

SPIRITUALITY AND TECHNOLOGY: A THREEFOLD PHILOSOPHICAL REFLECTION

by Gabriel Fernandez-Borsot 

Abstract. Despite the prominent role that technology plays in twenty-first-century societies, the intersections between spirituality and technology have been poorly analyzed. This article develops a cross-reflection between these two key anthropological aspects, using a philosophical approach that structures the analysis along three classical categories: transcendence, immanence, and relationality. Drawing from ideas of philosophers, such as Heidegger and Merleau-Ponty, the article sheds light on problematic aspects of technology that spirituality helps identify and for which it suggests solutions. Symmetrically, the analysis shows commonly inadvertent aspects of spirituality that technology brings to the fore. All in all, spirituality appears as an essential dimension to cultivate in technological societies, while technology might reveal spirituality as richer and deeper than has been apparent in traditional settings.

Keywords: immanence; relationality; spirituality; technology; transcendence

INTRODUCTION

Technology has an unquestionably prominent role in twenty-first-century societies. It mediates in most human activities to the point of characterizing our epoch as a technological age, and its pervading presence has deep anthropological implications. Conversely, for those whose worldview includes spirituality, spirituality is typically not just one aspect among, for example, social or economic views, but is the fundamental bottom line from which other aspects are interpreted and situated. Given that technology now holds such a conspicuous role—with associated promise and risk—reflection on relations between technology and spirituality seems necessary.

Works exploring the intersections between technology and spirituality have covered many aspects, such as the ways in which technological development unveils human nature, including its spiritual dimension (Hefner 2002, 2003); the use of technology to enhance spiritual practices

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(Wyche, Hayes, and Harvel 2006; Hedt 2013); discussions about whether technology fosters secularism or instead gives rise to renewed forms of religiosity—perhaps even a techno-religion (Caiazza 2005; Jackelén 2005; Raman 2005; Campbell 2013; McClure 2020); and the impact of digital revolution on religious practices and worldviews, catalyzing the emergence of a new academic field called digital religion studies (see Campbell and Evolvi 2020).

This article explores another perspective, a cross-reflection between spirituality and technology, using three classical philosophical categories: transcendence, immanence, and relationality. Drawing on the ideas of various philosophers, such as Heidegger and Merleau-Ponty, these three categories will be used to shed light on shadow aspects of technology that spirituality may help identify and even remedy, and on inadvertent aspects of spirituality that technology brings to view.

The purpose is to develop a “hospitable conversation” (Swinton 2011, 2010) in which these two key anthropological aspects inform each other, transcending the two classic polarized views of technology as either antithetical to spirituality or as the vanguard of the spiritual evolution of humanity, offering a more complex and nuanced view, which highlights both their confluences and tensions. The first calls for embracing technology as a deeply human activity, deep enough to be connected to spirituality. The latter aspects, in which spirituality suggests that “something profoundly important is missing from the situation” (Swinton 2011, 15), issue a twofold call for spirituality: first, to orient and balance technological development, and second to incorporate some lessons that technology is revealing about how spirituality needs to be practiced in our technological age. By no means is the goal here to develop an exhaustive analysis—impossible in this short article—but instead it is to point to some core issues, which in turn may orient further research.

This endeavor is related to Spyker’s (2007) analysis of how the information revolution impacts spiritual life, but unlike Spyker’s work, which is centered in a theistic perspective, the aim here is to provide a more general and overarching reflection. The approach here is also related to Coeckelbergh’s (2010) analysis, but I include additional qualifications that some of his theses may require, and I offer distinctions that may add clarity to his positions. The next section will outline the philosophical frame used for this cross-reflection, followed by development of the analysis.

A PHILOSOPHICAL FRAME FOR A CROSS-REFLECTION BETWEEN SPIRITUALITY AND TECHNOLOGY

Spirituality is a term quite difficult to define and characterize. The richness and plurality of manifestations labeled as spiritual, and more emphatically the plural and often differing metaphysical paradigms upon which they are

based, make the effort of providing a fixed definition or a unified model for spirituality not only difficult but necessarily controversial. Unavoidably, whenever a scholar presents a universal one-size-fits-all definition of spirituality, there are groups that feel excluded or misrepresented. Moreover, the diverse, complex models resulting from extensive quantitative research are not exempt from controversies (MacDonald, Friedman, and Brewczynski 2015). Not in vain did King (2011) propose to speak of spiritualities instead of spirituality, and I analyzed elsewhere Fernandez-Borsot (2020) the many dangers inherent in attempting a unified doctrine that allegedly encompasses all spiritual approaches. Then, with the idea of approaching spirituality in a way that is “tuned to the task in hand” (King 2011, 35), I raise the following question: Which conceptual approach to spirituality can bring forth useful insights about the intersections between spirituality and technology?

I suggest that this approach consists of a pair of philosophical assumptions that set a context in which a system of three conceptual axes (transcendence, immanence, and relationality) can be used. These three axes allow to situate and interpret aspects of spirituality philosophically. The use of these three axes for the conceptual analysis of spirituality is not new. Traces of this approach, with different words but conceptual similarity, can be found, for instance, in the works of Chaudhuri (1977), Heron (2006, 2007), and Ferrer (2011).

The first philosophical assumption of the model I propose asserts that meaning making is not just a human subjective creation but that it is woven into the very same fabric of the cosmos. Derived from this assumption is the idea that notions such as purpose and value are not just creations of the human mind, which make sense only as Darwinist advantages, but they are connected to the very same ontological structure of the universe beyond the human mind (see Nagel 2012). Thus, meaning making is linked to a dimension or level of reality that is hidden or not directly accessible by senses. I avoid characterizing this dimension as transcendent because it might well be described as immanent (present within each being or entity) or relational (flowing from interactions among beings). The second philosophical assumption is that the individual self is not the ultimate foundation of value; there is another foundation from which everything receives its value. Again, depending on the worldview, this foundation can be transcendent (for instance, the Christian personal God or the Hindu Nirguna Brahman), relational (for instance, the emphasis that some indigenous approaches place on the community of beings in an ecosystem, as highlighted by the Lakota expression “Mitakuyeh Oyasin” [Brown 1989] or the Andean concept of *Ayllu* [Apffel Marglin 1994]), or immanent (for instance, the impersonal all-pervading force described in Taylor’s [2016] soft perennialism). This foundation is commonly considered

a source of inspiration, positive transformation, or salvation for the human being.

This second assumption renders spirituality as always transcendent for the individual self, pointing to a realm or dimension beyond it. That's why transcendence has been commonly identified as a core phenomenological feature of spiritual experiences (MacDonald, Friedman, and Brewczynski 2015). This assumption also renders it as relational because transcending the individual self implies orienting oneself toward this realm beyond it. But the varied ways in which this relational transcendence is articulated call for essential distinctions. I propose that this "beyond the self" can be articulated in three distinct ways synthesized by the three classical categories of transcendence, immanence, and relationality. Thus, these three categories (analyzed in greater depth below) can function as three axes of coordinates along which the cross-reflection between spirituality and technology can be developed.

Before proceeding, it is necessary to make some cautionary remarks. I cannot emphasize strongly enough that this frame does not pretend to capture any hypothetical (and arguably questionable) essence of spirituality but just to catalyze a fruitful discussion. Using Foucault's (1994) metaphor, it is a toolbox whose value is derived from its generative power reflected in the insights it may bring forth. Additionally, by no means can the model be used to rank or situate traditions as wholes, as with King's (2011), Rawlinson's (1997), Richardson's (1996), or Wilber's (2017) models. Instead, it guides the philosophical analysis of specific aspects of spirituality inside or outside traditions. For example, the Christian idea of a God who creates the universe but is not identical to it is an example of transcendence, but the notion that this same God calls his creatures to build a relationship with Him is an example of relationality. Similarly, within the Hindu tradition, it is generally understood that Shiva implies transcendence, while Shakti points to immanence (Klostermaier 1998).

The frame I am proposing can be criticized as containing an individualistic bias as long as it takes the individual self as the main referential point of this system of coordinates. This objection can be addressed as follows: first, the inclusion of relationality with the same emphasis and ontological relevance as transcendence and immanence mitigates this bias. Second, precisely because technology has a deep—and often inadvertent—impact on the configuration of the individual self, centering the analysis on the self can lead to valuable insights. Third, ultimately the justification of the model comes from the insights it may help bring forth.

Technology is also hard to characterize. At first sight, the popular definition in most dictionaries points to the notion of "applied science" that materializes in both artifacts, and as the conceptual tools and procedures associated with these artifacts. This perspective provides the basis for a distinction between technique and technology (Agazzi 1998). While

technique would be the knowledge articulated as efficacious procedures that have proven useful in obtaining certain results, technology would be the subset of the technique that is based on science. Thus, homo sapiens has always been a technical species, but technology is a relatively new phenomenon, which started in the modern age, and which has gained prominence over time.

Nonetheless, the conception of technology as applied science is not exempt from criticism, as engineering is more than applied science (Mitcam 1989). There are knowledge models and methods that are specific to engineering, which are distinct from scientific knowledge—for example, the notions of machine and device, and the theory of control and optimization, to name just a few. Moreover, defining technology becomes still more problematic if one considers its metaphysics: Is technology a human activity without substantive essence, or is human technology a specific manifestation of a more-than-human poetic process of the universe at large? (Skrbina 2015).

Thus, I propose to approach the characterization of technology on two levels. The first is a plain definition of technology as the human activity consisting of the application of abstract knowledge (scientific or conceptual/mathematical) to the design, construction, and use of machines, devices, or infrastructures, and the development of associated procedures to effect operations on matter-energy-information, in order to obtain predefined results. For the purpose of this study, this definition should be complemented by the consideration that technology has a certain agency of its own. The idea is that technology infuses a mindset in those who design, produce, and use technological creations. This mindset predisposes the designers, producers, and users to certain attitudes, interpretations, and ways of solving problems. Thus, technology configures a certain “stance,” a way of being in the world.

One finds this idea in the works of many thinkers, who present a variety of formulations and degrees. It was masterfully synthesized by Kaplan (1964) in his law of the instrument: “Give a small boy a hammer, and he will find that everything he encounters needs pounding” (28). The same perspective is present in McLuhan’s work, as captured in Culkin’s (1967, 1970) explanation: “We shape our tools and thereafter they shape us.” Dubos (1968) goes further to assert that technology operates as an autonomous force, independent of human goals, and Ellul (1977) radicalizes this idea, stating that technology constitutes a system that unfolds, mercilessly submitting all aspects of human life to its logic.

Though the “hard determinism” of Dubos and Ellul’s position has been effectively contested by social constructionists of technology (Bijker, Hughes, and Pinch 1987), recent works defend a “soft determinism.” Established trends in the philosophy of technology argue that technological inventions embed moral values (Verbeek 2006; Kroes and Verbeek

2014). Skrbina (2015, 284) analyzes the metaphysics of technology, and concludes that “there are good philosophical reasons and a strong historical precedent for viewing the techno-social system as a thing in itself, embodying mind and will.” More notoriously, Latour (2005) introduces elements of science and technology in his actor-network theory, describing them as nonhuman agents. All in all, the case is made for a soft technological determinism, which is the position that I adopt: The design, production, and use of technology promote certain ways of being in the world, and therefore it is as if technology had a certain agency.

Similarly, each spiritual tradition undoubtedly shapes its members; it promotes certain tendencies, attitudes, and behaviors—a certain ethos. Though the diversity of spiritual approaches defeats any pretension of characterizing the variety of ethos through one single model, I think that the three axes I will use (transcendence, immanence, and relationality) serve well to guide reflection because they cover a rich variety of different forms of Ethos. Thus, the analysis will bring insights that, I defend, could be shared by practitioners of many spiritual paths. In the end, the purpose of my analysis is to provide a set of meaningful insights, which may lead to further discussion or empirical research.

In summary, I will approach this cross-reflection as if technology had an agency of its own; an agency that, in current societies, interacts with the ways of being in the world that spiritual traditions promote. It is these interactions, which take place at all levels, and individually and collectively, that I am trying to clarify. In order to obtain a map of these interactions, I will use the three aforementioned axes.

THE TRANSCENDENT AXIS

The transcendent axis of spirituality points to a source of value that is beyond this world, for example, a personal God, or a universal consciousness. Commonly, the spiritual source functions as an attractor that inspires individual and collective transformation, a call to manifest potentialities that will make this world better or somehow preferable (for example, by overcoming limitations or diminishing suffering). Philosophical articulations of the transcendent axis can be found in theistic traditions (for example, the scholastic) or Indian philosophy (in general in Hinduism), to mention just a few examples.

This aspect is a clear point of encounter between technology and spirituality. Coeckelbergh (2010) provided several conceptual metaphors that show the overlap and similarity between transcendent spirituality and technology, and along with Szerszynski (2005) denied that technology leads to secularization or disenchantment with the world but stated that it just reframes the theological discourse and religious practices. Dessauer (1927) interpreted technological development as human participation in

God's creation, and Hefner (2002, 2003) emphasized that technology is an essential dimension of the spiritual process of becoming humans, a quest with a marked transcendent orientation. Thus, it is no surprise that in our technological age some ideologies have arisen that assign technology a salvific pseudo-religious role, such as transhumanism (Dumsday 2020; Leidenhag 2020) or accounts of the Internet as an evolutionary leap forward in human collective spiritual journey (Cobb 1998; Campbell 2005). Not in vain are Silicon Valley ideologists often called "tech gurus."

Nonetheless, these salvific discourses contain a shadow (again spirituality points to something missing [Swinton 2010, 2011]). Heidegger's (1977) analysis of technology is particularly illuminating in this regard. Heidegger enquires about the essence of technology and notes that the instrumental interpretation of technology—the idea that technology is about developing suitable means to meet ends—is superficial and misleading. Technology is, first, a way of *unveiling the Dasein*, that is, exploring and more emphatically manifesting the structure and the possibilities of this universe. By building ships, we reveal the sea as "shippable," and by building cell phones, we show the universe as intimately interconnectable beyond distance. It is this unveiling, brought about by technological development and presented to the users as a growing range of possibilities, that explains the attraction that technological innovations exert on young people. If technology were merely about means to ends, they would not be especially enthusiastic about it.

This notion of unveiling highlights the transcendent dimension of technology and renders technology a profoundly human activity. But, as Heidegger highlights, technology develops this unveiling under a very specific mode of operation, which he calls *Gestell*. *Gestell* has been usually translated as *enframing*, but Heidegger's meticulous use of language vests this word with an especial meaning: the action of forcing out of things the potential that they have as carriers of standing reserve—carriers of matter and energy convertible into market exchanges. We force electromagnetic waves to vibrate in a way that transfers information, we force gasoline to explode and move pistons, and more controversially, we force plants and animals to grow at a pace that maximizes profit; all in the context of market exchanges and consumption-oriented processes. What produces the effect of forcing out is the accurate disposition and control of causal chains as a result of calculations made thanks to scientific and mathematical models. The forcing does not lie in using a specific causal chain, but in both using it with a level of intensity that decouples it from other concurrent causal chains of the same environment and in using it with extreme repetitiveness and systematicity (trying to reproduce the same conditions over and over and orienting them to the same repetitive objective). Without doubt, nature occasionally decouples causal chains in a similar vein but not with the same purposive systematicity and with fewer aligning causes toward

a fixed objective. Additionally, this forcing out treats *the world as made exclusively of objects* that are *at our disposal* for manipulation and control, and in doing so configures a stance—the technological stance—a way of being in the world. *What is missing* in this mode of acting is *contemplation*, receptivity, paused reflection, slow wait, and so forth. The technological stance is oriented to action, and hypertechnology without contemplation can easily bring hyperactivity—maybe this is one key to the dramatic increase in attention-deficit hyperactivity disorder (ADHD) diagnoses in the United States (Xu, Strathearn, and Liu 2018). I am not affirming that the technological stance is incompatible with a contemplative attitude but that it does not foster it; contemplation remains alien to technology, other to it. Though one may use technology to support contemplative practices, those practices are themselves of a different nature than the *poiesis* of technological development, oriented to action by manipulation of the world. Therefore, hypertrophying technological development will not bring us transcendent advancement but imbalance, atrophy of other essential aspects of us humans. In sum, the lesson that the transcendent axis of spirituality brings in regard to technology is that contemplation, receptivity, and openness to what is other are aspects we will have to cultivate purposefully because technological activity *per se* will not foster them. And spiritual traditions contain invaluable resources for this cultivation.

What is the contribution of the transcendent dimension of technology for spiritual traditions? The cumulative progression and continuous novelty of technological development, with its strong transformative impact, confront the whole of society with the notion of progress. Which changes are desirable and which not? Spiritual traditions are in a privileged position in being able to play a role in this context, by giving meaning, critiquing, and supporting some initiatives, while opposing others. In this sense, spiritual traditions are compelled to articulate their own version of what is progress and what is not. Thus, thanks to technology, spiritual traditions will have to clarify their proposals of what it means to be a fully developed human, and what role contemplative development plays in this.

THE IMMANENT AXIS

The immanent axis of spirituality points to the idea that the source of spirituality lies within each entity. Thus, from an immanent perspective, beings and things do not receive their spiritual aliveness from outside, but rather such aliveness arises from within. In the human being, spiritual immanence implies the recognition of the sacredness of the body and the energetic and transformative potentials that lie in the somatic ground: immanent spirituality is embodied spirituality. The immanent approach to spirituality leads to varied somatic-based transformative spiritual practices (SBTSP), both traditional and modern. Among the former, there are

practices such as Indian tantric yoga (Morley 2008) and Chinese qigong (Cohen 1997). Among the latter, one finds Ferrer's (2003, 2008) integral transformative practice, Lowen's (1990) bioenergetics, and "body theology" (Isherwood and Stuart 1998; Nelson 1998), which is "nothing less than our attempts to reflect on body experience as revelatory of God" (Nelson 1998, 50).

From an immanent point of view, the reflection concerning technology turns to the relationship between technology and the body, and more specifically to the interpretation of technological developments as prostheses that enhance the physical and cognitive capacities of our bodies. This notion, called the *extension theory of technology* (Lawson 2010), is as old as Plato's (2003) critique of writing in the *Phaedrus*: writing would function as an external memory with a prosthetic-like character. Along the same lines, Kapp (1877) affirms that technical objects are projections of human organs, McLuhan (1994) subtitles his *Understanding Media* with *The Extensions of Man*, pointing to how electronic technology extends our senses and nerves, and Rothenberg (1993) sees technological creations as the attempt to extend our intentions beyond the reach of our bodies. It is no surprise that the transhumanist goal of human enhancement is often characterized as a prosthetic endeavor. By no means does this prosthetic interpretation suggest that technology is alien to human nature. Instead, the naked embodiment of human beings calls for technology as an intrinsic human activity, an essential part of the culture. As De Preester and Tsakiris (2009) put it: "a human stripped from everything prosthetic-like is a human stripped from culture" (308).

For the cross-reflection between the immanent axis of spirituality and the prosthetic character of technology, the phenomenological distinction between the physical body and the lived body is especially generative. Proposed initially by Husserl (Escribano 2013) with the words *Körper* and *Leib*, respectively, Merleau-Ponty (1945, 1964) further developed all the implications of these two perspectives on the human embodied condition. The physical body is the body as approached by medicine, a biological entity based on physiological processes. The lived body, in contrast, is the human *experience* of embodiment. Merleau-Ponty sought expressions that meritoriously capture the inextricable integration of these two aspects: *entrelacs* (interlacing), *enveloppement réciproque* (reciprocal wrap), and more famously *quiasme* (chiasm). He searched for inspiration in the notion of flesh as sentient matter, but still this formulation seemed too contaminated by the long-standing dualistic template of subject and object. I think Merleau-Ponty was desperately trying to point to the primordial relationality of these two aspects that make them distinguishable only epistemically but not ontologically. This paradox remains unresolved and manifests, for example, in the so-called "hard problem" of consciousness (Chalmers 1996).

I contend that in this intimate yet mysterious relationality lies the source of transformation that SBTSPs catalyze; that is why these practices require both physical exercise and mindful attention. And it is precisely this mysterious ontological integration that technology fails to accomplish: prostheses remain apart from the somatic ground from which spiritual transformation emerges. Though it is possible to find cases of seamless functional and cognitive incorporation of prostheses (Murray 2004), they are not incorporated into the lived body with all implications (De Preester and Tsakiris 2009). Though one cannot discard that future technological advances might achieve this full integration, the persistence of the hard problem of consciousness after decades of research and discussion issues a call for humble reflection on the current state of things instead of trusting in future remedies. The contrast between the immanent embodied spiritual potential and the current incomplete integration of technology points to a serious risk of dissociation in today's societies. This dissociation manifests in three ways. First, the pace of social activity, driven by technology, overwhelms the lived body and imprints a restlessness alien to organic rhythms, as if the technological prosthetic world had a life of its own (Ellul 1977), an intrinsic force that surpasses human volitional power (Skrbina 2015). It is the awareness of this risk that is missing from the exclusively transcendent views of technology, such as Hefner's (2002). Hefner interprets the restlessness that technology brings only as an urge to operate a positive transformation of the world—for example, by technologically remedying diseases—but seems to ignore the amount of suffering that stress causes, precipitating mental health problems on an unprecedented scale (deVries and Wilkerson 2014).

Second, digital technology, with its focus on information, fosters a gnostic approach to technology (Coeckelbergh 2010), an attempt to withdraw the lived body from the physical body and upload it to the digital world in a “cybergnosis” (Aupers and Houtman 2005), which sees embodiment as supervened and not constitutive of the human being. The fullest expression of this attempt is the mind uploading (minduploading.org) movement, which pursues the goal of moving individual consciousness from the physical body to a digital support on which conscious life may continue. Third is the dissociation resulting from treating the body as if it were exclusively an artifact susceptible of being engineered and hacked, as the biohacking ideology (Yetisen 2018) proposes. As well intentioned as this ideology might be in its promotion of an open-source approach to medicine, it is biased toward the physical body to the neglect of the lived body, treating the body as if it was a machine to be optimized through material interactions.

While the first dissociation privileges technology over human embodiment, the second privileges the lived body, and the third the physical body. It is surprising to note that this critique concerning the dissociative

potential of technology has been overlooked by most philosophers of technology. To my knowledge, it is present only in Dubos' (1968) point that accelerated modern technology is not tuned to our biological design, which results from evolutionary processes developed in very different contexts.

Therefore, it seems that the wisdom about the human embodied condition that spiritual traditions hold points to a generalized shadow of the technological societies, and that is why even thorough analyses, such as Coeckelbergh's (2010), fail to perceive it. In sum, the lesson that spirituality brings to these tech-based dissociations is that of integrative embodiment: all aspects of a human being should be considered and integrated, and SBTSPs are a valuable help in that regard. Symmetrically, technological advances allow a technoscientific scrutiny of SBTSPs, which could result in a deeper understanding of them (e.g., see IONS research [noetic.org], Mind & Life Institute research [mindandlife.org], or Austin's [2013] analysis of Zen practices), or even its optimization. In summary, the analysis of the immanent axis shows that there might be a mutually enriching relationship between technology and spirituality: SBTSPs can be valuable resources to balance the excesses that technological development fosters, and technological development can bring a better understanding—and even an optimization—of SBTSPs.

THE RELATIONAL AXIS

The relational axis points to the ways in which spirituality manifests and is developed through the encounter with others. One finds this relational dimension in traditional spiritual practices, and doctrines, such as the Buddhist Bodhisattva vow, Indian Seva, African Ubuntu, and the Christian invitation to see Christ in others. It is also present in many contemporary approaches to spirituality, for example, in areas of education (see Venkataraman and Konwar 2019), ecophilosophy (Berry 1988), social change (Dorr 2004), or participatory thought (Lahood 2010a, 2010b). The relational dimension of spirituality is often articulated around the notion of care. Swinton's (2011) sentence expresses this idea: "The core task for those of us who are interested in spirituality is deeply practical: to learn what it means to treat people as human beings" (16). And the African notion of Ubuntu points to the same idea: humanness is to be found in the careful relationships between humans and not in the individuals themselves (Gade 2012).

Technology is an inherently social activity, but it approaches relationality in another way. In a previous section, I have used Heidegger's ideas to argue that the essence of technology is not instrumental but exploratory (*unveiling the Dasein*). I have also remarked that what characterizes technology is that this exploration is deployed by forcing out of

things the desired outcome. This forcing out, when projected into the relational domain, easily degenerates into domination and exploitation, a shadow that appears more and more in highly technological societies. The Chinese social credit system (Creemers 2018), which situates millions of cameras in the streets to control the population but none in the meeting rooms of the powerful people, the use of advanced neuroscientific and psychological knowledge to promote an addictive overuse of social media sites (Orlowski 2020), and the ways surveillance capitalism (Zuboff 2019) increases its power by means of behavioral experiments with users—all these developments are forms of technologically enabled domination that show how this forcing out of things is alien to care and respect for sentient beings.

The contrast between a spiritually informed relationality oriented to care and technological domination is paramount. To clarify this tension, the complex relationship between technology and ethics must be analyzed. On the one hand, the forcing out of technology configures it as a form of power, and as power is ethically blind, ethics must be purposefully infused into technological development—it will not come inherently. Plato's (2005) version of the Prometheus myth, as narrated in the *Protagoras*, explains how the virtues that allow humans to live together and cooperate were added to humans under the idea that mere technical knowledge would lead to conflict and violence. That's why as technology progresses, uncountable voices raise up and issue a call to introduce regulations into technological development: digital rights, neurorights, bioethics, machine ethics, algorithm bias regulations, and so forth. To be sure, this is not to say that ethics must come from the outside because technology is ethically neutral and ethical aspects arise with its use. Kranzberg (1986) already showed how naïve this idea is, and other authors have pointed to the ways in which technological creations embed values introduced in the design and deployment processes (e.g., Verbeek 2006; Kroes and Verbeek 2014). These values influence and condition the values, habits, priorities, feelings, and behavior of the users of those technologies. Thus, ethical considerations must be purposefully and tenaciously introduced at all stages of technological development, and especially in the initial steps of investment prioritization and tech design because otherwise the relationship between power and technology tends to foster forms of domination and the submission of others (humans and nonhumans).

On the other hand, the technological quest is about exploring not only the universe but also ourselves. Technology functions as a mirror for humanity: seeing what we do is part of coming to know who we are (Hefner 2002, 2003). But spirituality also functions as a mirror through which we discover who we are. The problem is when these two perspectives result in two dissociated images. Who are we? From the perspective of relational spirituality, we are the ones who take care of every other

being, while technological development fosters a narrative focused on how, through technology, we overcome limits and explore the possibilities of the universe. The narrative of technology is not unethical; overcoming limitations is often connected to remedying suffering and protecting life. But in its autopoietic (i.e., self-maintaining) logic, it is refractory to otherness: it seeks solutions apart from dialogue, and its focus on achieving goals makes it prompt to ignore care and respect for the aspects that are not included in the goals. The goals are pursued with a monologic recipe, that of increasing the power to dispose of objects as desired in order to obtain a predefined objective. But in many human situations, what is needed is to change ourselves, shift perspective, relax goals, and yield to what is other. In this regard, relational spirituality seems a much-needed complement to the technological stance. This complementarity can be seen using Carutti's (2014) notion of bonding intelligence, defined as the ability to be enriched and transformed positively by bonds and relationships. It points to the capacity of being open to the other to a level that transforms the self. This is what is missing in the technological forcing out.

Where does the self find the motivation for this transformative opening? Usually it is found in the belief, the experience, or the intuition that there is a source of value beyond the individual self, resulting in a relaxation of attachments and identifications. I said before that this idea is one of the traits that characterize spirituality. Thus, spirituality provides the grounds for bonding intelligence, which in turn is the antidote to the tempting use of technology for dominance.

In a complementary way, the social impact of technological development confronts spiritual traditions at two levels. First, with regard to social engagement: Technology is a privileged domain to jump from words to action. Care and respect can materialize effectively in the promotion of technologies that distribute power, promote participation, aid those in need, and help envision a better future for all. Second, with regard to systemic awareness: The strong impact of technology, in particular digital technology, on human relations, shows how the relational domain is not shaped only by individual decisions, but also by systemic structures, with technology being an important aspect of these structures. If spiritual traditions are to effectively promote care and respect, it is not enough to foster good deeds, they have to promote structural changes.

CONCLUSIONS

The cross-reflection between spirituality and technology—structured along the three conceptual axes of transcendence, immanence, and relationality—has shown the varied ways in which spiritual traditions could help balance the excesses that technology brings into society, and the ways in which reflection on technological development can reveal aspects

of spirituality that otherwise may remain inadvertent. Reflection on the transcendent axis shows first how both spirituality and technology point to a transcendent dimension. In the case of spirituality, this is obvious, but in the case of technology, the transcendent dimension lies in the idea that beyond an instrumental perspective, technology can be seen as a way of creatively exploring the possibilities of the universe. Nonetheless, this exploration is done through a specific mode of operation that privileges action to the neglect of contemplation. Therefore, spirituality, with its uncountable resources to cultivate contemplation appears as a much-needed complement. In turn, by pointing to the notion of progress, technological development forces spiritual traditions to define their own versions of progress while more explicitly delineating what it means to be a fully developed human, and what role contemplative development plays in this.

The analysis of the immanent axis starts by acknowledging how a significant number of spiritual practices (to which I suggested applying term “somatic-based transformative spiritual practices” [SBTSP]), such as Indian tantric yoga or Chinese qigong, point to embodiment and more specifically to the mysterious and inextricable union between the physical and the lived body. In contrast, technology can be seen as a prosthetic effort that fails to reach the same quality of integration, thus leading to different kinds of dissociations that SBTSPs help to avoid and remedy. Symmetrically, technological advances will potentially bring a better understanding of SBTSPs through technoscientific analysis, which could result in an optimization of these practices.

The analysis of the relational axis highlights the contrast between a spiritually informed relationality that is oriented to care and forms of tech-based domination that seem to be on the rise. This contrast reveals that ethics must be purposefully infused into technological developments because they are not inherent to the monologic character of technology. In this regard, a spiritually based bonding intelligence, defined as the ability to be enriched and transformed positively by bonds and relationships, might bring a much-needed complement to avoid domination. In turn, the action-oriented character of technology may push spiritual traditions and collectives to become involved in the down-to-earth endeavor of promoting technologies that distribute power, promote participation, aid those in need, and help envision a better future for the planet. Moreover, the patent effects of technology on relations may increase a systemic awareness that to effectively promote care and respect, spiritual traditions cannot just foster good deeds, they have to promote structural change. All in all, these insights lead to the conclusion that the cultivation of spirituality might be essential if we are to avoid a tech-fuelled pandemic of stress, dissociation, and domination.

REFERENCES

- Agazzi, Evandro. 1998. "From Technique to Technology, the Role of Modern Science." *Techné: Research in Philosophy and Technology* 4 (2): 80–85.
- Apffel Marglin, Frédérique. 1994. "Development or Decolonization in the Andes?" *Futures* 27 (8): 869–82.
- Aupers, Stef, and Dick Houtman. 2005. "Reality Sucks' on Alienation and Cybergnosis." *Concilium: International Journal of Theology* 1:81–89.
- Austin, James H. 2013. "Zen and the Brain: Mutually Illuminating Topics." *Frontiers in Psychology* 4:1–9.
- Berry, Thomas. 1988. *The Dream of the Earth*. San Francisco: Sierra Club Books.
- Bijker, Wiebe E., Thomas Parke Hughes, and Trevor Pinch, eds. 1987. *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology*. Cambridge, MA: MIT Press.
- Brown, Joseph Epes. 1989. *The Sacred Pipe: Black Elk's Account of the Seven Rites of the Oglala Sioux*. Norman, OK: University of Oklahoma Press.
- Caiazza, John C. 2005. "Athens, Jerusalem, and the Arrival of Techno-Secularism." *Zygon: Journal of Religion and Science* 40 (1): 9–21.
- Campbell, Heidi A. 2005. *Exploring Religious Community Online: We Are One in the Network*. Oxford: Peter Lang.
- . 2013. "Community." In: *Digital Religion: Understanding Religious Practice in New Media Worlds*, edited by Heidi A. Campbell, 57–71. New York: Routledge.
- Campbell, Heidi A., and Giulia Evolvi. 2020. "Contextualizing Current Digital Religion Research on Emerging Technologies." *Human Behavior and Emerging Technologies* 2 (1): 5–17.
- Carutti, Eugenio. 2014. *Inteligencia planetaria [Planetary Intelligence]*. Buenos Aires: CreateSpace.
- Chalmers, David. 1996. *The Conscious Mind: In Search of a Fundamental Theory*. Oxford: Oxford University Press.
- Chaudhuri, Haridas. 1977. *The Evolution of Integral Consciousness*. Wheaton, MD: The Theosophical Publishing House.
- Cobb, Jennifer. 1998. *Cybergnace: The Search for God in a Digital World*. New York: Crown.
- Coeckelbergh, Mark. 2010. "The Spirit in the Network: Models for Spirituality in a Technological Culture." *Zygon: Journal of Religion and Science* 45 (4): 957–78.
- Cohen, Kenneth S. 1997. *The Way of Qigong: The Art and Science of Chinese Energy Healing*. New York: Random House.
- Creemers, Rogier. 2018. "China's Social Credit System: An Evolving Practice of Control." Accessed May 4, 2021. <https://ssrn.com/abstract=3175792>. <https://doi.org/10.2139/ssrn.3175792>
- Culkin, J. (March 18). 1967. "A Schoolman's Guide to Marshall McLuhan." *Saturday Review* 51–53:70–72.
- De Preester, Helena, and Manos Tsakiris. 2009. "Body-Extension Versus Body-incorporation: Is There a Need for a Body-Model?" *Phenomenology and the Cognitive Sciences* 8:307–19.
- Dessauer, Friedrich. 1927. *Philosophie der Technik: Das Problem der Realisierung [Philosophy of Technology: The Problem of Realization]*. Bonn: Friedrich Cohen.
- DeVries, Martin V., and Bill Wilkerson. 2014. "Stress, Work and Mental Health: A Global Perspective." *Acta Neuropsychiatrica* 15 (1): 44–53.
- Dorr, Donal. 2004. *Time for a Change. A Fresh Look at Spirituality, Sexuality, Globalisation and the Church*. Dublin: The Columba Press.
- Dubos, Rene. 1968. *So Human an Animal*. New York: Scribner.
- Dumsday, Travis. 2020. "Sergius Bulgakov's Critique of N. F. Fedorov's Technologized Resurrection (and Why it Still Matters for the Christian Dialogue with Transhumanism)." *Zygon: Journal of Religion and Science* 55 (4): 853–74.
- Ellul, Jacques. 1977. *Le système technicien*. Paris: Calmann-Lévy.
- Escribano, Xavier. 2013. "Cos viscut (Leib)." *Anuari de la Societat Catalana de Filosofia*. XXIV:135–154 Accessed April 21, 2021.
- Fernandez-Borsot, Gabriel. 2020. "Perennialism Through the Lens of Otherness." *International Journal of Transpersonal Studies* Advance online publication.

- Ferrer, Jorge N. 2003. "Integral Transformative Practice: A Participatory Perspective." *Journal of Transpersonal Psychology* 35 (1): 21–42.
- . 2008. "What Does It Mean to Live a Fully Embodied Spiritual Life?" *International Journal of Transpersonal Studies* 27:1–11.
- . 2011. "Participatory Spirituality and Transpersonal Theory: A Ten-Year Retrospective." *Journal of Transpersonal Psychology* 43 (1): 1–34.
- Foucault, Michel. 1994. *Dits et Écrits*, Vol. 2 [Sayings and Writings, Volume 2]. Paris: Gallimard.
- Gade, Christian B. N. 2012. "What Is Ubuntu? Different Interpretations Among South Africans of African Descent." *South African Journal of Philosophy* 31 (3): 484–503.
- Hedt, Nathan. 2013. "Missional Spirituality Among Digital Natives: Technology, Spirituality and Mission in an Age of Social Media." *Lutheran Theological Journal* 47 (3): 187–202.
- Hefner, Philip. 2002. "Technology and Human Becoming." *Zygon: Journal of Religion and Science* 37 (3): 655–66.
- . 2003. *Technology and Human Becoming*. Minneapolis: Augsburg Fortress.
- Heidegger, Martin. 1977. "The Question Concerning Technology." In *The Question Concerning Technology and Other Essays*, by Martin Heidegger, 3–35. New York: Harper & Row.
- Heron, John. 2006. *Participatory Spirituality: A Farewell to Authoritarian Religion*. Morrisville, NC: Lulu Press.
- . 2007. "Participatory Fruits of Spiritual Inquiry." *ReVision: A Journal of Consciousness and Transformation* 29 (3): 7–17.
- Isherwood, Lisa, and Elizabeth Stuart. 1998. *Introducing Body Theology*. Sheffield: Sheffield Academic Press.
- Jackelén, Antje. 2005. "What Is 'Secular'? Techno-Secularism and Spirituality." *Zygon: Journal of Religion and Science* 40 (4): 863–73.
- Kaplan, A. 1964. *The Conduct of Inquiry: Methodology for Behavioral Science*. San Francisco: Chandler Publishing Co.
- Kapp, Ernst. 1877. *Grundlinien einer Philosophie der Technik [Elements of a Philosophy of Technology]*. Braunschweig, Germany: Westermann.
- King, Ursula. 2011. "Can Spirituality Transform Our World?" *Journal for the Study of Spirituality* 1 (1): 17–34.
- Klostermaier, Klaus K. 1998. *Hinduism: A Short History*. Oxford: Oneworld.
- Kranzberg, Melvin. 1986. "Technology and History: 'Kranzberg's Laws'." *Technology and Culture* 27 (3): 544–60.
- Kroes, Peter, and Peter-Paul Verbeek, eds. 2014. *The Moral Status of Technical Artefacts* (Vol. 17). Dordrecht: Springer Netherlands.
- Lahood, Gregg. 2010a. "Relational Spirituality, Part 1, Paradise Unbound: Cosmic Hybridity and Narcissistic Spirituality in the 'One Truth' of New Age Transpersonalism." *International Journal of Transpersonal Studies* 29 (1): 31–57.
- . 2010b. "Relational Spirituality, Part 2, the Belief in Others as a Hindrance to Enlightenment: Narcissism and the Denigration of Relationship Within Transpersonal Psychology and the New Age." *International Journal of Transpersonal Studies* 29 (1): 58–78.
- Latour, Bruno. 2005. *Reassembling the Social: An Introduction to Actor-Network-Theory*. Oxford: Oxford University Press.
- Lawson, Clive. 2010. "Technology and the Extension of Human Capabilities." *Journal for the Theory of Social Behaviour* 40 (2): 207–23.
- Leidenhag, Mikael. 2020. "Saved Through Technology: Exploring the Soteriology and Eschatology of Transhumanism." *Religion Compass* 14 (11): 1–9.
- Lowen, Alexander. 1990. *Spirituality of the Body: Bioenergetics for Grace and Harmony*. New York: McMillan.
- MacDonald, Douglas A., Harris L. Friedman, Jacek Brewczynski, Daniel Holland, Kiran Kumar K. Salagame, K. Krishna Mohan, Zuzana Ondriasova Gubrij, Hye Wook Cheong. 2015. "Spirituality as a Scientific Construct: Testing Its Universality Across Cultures and Languages" *PLoS ONE* 10 (3): e0117701.
- McClure, Paul K. 2020. "The Buffered, Technological Self: Finding Associations Between Internet Use and Religiosity" *Social Compass* 67 (3): 461–78.
- McLuhan, Marshall. 1994. *Understanding Media: The Extensions of Man*. Cambridge, MA: MIT Press.
- Merleau-Ponty, Maurice. 1945. *Phénoménologie de la perception* [Phenomenology of perception]. Paris: Gallimard.

- . 1964. *Le visible et l'invisible, suivi de Notes de Travail* [The Visible and the Invisible, Followed by Working Notes]. Paris: Gallimard.
- Mitcham, Carl. 1989. *Qué es la filosofía de la tecnología?* [What is the philosophy of technology?]. Barcelona, Spain: Anthropos.
- Morley, James. 2008. "Embodied Consciousness in Tantric Yoga and the Phenomenology of Merleau-Ponty," *Religion and the Arts* 12 (1): 144–63.
- Murray, Craig D. 2004. "An Interpretative Phenomenological Analysis of the Embodiment of Artificial Limbs." *Disability and Rehabilitation* 26 (16): 963–73.
- Nagel, Thomas. 2012. *Mind and Cosmos*. Oxford: Oxford University Press.
- Nelson, James B. 1998. *Body Theology*. Louisville: Westminster/John Knox Press.
- Orlowski, Jeff (Director). 2020. *The Social Dilemma*. Exposure Labs, The Space Program, Agent Pictures.
- Plato. 2003. *Phaedrus*. Translated by Stephen Scully. Newburyport: Focus.
- . 2005. *Protagoras and Meno*. Translated by Adam Beresford. London: Penguin.
- Raman, Varadaraja V. 2005. "Techno-Secularism: Comments and Reflections." *Zygon: Journal of Religion and Science* 40 (4): 823–34.
- Rawlinson, Andrew. 1997. *The Book of Enlightened Masters, Western Teachers in Eastern Traditions*. Chicago and La Salle: Open Court.
- Richardson, Peter T. 1996. *Four Spiritualities: Expressions of Self, Expressions of Spirit*. Palo Alto: Davies-Black Publishing.
- Rothenberg, David. 1993. *Hand's End: Technology and the Limits of Nature*. Berkeley: University of California Press.
- Skrbina, David. 2015. *The Metaphysics of Technology*. New York: Routledge.
- Spyker, Stephen K. 2007. *Technology & Spirituality: How the Information Revolution Affects Our Spiritual Lives*. Woodstock, VT: Skylight Path.
- Swinton, John. 2010. "BASS Ten Years on: A Personal Reflection" *Journal for the Study of Spirituality* 10 (1): 6–14.
- . 2011. "What Is Missing from Our Practice? Spirituality as Presence and Absence" *Journal for the Study of Spirituality* 1 (1): 13–16.
- Szszynski, Bronislaw. 2005. *Nature, Technology and the Sacred*. Oxford: Blackwell.
- Taylor, Steve. 2016. "From Philosophy to Phenomenology: The Argument for a 'Soft' Perennialism." *International Journal of Transpersonal Studies* 35 (2): 17–41.
- Venkataraman, P., and Bharat Konwar. 2019. "Some Issues in Understanding Spirituality as Relational." *Journal for the Study of Spirituality* 9 (1): 20–31.
- Verbeek, Peter-Paul. 2006. "Materializing Morality." *Science, Technology, & Human Values* 31 (3): 361–80.
- Wilber, Ken. 2017. *The Religion of Tomorrow: A Vision for the Future of the Great Traditions—More Inclusive, More Comprehensive, More Complete*. Boulder, CO: Shambhala.
- Wyche, Susan P., Gillian R. Hayes, Lonnie D. Harvel, et al. 2006. "Technology in Spiritual Formation: An Exploratory Study of Computer Mediated Religious Communications." In *Proceedings of the 2006 ACM Conference on Computer Supported Cooperative Work*, 199–208. Banff, Alberta, Canada, ACM. Pamela Hinds, David Martin.
- Xu, Ghifeng, Lane Strathearn, Buyun Liu, et al. 2018. "Twenty-Year Trends in Diagnosed Attention-Deficit/Hyperactivity Disorder Among US Children and Adolescents, 1997–2016." *JAMA Netw Open* 1 (4): e181471.
- Yetisen, Ali K. 2018. "Biohacking." *Trends in Biotechnology* 36 (8): 744–7.
- Zuboff, Shoshana. 2019. *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*. New York: Hachette.