but also the type of content we consume with product videos consistently ranking at the top. We live for data and information, but in truth we thirst for knowledge [15]. We already live in a Universe but seek a Metaverse. Why?

The instantaneousness of our digital communications “at scale” via machines that deceptively seem like they can process information faster than our analog brains, leads us to believe that God is not only absent when our hopes do not eventuate, but is also a redundant deity who has served their purpose. We wish to circumvent the need to establish a personal relationship with the Creator by reducing God to an attainable and circumscribed conception in human terms. Paradoxically, this would assume a belief in some form of higher power in the first instance, and so we are reminded of the quote from the Epistle to the Hebrews (11.1): “Now faith is the substance of things hoped for, the evidence of things not seen.”

The digitalization of everything now means we can visit places of worship remotely to light a candle; we can ask a robot to commemorate the dead; and we can even confess to a *robo-priest* “on demand”; all without the need for human intervention. It is *religion-as-a-service* without the spiritual toil [prayer and work: *ora et labora*]. Why not just outsource the sacrament, event or moment to a “thing” that is willing to *listen* and *act* in place of, in this instance, the priest or counsellor, and ultimately in place of God. But we recognize from sober engineers such as the former editor-in-chief of the *IEEE Robotics and Automation Magazine*, Eugenio Guglielmelli, Professor of Bioengineering at Università Campus Bio-Medico di Roma that “Robots Don’t Pray” [16].

The divergence here is in what we believe is *uniqueness*, being made in the *image* and *likeness* of God (Gen. 1:26). Humans are now working towards entirely deconstructing this idea, and in some sense engaging in reverse-engineering. Of course, some would say this is sensible, we are following science, and science has all but debunked religious creeds. *But has it?* At whose *infallible* authority? And importantly, has it exhausted human spirituality, which is, “the quality of being concerned with the human spirit or soul as opposed to material or physical things” [17]? No cosmological model has yet been able to explain how energy, time, and space were caused. And so, this unquenchable drive to reach out for that which is bigger and better than ourselves, where does this come from? Some call it “religious instinct” or the “mental faculty of faith”. Something which Marx and Feuerbach and Nietzsche and Freud, for example, had to concede needed to be addressed [18]. If there is no God, why are we manifestly religious beings and where is the concept of virtue derived from?

III. REFLECTING ON THX-1138

There is a well-known scene from George Lucas’ *THX-1138* when the protagonist THX visits a prayer booth. The small cubicle features a desk facing a large photograph of the Prophet OMM. The image is similar to Renaissance paintings of Jesus. The voice says assuredly: “My time is yours, go ahead.” While THX mumbles through a short prayer, the voice continues: “Very good, proceed.” In a scene similar to an Eastern Orthodox confession, where the repentant is confessing to their spiritual guide who stands in the place of the high priest Jesus Christ, THX begins to feel uneasy searching for the right words to express what they have done. Fully sedated on drugs that help him to concentrate to be productive with advanced technologies (the making of anthropomorphic robots), THX shares that his mind has not been on the job and that he has had to take supplements. After divulging a number of his sins, THX is almost certain that the Prophet OMM is aware of all of his previous thoughts and actions, and requests to be forgiven.

THX divulges: “My mate has been acting very strange. I can’t explain it . . . but. I haven’t been feeling very well myself. I don’t know, maybe it’s me. I needed an SP9 last night. I feel as if something odd were happening to me. Something . . .” As he is nearing the end of his confession, sensing the futility of telling his sins to OMM knowing what the response will be,

he exits the small cubicle. The voice of the prophet OMM is heard: “You are a true believer. Blessings of the state, blessings of the masses. Thou art a subject of the divine. Created in the image of man, by the masses, for the masses. Let us be thankful we have an occupation to fill. Work hard; increase production; prevent accidents, and be happy” [19]. The scene angle disturbingly switches to a tape recorder that is plugged into a reptilian-like creature.

According to the director of *THX-1138*, George Lucas, OMM represents a belief system that will keep the birth-born people in that society docile. It may appear as an intelligent being, but in fact, OMM is anything but intelligent [20]. Lucas goes as far as saying OMM is in fact, “not real”, and this despite that it can respond to humans on queue. He also suggests that independent of an embodiment into something like the robot characters in his movie, it will *never* be real. He elaborates further on some of the great innovations depicted in the movie describing them as the antithesis of what they portray; that even the “best” technology in the movie, the most advanced, like the 3D hologram that purportedly contains wisdom and is a good guide for THX in the final stages of his escape from the underground, is hopeless in achieving anything of practical substance. So, what might these insights tell us about artificial intelligence in the way it is being used today and, into the future [21]?

IV. INWARD TRANSFORMATION

Confession, while not recognized in all religious traditions, is also to seek wise counsel and spiritual healing from elders of the church community, who might guide us onward in our spiritual life. In the *Sayings of the Desert Fathers* a young monk asks Abba Sisoës: “Abba, what should I do? I fell.” The Elder answers: “Get up!” The monk describes getting up and falling again, to which the elder replies: “Get up again!” The young monk attempts to get a more exacting response from the Abba on how “long” he should keep getting up when he falls over, and the answer from the great Abba Sisoës comes: “Until your death”. Machines pre-programmed to execute certain actions, will not have an innate compassion for the human struggle, that is, by their very *nature* they will not be able to enter into the human condition [22]. In the Dharma the hearts of the Bodhisattvas which look with understanding are “broad and pure” [62].

In a recent exchange with ChatGPT the bot replied: “As an AI language model, I do not have feelings or emotions in the same way that humans do. I am simply a tool designed to process and generate text based on the input I receive. I do not have the ability to feel mentally unstable or to experience emotional distress. It’s important to keep in mind that I am not a human and do not have the same mental capabilities or experiences as a human” [23]. It is this fragility, the inherent tensions, and contradictions in our shared humanity, that makes us unique and different, not only from *the Machine*, manifestly, but also from each other [55].

Saint Augustine of Hippo (354–430 CE), one of the most revered doctors of the *ecclesia catholica*, might not have been so highly esteemed had he flourished centuries afterwards in a world of uberveillance: embedded surveillance devices that

capture our every move and thought. One of the unique aspects of Augustine’s life that endeared him to the community of the faithful, both past and present, was his rising up from the “fornications” and the “delight in thievery” to become a paradigm for both the eastern and western churches of the penitent who becomes a saint [24].

But would the celebrated bishop and author of *The City of God* have risen to such prominence and reverence had his early and formative life been chronicled through a personal AI agent? Would Augustine’s long and grueling years of penitence and good works have been recognized? That we have his stylized and erudite *Confessions* on paper is another matter altogether; as to its impact, the written record cannot be compared to capturing someone in the act on CCTV or in an AI’s databank of histories [56]. But what more? What if everyone’s confessions were to be published “just in time” on the Internet for all to view, possibly stained with events or fake news that never actually occurred? Doing so on purpose to create a sensation or a following would have little to do with the primary objective of spiritual counsel and absolution; on the other hand, it could bring the potential for humiliation or blackmail from third parties.

Already we are witnessing the despicable acts of major YouTube child influencer management teams placing violent and trolling comments on their own walls, to attract more attention and sympathy which equates to more views that then directly increase revenues through algorithms. So, while some children-consumers of content are locked into the auto-scroll function and believe everything they see as “real”, the machinations of those behind the scenes are normalizing unacceptable behaviors (beyond product placements and paid endorsements) [25]. Our children play games incessantly and go about their lives mimicking YouTube sensations because the algorithms tell them “that’s what works”. So as the YouTubers get louder and more outlandish (at times risking their life unto death [26], [27]), so our young people begin to copy what purportedly “sells” online. We could say that those same algorithms are the new guides of our children; they would seem more likely to listen to The Algorithm, than to their own parents. God might be “dead” for some, but we are now also well on the road to killing the parent. And the “death of God” which would surprise a lot of people, didn’t necessarily dawn on Nietzsche as a good thing:

“God is dead. God remains dead. And we have killed him. How shall we comfort ourselves, the murderers of all murderers? What was holiest and mightiest of all that the world has yet owned has bled to death under our knives: who will wipe this blood off us? What water is there for us to clean ourselves? What festivals of atonement, what sacred games shall we have to invent? Is not the greatness of this deed too great for us? Must we ourselves not become gods simply to appear worthy of it?” [28].

V. WHO OR WHAT IS IN CONTROL [29]?

Virtual entrapment in AI (which spills into real life) might become possible as everything is quantified from cradle-to-grave [30], not allowing us to break free of our misdemeanors

and to move on after having dealt with things we would hope not to repeat having learnt our lesson. There is then, the potential for lifelong *cancellation*, what some might call a living hell with no daylight in sight. Being free to fall and to rebuild is paramount to the health of the human spirit; and here we are not speaking of criminal activities which of course need to be accounted for. Once more, the words from *THX-1138* resonate clearly: “This is OMM. Everything is fine. You are in my hands. I will protect you. Co-operate with Mercicontrol. They only want to help you. Everything is going to be all right . . .”

If we are to accept Elon Musk’s futuristic projections that we will be required to merge with the AI [31] through a Neuralink type brain-computer interface -- or be left behind -- then we are on a trajectory to full blown Uberveillance where every shred of privacy, interior freedom, is extinguished. For Ray Kurzweil, the construction of a human-machine interface to achieve the Singularity will guarantee [32], *so it is said*, maintaining our very humanness despite being imbued and amplified by bidirectional AI [33]. But this is a contradiction in terms. It would be surrendering almost completely to the AI with nowhere to go on Earth but to be stuck in an endless cycle of loop after loop. Once more, we return to king of Corinth, but this time as the modern-day Sisyphus who hauls not an immense boulder up a hill for it to only roll back, but the abolition in increasing installments of our humanity itself [34].

If that is not enough, given that a human is ultimately out of the loop when under the leadership and control of AI [35], what of the replacement of human relationships that draw us to people in order that we might share and to positively network and to assist each other, to have compassion for [to “suffer with”], in a community [22]. It is in such places of common ground that we come to an understanding that we are all part of something greater than ourselves, and this cannot be compassionately encapsulated in a computer program. Moreover, those who believe in a higher power of some sort, will not find that power “human-made” but in the spirit that connects us in the deeper recesses of our shared humanity. In other words, it has to do with the movement of love. And while love it can be said is “unseen” it plainly reveals itself in many practical ways through demonstrated virtues (e.g., care and kindness in action). It is love, as well, it can be said, that keeps in check the unleashing of an absolute corruption. Computers cannot love or possess any emotion or spirituality of the type which can only be experienced by flesh-and-blood human beings.

VI. OF ROBO-PRIESTS AND TECHNO-FIXES

On the believers side, outside of their believing community, it is the risk of succumbing to an endless loop of meaningless encounters with an inanimate object that has been programmed, even if there is a person on the other end of the communication replying to a message. Discrete subtleties, fine nuances, and background context are vitally important to any meaningful discussion with a purpose. On the cleric’s side, it is an attempt to replace an on-ground empathetic pastoral caregiver at the hands of instantaneous AI that allegedly provides an outlet for forgiveness [from *what* and from *whom*], and the disengagement of all sides from membership of an active

community of the faithful. Without accountability, there can be no real progress.

One might imagine a parishioner or any person regardless of belief stuck in an unending cycle seeking absolution or counselling, let us say from an addiction, rather than a meaningful period of *metanoia* and change of heart which leads to actual changes in behavior. As has been seen so often, our technological responses to address one human dilemma invariably propel yet another. The priest or pastor may well seek alternate routes to compete with the AI, such as offering remote confessions during a period of a pandemic. However, the theology underpinning the holy sacraments, for example, calls for personal presence and accountability. These sacramental acts, “visible rites which represent the invisible” happen in-person and synchronously in real-time and are “local” to the cleric and believer. For example, one cannot take the *Eucharist* symbolically; a specific substance must enter the body ingested through the mouth.

The Machine that seeks to automate everything, has always sought disintermediation and efficiency gains as demonstrated by the Gig economy [57]. The hope remains for us all, irrespective of whether one is religious or not, that we might continue to discern, to show good judgement, when it comes to the difference between what the AI is “selling” in terms of band-aid technosolutionism [36], and what the pastoral caregiver is providing through the Sacrament of Confession or counselling, and through the lived and not uploaded experience.

But with time will people grow accustomed to such practices as in some religions, Digitalism, Transhumanism, some pockets of Eastern religions that believe that machines too have a spirit, and place the robo-priest in the front of a group of worshippers? There are obvious mixed feelings about these hunks of metal. Most are adamant that confessing to AI in place of their religious director is not the same because the AI is not sentient and does not have a spirit or soul, it cannot love us back [it does not possess “love consciousness”], and because it can get things very wrong [37]. We should heed the warnings of the current chatbots. Upon sign up and login to ChatGPT the first screen that appears states: “While we have safeguards in place, the system may occasionally generate incorrect or misleading information and produce offensive or biased content. It is not intended to give advice” (<https://chat.openai.com/>).

VII. THE HUMAN CONNECTION

One thing, however, is certain. It is not merely the relationship between priest and believer that will be affected by increased incursions of AI into religious and spiritual practice, or the counsellor and the counselled. It is the very relationship of *connection* between humans that will be affected and disrupted, inclusive of family and friends [38]. Our human relationships are of course some of the most essential aspects of our humanity. Perhaps what we are really mourning here is our loss of human connection [39], our tolerance of one another, and ironically, of our differences, which makes each one of us unique and irreplaceable.

If we teach a generation of young people that they should run to a machine for comfort, they will discover there the

absence of actual warmth and care, *even* if the inanimate object looks and feels human. Again, ChatGPT noted of itself: “As an AI language model, I do not have feelings or emotions . . . [23]” As the late Oxford University lecturer Kallistos Ware emphasizes, “You may love your computer but your computer does not love you” [40]. Robotics have so advanced to seem almost human, but we are and will be absolutely fooling the senses and the mind to believe that what stands before us is a truly sentient and feeling life form [58]. This deception of ontological proportions, dealing directly with the nature of being, can only continue for so long before there is the inevitable breakdown in communication: “I’m sorry Dave, I’m afraid I can’t do that” and “Dave, this conversation can serve no purpose anymore. Goodbye” [41].

Machines will never be *God-breathed* or inspired [42]. Rather machines are created by humans for human consumption [43]. While certainly there is nothing wrong with using technology to aid our mental health and wellbeing, getting to Heaven for those who hold to such an eschatology or to a better state here on earth, has little to do with technology itself, for we ourselves are much more than ‘nuts and bolts’. Paradoxically, we are in fact seeking to fill a void that is increasingly moving towards the condition of nihilism by rejecting the essential aspects of the human condition. This is not exclusively a religious position. Many non-believers possess the very same reservations when it comes to the risks and dangers of personalizing technology while at the same time dehumanizing the human themselves.

VIII. CONCLUSION

If we are searching for the meaning of life through *Artificial General Intelligence* in the hope of creating a *SuperIntelligence*, we are looking in the wrong place and committing engineering hubris. This is comparable to the enduring story of the Tower of Babel (Gen. 11:1-9) where humans sought to reach heaven by the engineering of a tower [59]. They failed in their foolhardy efforts and were scattered across the earth. Analogous narratives in the *Epic of Gilgamesh*, the great poem from ancient Mesopotamia, speak in similar terms of futile quests to control eternity from our ephemeral vantage point. In whatever way we might understand these and other origin myths, they have remained seared in our collective consciousness and a constant reminder that despite all of our wonderful advancements we still remain human and subject to our finite potentialities and margins.

Ultimately, we maintain: God is *not* an AGI, if only by virtue of the Supreme Being’s *immutability* alone. The Supreme Being cannot be contained in any deep learning model nor be recreated in our own image and likeness, and surely *not* as a machine. For a machine, even the Large Hadron Collider, is ultimately just a tool. Our lives, too, are not a simulation [44]. People need human succor, and a compassionate embrace [45]; they need real ‘love’, not fake. They need to hear counsel from a loving heart, which together with all else, understands doubt and is vulnerable in and of itself. The machine, no matter how sophisticated the algorithms, does not love, because it cannot love the way we *alone* can, it does not possess the same inspired spirit as their builder. And computers, regardless of

how powerful they are, they are limited and not limitless. God is without beginning or end, computers are made up of 1s and 0s. They can be corrupted and blown apart.

REFERENCES

- [1] K. Ware, M. G. Michael, and K. Michael, *Religion, Science & Technology: An Eastern Orthodox Perspective*. Wollongong, NSW, Australia: Univ. Wollongong, 2016, 9781741282634.
- [2] K. Michael and M. G. Michael, “Implementing ‘Namebers’ using microchip implants: The black box beneath the skin,” in *This Pervasive Day: The Potential and Perils of Pervasive Computing*, J. Pitt, Ed. London, U.K.: Imperial College Press, 2012, pp. 163–206.
- [3] K. Michael, R. Abbas, G. Roussos, E. Scornavacca, and S. Fosso-Wamba, “Ethics in AI and autonomous system applications design,” *IEEE Trans. Technol. Soc.*, vol. 1, no. 3, pp. 114–127, Sep. 2020, doi: [10.1109/TTS.2020.3019595](https://doi.org/10.1109/TTS.2020.3019595).
- [4] M. G. Michael and K. Michael, “Toward a state of überveillance,” *IEEE Technol. Soc. Mag.*, vol. 29, no. 2, pp. 9–16, Jun. 2010, doi: [10.1109/MTS.2010.937024](https://doi.org/10.1109/MTS.2010.937024).
- [5] K. Orland, “So what is ‘the metaverse’ exactly?” *Ars Technica*, Jul. 2021. [Online]. Available: <https://arstechnica.com/gaming/2021/11/everyone-pitching-the-metaverse-has-a-different-idea-of-what-it-is>
- [6] D. Allen, *Myth and Religion in Mircea Eliade*. New York, NY, USA: Routledge, 1998.
- [7] M. Eldred, M. G. Michael, K. Michael, *Michael Eldred on the Digital Age: Challenges for Today’s Thinking [Interview]*. Wollongong, NSW, Australia: M&K Press, 2020.
- [8] K. Michael, “Are you addicted to your smartphone, social media, and more?: The New AntiSocial app could help,” *IEEE Consum. Electron. Mag.*, vol. 6, no. 4, pp. 116–121, Oct. 2017, doi: [10.1109/MCE.2017.2714421](https://doi.org/10.1109/MCE.2017.2714421).
- [9] K. Albrecht, K. Michael, and M. G. Michael, “The dark side of video games: Are you addicted?” *IEEE Consum. Electron. Mag.*, vol. 5, no. 1, pp. 107–113, Jan. 2016, doi: [10.1109/MCE.2015.2484820](https://doi.org/10.1109/MCE.2015.2484820).
- [10] R. Abbas, K. Michael, M. G. Michael, C. Perakslis, and J. Pitt, “Machine learning, convergence digitalization, and the concentration of power: Enslavement by design using techno-biological behaviors,” *IEEE Trans. Technol. Soc.*, vol. 3, no. 2, pp. 76–88, Jun. 2022, doi: [10.1109/TTS.2022.3179756](https://doi.org/10.1109/TTS.2022.3179756).
- [11] C. Perakslis, “Half-life: Decay, discernment and human agency,” *IEEE Technol. Soc. Mag.*, vol. 35, no. 4, p. 88, Dec. 2016, doi: [10.1109/MTS.2016.2632980](https://doi.org/10.1109/MTS.2016.2632980).
- [12] P. Lorenz-Spreen, B. M. Mønsted, P. Hövel, and S. Lehmann, “Accelerating dynamics of collective attention,” *Nat. Commun.*, vol. 10, p. 1759, Apr. 2019. [Online]. Available: <https://doi.org/10.1038/s41467-019-09311-w>
- [13] L. Jha, “Bite-sized content booms as viewers’ attention spans fall,” *Mint*, Jan. 2023. [Online]. Available: <https://www.livemint.com/companies/news/bitesized-content-booms-as-viewers-attention-spans-fall-11672855210154.html>
- [14] H. H. Wilmer, L. E. Sherman, and J. M. Chein, “Smartphones and cognition: A review of research exploring the links between mobile technology habits and cognitive functioning,” *Front. Psychol.*, vol. 8, p. 605, Apr. 2017.
- [15] L. Orman, “Information paradox: Drowning in information, starving for knowledge,” *IEEE Technol. Soc. Mag.*, vol. 34, no. 4, pp. 63–73, Dec. 2015, doi: [10.1109/MTS.2015.2494359](https://doi.org/10.1109/MTS.2015.2494359).
- [16] E. Guglielmelli, “Robots don’t pray,” *IEEE Robot. Autom. Mag.*, vol. 22, no. 2, p. 4, Jun. 2015. [Online]. Available: <https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=7124589>. doi: [10.1109/MRA.2015.2430991](https://doi.org/10.1109/MRA.2015.2430991).
- [17] “Oxford languages and Google.” Accessed: Jan. 5, 2023. [Online]. Available: <https://languages.oup.com/google-dictionary-en>
- [18] V. A. Harvey, *Feuerbach and the Interpretation of Religion*. Cambridge, U.K.: Cambridge Univ. Press, 1997.
- [19] G. Lucas, “THX-1138.” 1971. [Online]. Available: <https://www.scriptslug.com/assets/scripts/thx-1138-1971.pdf>
- [20] G. Lucas and W. Murch, *THX 1138—Audio Commentary With George Lucas & Walter Murch*. Accessed: Dec. 3, 2021. [Online Video]. Available: <https://www.youtube.com/watch?v=o4r0JPiUxU>
- [21] N. Bostrom, *Superintelligence: Paths, Dangers, Strategies*. New York, NY, USA: Univ. Oxford, Jul. 2014.
- [22] M. G. Michael, “Compassion.” Aug. 2014. [Online]. Available: <https://www.mgmichael.com/blog/2014/8/6/compassion>
- [23] “Personal communications between Katina Michael and OpenAI’s ChatGPT.” Jan. 2023. [Online]. Available: <https://openai.com/blog/chatgpt>

- [24] M. G. Michael and K. Michael, "The fallout from emerging technologies: Surveillance, social networks, and suicide," *IEEE Technol. Soc. Mag.*, vol. 30, no. 3, pp. 13–17, Sep. 2011. [Online]. Available: <https://doi.org/10.1109/MTS.2011.942312>
- [25] K. Michael and K. Albrecht, "We've got to do better," *IEEE Technol. Soc. Mag.*, vol. 33, no. 1, pp. 5–7, Mar. 2014, doi: [10.1109/MTS.2014.2300948](https://doi.org/10.1109/MTS.2014.2300948).
- [26] Y. Steinbuch and N. Y. Post, "Boy left brain dead after attempting TikTok 'blackout challenge'" news.com.au. Mar. 2021. [Online]. Available: <https://www.news.com.au/technology/online/social/boy-left-brain-dead-after-attempting-tiktok-blackout-challenge/news-story/fbec82ab388fa579ae63b119e418fb1a>
- [27] K. Paul, "Families sue TikTok after girls died while trying 'blackout challenge'" The Guardian. Jul. 2022. [Online]. Available: <https://www.theguardian.com/technology/2022/jul/05/tiktok-girls-dead-blackout-challenge>
- [28] F. W. Nietzsche, *The Gay Science*. New York, NY, USA: Cambridge Univ. Press, 2001, p. 120. [Online]. Available: <https://www.holybooks.com/wp-content/uploads/The-Gay-Science-by-Friedrich-Nietzsche.pdf>
- [29] K. Michael, "Enslaved," *IEEE Technol. Soc. Mag.*, vol. 33, no. 4, pp. 5–10, Nov. 2014, doi: [10.1109/MTS.2014.2363980](https://doi.org/10.1109/MTS.2014.2363980).
- [30] M. G. Michael, S. J. Fusco, and K. Michael, "A research note on ethics in the emerging age of überveillance," *Comput. Commun.*, vol. 31, no. 6, pp. 1192–1199, 2008.
- [31] P. Holley, "Elon Musk: To avoid becoming like monkeys, humans must merge with machines." The Washington Post. Nov. 2018. [Online]. Available: <https://www.washingtonpost.com/technology/2018/11/26/elon-musk-avoid-becoming-like-monkeys-humans-must-merge-with-machines>
- [32] R. Kurzweil, *The Singularity Is Near: When Humans Transcend Biology*. New York, NY, USA: Viking, 2005.
- [33] K. Michael, J. Pitt, R. Abbas, C. Perakslis, and M. G. Michael, "Cyborgs and human-machine communication configurations," in *The SAGE Handbook of Human-Machine Communication*, A. Guzman, R. McEwen, and S. Jones, Eds. Toronto, ON, Canada: SAGE, 2023.
- [34] C. S. Lewis, *The Abolition of Man*, Zondervan, Grand Rapids, MI, USA, 2001.
- [35] K. Michael, R. Abbas, R. A. Calvo, G. Roussos, E. Scornavacca, and S. F. Wamba, "Humans in the loop: Learning to trust in AI but to what extent?" *IEEE Trans. Technol. Soc.*, vol. 1, no. 4, p. 174, Dec. 2020, doi: [10.1109/TTS.2020.3044344](https://doi.org/10.1109/TTS.2020.3044344).
- [36] K. Michael, R. Abbas, R. A. Calvo, G. Roussos, E. Scornavacca, and S. F. Wamba, "Manufacturing consent: The modern pandemic of technosolutionism," *IEEE Trans. Technol. Soc.*, vol. 1, no. 2, pp. 68–72, Jun. 2020, doi: [10.1109/TTS.2020.2994381](https://doi.org/10.1109/TTS.2020.2994381).
- [37] S. Bettiza, "God and robots: Will AI transform religion?" BBC News. Oct. 2021. [Online]. Available: <https://www.bbc.com/news/av/technology-58983047>
- [38] M. G. Michael, "This is why 'the machine' concerns me." Jul. 2020. [Online]. Available: <https://www.mgmichael.com/journal/2020/7/12/this-is-why-the-machine-concerns-me>
- [39] K. Albrecht and K. Michael, "Connected: To everyone and everything," *IEEE Technol. Soc. Mag.*, vol. 32, no. 4, pp. 31–34, Dec. 2013, doi: [10.1109/MTS.2013.2291170](https://doi.org/10.1109/MTS.2013.2291170).
- [40] K. Ware, M. G. Michael, and K. Michael, "Religion, science, and technology: An interview with metropolitan Kallistos Ware [interview]," *IEEE Technol. Soc. Mag.*, vol. 36, no. 1, pp. 20–26, Mar. 2017, doi: [10.1109/MTS.2017.2654283](https://doi.org/10.1109/MTS.2017.2654283).
- [41] S. Kubrick, *2001: A Space Odyssey*. Burbank, CA, USA: Warner Home Video, 1968.
- [42] A. L. Puhalo, "A conversation with Lazar Puhalo [interview]," *IEEE Technol. Soc. Mag.*, vol. 34, no. 3, pp. 25–28, Sep. 2015, doi: [10.1109/MTS.2015.2473995](https://doi.org/10.1109/MTS.2015.2473995).
- [43] B. Shneiderman, *Human-Centered AI*. Oxford, U.K.: Oxford Univ. Press, 2022.
- [44] K. Michael, *Microchipping People: Associate Professor Katina Michael at TEDxUWollongong*. (2012). [Online Video]. Available: <https://www.youtube.com/watch?v=fngHVRS5EvC>
- [45] M. G. Michael, K. Michael, T. Bookman, "Wim Wenders' *Wings of Desire*: Anticipating überveillance," *J. Asia-Pacific Pop Culture*, vol. 6, no. 1, pp. 109–129, 2021. [Online]. Available: <https://www.jstor.org/journal/jasiapacipopcult>. doi: [10.5325/jasiapacipopcult.6.1.0109](https://doi.org/10.5325/jasiapacipopcult.6.1.0109).
- [46] K. Michael and M. G. Michael, "Überveillance," in *Innovative Automatic Identification and Location-Based Services: From Bar Codes to Chip Implants*. Hershey, PA, USA: IGI Global, 2009, pp. 464–484.
- [47] M. G. Michael and K. Michael, "Überveillance: Microchipping people and the assault on privacy," *Quadrant*, vol. 53, no. 3, pp. 85–89, 2009.
- [48] M. G. Michael and K. Michael, "Überveillance: 24/7 × 365—People tracking and monitoring," in *Proc. 29th Int. Conf. Data Prot. Privacy Commissioners*, Montreal, QC, Canada, Sep. 2007. [Online]. Available: http://www.privacyconference2007.gc.ca/workbooks/pres_wrkshop1_01_michael_e.pdf
- [49] K. Michael and M. G. Michael, "Converging and coexisting systems towards smart surveillance." *Awareness Magazine*. Jun. 2012. doi: [10.2417/3201206.00399](https://doi.org/10.2417/3201206.00399).
- [50] K. Michael and M. G. Michael, "23.10 commentary by Katina Michael and M. G. Michael." Interaction Design Foundation. 2012. [Online]. Available: <https://www.interaction-design.org/literature/book/the-encyclopedia-of-human-computer-interaction-2nd-ed/wearable-computing>
- [51] K. Michael, J. Mulligan, K. Lloyd, and J. Thomson, "Cambridge analytica, Facebook and OCEAN big 5 values." The ProjectNZ. Mar. 2018. [Online]. Available: <https://www.newshub.co.nz/home/new-zealand/2018/03/the-secret-file-that-tells-you-what-data-facebook-has-on-you.html>
- [52] C. D. Martin, Public Interest Technology Colloquium: Series II. *Pinocchio and the Positronic Brain*. (Nov. 9, 2021). [Online Video]. Available: https://www.youtube.com/watch?v=ILbXRzL_YGc&t=505s
- [53] R. Capurro, M. Eldred, and D. Nagel, *Digital Whoness: Identity, Privacy and Freedom in the Cyberworld*. Berlin, Germany: Walter de Gruyter, 2013.
- [54] M. Eldred, *Social Ontology: Recasting Political Philosophy Through a Phenomenology of Whoness*. Berlin, Germany: Walter de Gruyter, 2013.
- [55] K. Michael, "Homo electricus and the continued speciation of humans," in *Encyclopedia of Information Ethics and Security*. Hershey, PA, USA: IGI Global, 2007, pp. 312–318.
- [56] K. Michael and M. G. Michael, "No limits to watching?" *Commun. ACM*, vol. 56, no. 11, pp. 26–28, 2013.
- [57] K. Michael, "Modern indentured servitude in the Gig economy: A case study on the deregulation of the taxi industry in the United States," *IEEE Technol. Soc. Mag.*, vol. 41, no. 2, pp. 30–41, Jun. 2022.
- [58] K. Michael, "High-tech lust," *IEEE Technol. Soc. Mag.*, vol. 32, no. 2, pp. 4–5, Jun. 2013.
- [59] K. Michael, Academy of Science in Australia: Science at the Shine Dome. *Socio-Ethical Implications of the Bionic Era*. (May 31, 2016). [Online Video]. Available: <https://www.youtube.com/watch?v=qtzscgYrwM>
- [60] T. Thompson and G. Schrempp, *The Truth of Myth: World Mythology in Theory and Everyday Life*. Oxford, U.K.: Oxford Univ. Press, 2020.
- [61] R. Abbas, K. Michael, M. G. Michael, J. Pitt, and C. Perakslis, "Safeguarding the guardians to safeguard the bio-economy and mitigate social injustices," in *BioCyberSecurity: A New Field to Deal with Emerging Threats*, Springer Int., 2023.
- [62] C. Trungpa, *The Bodhisattva Path Of Wisdom And Compassion: The Profound Treasury of the Ocean of Dharma*, vol. 2. Boston, MA, USA: Shambhala-Trade, 2014.

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